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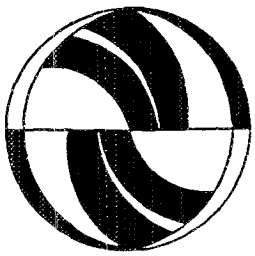

Property Rights Transit: The Emerging Paradigm for Urban Transportation

Daniel B Klein
Adrian Moore
Binjam Reja

Working Paper
UCTC No 382

The University of California
Transportation Center

University of California
Berkeley, CA 94720

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Property Rights Transit: The Emerging Paradigm for Urban Transportation

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Working Paper
January 1996

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The University of California Transportation Center
University of California at Berkeley

PROPERTY RIGHTS TRANSIT:

THE EMERGING PARADIGM

FOR URBAN TRANSPORTATION

by

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Abstract Urban transit has traditionally been conceived and governed within a paradigm of regulation and government ownership This study explains how the alternative paradigm of property rights, which works so well in other sectors of the economy, can apply to urban transit The key to a property rights framework is defining the building-block properties of the system The study explains why the essential properties for the case of fixed-route urban transit are curbspaces, or bus stops, at which a scheduled service can secure for itself the passenger congregations generated by its investments The study proposes a system of curb rights, including exclusive curb zones leased by auction and owned like property, and common curb zones where freewheeling jitney services can pick-up passengers. The study also offers property-rights interpretations of diverse transit experiences, and proposes privatization and deregulation for all forms of transit

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chapter one

INTRODUCTION

In the United States, traditional transit services have long been in decline Ridership on bus and rail continues to fall, productivity has declined, and operating deficits have widened A growing portion of planners and policymakers are rethinking the fundamentals of transit policy The traditional approaches include government planning or operation of bus and rail, government subsidization, and heavy regulation of all transit modes, including taxis and shuttle vans The failures of the old ways have become too great and too ubiquitous to permit much hope of their coming right

Some research points to a different policy approach, an approach that emphasizes decentralized action, privatization, competition, flexibility, and discovery We call this approach "property rights transit " In contrast to traditional transit, property rights transit policy seeks to unleash competition and entrepreneurship

There are two general ways in which harmonious and productive order is achieved in society (Hayek 1988) The first is by central direction In this case government either provides services itself by government enterprise, or it tells private individuals, by regulation, what they may or may not do with their property We call this the regulation/government ownership paradigm

The other way that order is achieved is by decentralized coordination, or free enterprise In this case autonomous individuals choose to interact and exchange as they see fit, and, as though led by an "invisible hand," harmonious and productive order emerges This spontaneous

order depends on a system of *property rights* Property rights tell you, not what you may or may not do with your property, but rather what *others* may not do with your property. As shown in Table 1, this study proposes a paradigm shift for transit, a shift from the regulatory/government ownership paradigm to a property rights paradigm

[Table 1 here]

Traditional transit policy is an example of government economic planning, and the problems of traditional transit can be regarded as particular instances of the problems of central planning in general Economists have made two basic criticisms of central planning First, economists of the Austrian school, best represented by Friedrich Hayek, argue that human affairs are unique in their particulars, andthat therefore *local knowledge* is crucial to the coordination of individual efforts to deal with their problems Central planning forgoes local knowledge In contrast, the market process works from the bottom up it springs from decentralized planning by individuals within a framework of property rights Hence it is more effective in discovering opportunities, responding flexibly to change, and utilizing local knowledge

The second line of criticism is that of the "Public Choice" economists, led by James Buchanan and Gordon Tullock, who propose that we view individuals in government in the same light that we view individuals in private industry, that is, as real people with all the self-regarding interest that real people display The Public Choice economists explore the many ways in which public officials act to serve their own self-regarding interest, including especially ways that hurt the public interest Central planning puts great power in the hands of normal people, not angels. And even if they were angels, the Austrians remind us, they would be frustrated in their good efforts because they lack knowledge of changing local conditions

Regulation/Government Ownership Paradigm	**Property-Rights Paradigm**
Regulation tells you what you may or may not do with your property.	Property rights tell others what they may and may not do with your property.
Order created by central direction, by regulation or government enterprise	Order emerges from decentralized interaction within property-rights framework.

Table 1
Two Paradigms for Social Order

Property rights transit strives to avoid the pitfalls of central planning Yet, property rights transit must retain a degree of government planning, if for no other reason than that local government remains the owner of the streets and roads, as well as of roadside passenger facilities At a more fundamental level, the government must establish principles of property rights, particularly in curb and sidewalk areas Yet this type of planning is different from the direct planning of particulars As Hayek puts it (1988, p 83), "we must use self-ordering processes in an increasing measure, we can create the conditions under which they will operate, but we cannot determine [the particulars of the emergent system]." As in free markets elsewhere in the economy, the government may best abide society's interest by providing merely the legal framework *within which transit services emerge*

This study draws on the relevant literature to develop a general picture of the trends in transit, and to indicate the directions for sound transit policy in the future We focus on the United States but also use literature about transit experience elsewhere We believe that within transit research there is a larger pattern emerging, a pattern which indicates the rise of property rights transit both as a research program and a policy agenda

SECTION ONE: DIAGNOSING TRADITIONAL TRANSIT

chapter two·

THE TRIUMPH OF THE PRIVATE AUTOMOBILE

In his book *Edge City* (1991), Joel Garreau tells how Americans have been spreading out in new, low density "edge cities" -- areas that lack definite urban form yet nonetheless function as a city, providing homes, shopping, and jobs Garreau argues that this type of development is the way of the future As people get wealthier and can afford a car for every driver, they can reside farther from the action, and they want more space to spread out Edge cities are one consequence of prosperity and the rise of the private automobile

The triumph of the automobile is also affecting how researchers think about urban transit Within the realm of policy, different types of transit will continue to vie against each other, but the larger, imposing reality is that the transit pie is shrinking In our study of transit we concede the looming presence of the automobile In wealthy America, 90 percent of driving-age persons in 1991 were licensed drivers, and 89 percent of licensed drivers had access to an automobile (Webber 1994) The triumph is a very simple matter the auto is vastly superior in flexibility, privacy, accommodation of diverse lifestyles, and access to all points known to man and pavement Even critics of our automobile culture, like James Flink (19xx), recognize the auto's triumph Although auto use has been subsidized by government (Flink 19xx, Pucher 1993A & B, Beshers 1994), we must live with the results of what is past We maintain, furthermore, that the

automobile would have inevitably prevailed even without subsidy

Much has been made of the problem of congestion Yet Charles Lave argues that demographic trends give us reason to believe that, as his title has it, "Things Won't Get A Lot Worse" (1990) In fact Gordon, Richardson and Jun (1991) show that commuting travel times declined between 1980 and 1985 in all but two of the 20 largest U S metropolitan areas Congestion on surface streets is being reduced somewhat by the use of traffic sensors and smart technologies On highways, the congestion problem can now be "internalized" by using electronic toll collection and charging higher tolls at peak periods (Gomez-Ibanez and Small 1994) Charging tolls would also help to end the policy of auto-use subsidization.

The other chief external problem of the automobile is air pollution Yet, again technology has steadily reduced the problem In particular, the recent development of remote sensing of tailpipe emissions promises to "internalize" the act of emitting and to keep the high-emitting vehicle off the road (Lawson 1993, 1995, Klein & Koskenoja 1996)

Many transportation planners have sought to reduce auto emissions and rush hour traffic by creating creating incentives to carpool, to ride transit, to shift work schedules away from peak hours, and to work at home Such programs -- known as "transportation demand management" -- have achieved little (Brownstone and Golob 1992, Kuzmyak and Schraffler 1993; Giuliano 1992) Driven by the 1990 Clean Air Act, employers have been required to provide incentives to their employees to reduce solo driving to work These programs have proven to be very costly, and to have almost no effect on commuter travel decisions (Giuliano, Hwang, and Wachs 1993, Green 1995) Even efforts aimed directly at making it inconvenient to drive have had little effect

Over time, the individual finds the automobile ever more affordable, and choosing to drive

is ever more compatible with the public interest. Transit, then, takes its place at the edge of the automobile's domain -- an ever narrowing edge The real transit issue has not been bus versus rail, but transit versus the automobile It is time that transit surrender the contest and seek a humble accord

If the automobile is transit's vanquisher, it may also be its mentor, for it may show transit how to salvage its future The literature on mode choice shows that travelers value the following characteristics short trip times, avoidance of transfers and waiting time (Brown 1972; Golob et al 1972, Dobson and Nicolaidis 1974, Hensher 1975, Johnson 1978, Weismann 1981, Wachs 1992), door-to-door service (Flannelly et al 1991), reliability (Olsen and Smith 1973), comfort (Chou 1992), seat availability (Flannelly et al 1991), storage space, security (Levine and Wachs 1986), and flexibility (Flannelly et al 1991) Also of importance are psychological factors like privacy and autonomy (Olsen and Smith 1973, Tehan and Wachs 1972) The auto consistently surpasses existing transit modes in providing all of these appealing travel characteristics The only desirable characteristics not naturally associated with the automobile are accident safety, exposure to social interaction, and the ability to read or sleep or whatnot while traveling Overall, various studies show that the car offers the superior bundle of mode characteristics (Johnson 1978, Orski 1990, Hensher et al 1975) As Melvin Webber has argued in his paper "The Joys of Automobility" (1991), if transit is to compete it must emulate the private automobile Our property rights proposal would favor transit services more like the private automobile, blurring the distinction between the private auto and mass transportation

chapter three

THE FIZZLE OF TRADITIONAL TRANSIT

The market trend since 1960 has been against transit Table 2 provides information on ridership and transit usage Line 5 shows that transit's share of commute trips declined from 12 6 percent in 1960 to 5 1 percent in 1990 Passenger bus trips have declined in absolute terms, although the decline is not apparent in line 3, because in 1980 the statisticians began counting a journey with a transfer as two trips rather than one Passenger rail trips, shown in line 2, increased between 1980 and 1990 due to new rail systems, particularly in Washington D. C and the Bay Area. Between 1990 and 1992, however, we see the underlying trend asserting itself and rail ridership declining

[Table 2 here.]

There is no shame in market contraction The trouble, however, is that the industry has not adjusted appropriately Except during the 1960s, when many private transit companies went bankrupt, vehicle miles have continued to increase Since 1960, suburbanization has shifted development out beyond the areas traditionally served by transit (Cervero 1986, 103). Suburban residents have pressured transit agencies to expand service out to their communities (Sale and Green 1979, 23, CBO 1988, 41) With the governmental takeover of transit during the 1960s and 1970s, we see in line 9 that vehicle miles for all modes increased by 60 percent between 1970 and 1992 New services in the suburbs account for most of this increase Yet passenger miles, shown in line 13, have remained roughly constant, because the suburban communities make least use of public transit Now there are a lot more near-empty buses on the road Lines 15 and 16 show

		1960	1970	1980	1990	1992
1	**PASSENGER TRIPS** (millions)[1]					
2	Rail[2]	2313	2116	2521	2849	2709
3	Motor Bus	6425	5034	5837	5677	5517
4	Total	8734	7150	8358	8526	8226
5	**TRANSIT SHARE OF COMMUTING TO WORK (%)**	**12.6**	**8.5**	**6.2**	**5.1**	—
6	**VEHICLE MILES** (millions)					
7	Rail	465 7	440 8	581 2	773 6	772 8
8	Motor Bus	1576 4	1409 3	1677 2	2129 9	2178
9	Total	2042 1	1850 1	2258 4	2903 5	2950 8
10	**PASSENGER MILES** (millions)					
11	Rail	—	—	17455	19128	18758
12	Motor Bus	—	—	21790	20981	20336
13	Total	—	—	39245	40109	39094
14	**PASSENGERS PER VEHICLE**					
15	Rail	—	—	30 0	24 7	24 3
16	Motor Bus	—	—	13 0	9 9	9 3

[1] Starting in 1980 passenger trips are unlinked, as reported in APTA and Section 15 Report
[2] Rail figures include light rail heavy rail, and commuter rail
— indicates data not available

Sources Association of American Public Transit *Transit Fact Book*, Federal Transit Authority *Section 15 Report*, and Nationwide Personal Transportation Survey

Table 2
Ridership and Transit Usage

how efficiently the bus or rail car is utilized In 1980 there were, on average, 13 passengers per bus (with a capacity of 70, seated and standing) By 1992 the figure was down to 9.3 passengers (and average bus capacity had not changed much, APTA 1993) These figures are aggregate measures that include rush hour traffic Off-peak buses often run virtually empty Simply put, public transit authorities have tended to over-provide their service

Table 3 shows that the financial trend is even more discouraging Although passenger trips for all modes have declined substantially since 1960, operating costs, shown in line 5, have increased in real terms by 160 percent The largest share of operating costs goes to labor compensation, which has increased its take, shown in line 9, from 66 percent to 75 percent of operating costs Put in terms of operating costs per passenger trip, line 13 shows an increase between 1960 and 1992 of 175 percent Line 18 adds in the annualized capital cost and shows an even bleaker picture in just twelve years (1980 to 1992), the real cost of producing a passenger trip increased by 45 percent Relative to the naturally occurring productivity gains made elsewhere in the economy, this performance must be deemed awful

[Table 3 here]

Earnings from passenger fares and other operating revenues have declined consistently, except in the 1980s when new rail systems were completed The ratio of earnings to operating costs measures how much of the operating costs are recovered by paying passengers (and advertisers, etc) Line 28 shows that this ratio has declined between 1960 and 1992 from 1 03 to 0 37 The rate of deficit expansion is even worse when we include capital costs In the twelve years between 1980 and 1992, the ratio of earnings to total annualized costs fell from 0.39 to 0 31 Just two generations ago transit was earning its income from paying customers in the

		1960[1]	1970[1]	1980	1990	1992
1	**COSTS** (1992 dollars)					
2	Operating Costs (millions $)					
3	Rail	---	---	4330 7	6438 6	6032
4	Motor Bus	---	---	8332 8	9552 9	9881 2
5	Total	6114 6	6841 5	12663 5	15991 5	15913 2
6	Annualized Capital Cost (all modes) (millions $)[2]	---	---	790 2	2448 6	3252 2
7	Total Annualized Cost (Operating + Capital) (millions $)	---	---	13453 7	18440 1	19165 4
8	Total Labor Cost (Salaries + Benefits) (millions $)	4062 2	4606 8	7891 7	12030 8	11989 1
9	Labor Share of Operating Cost	66%	67%	62%	75%	75%
10	Operating Cost per Passenger Trip ($)					
11	Rail	---	---	1 72	2 26	2 23
12	Motor Bus	---	---	1 43	1 68	1 79
13	**Total Operating Cost per Passenger Trip**	**0.70**	**0.96**	**1.52**	**1.88**	**1.93**
14	Operating Cost per Vehicle Mile ($)					
15	Rail	---	---	7 45	8 32	7 81
16	Motor Bus	---	---	4 97	4 49	4 54
17	**Total Operating Cost per Vehicle Mile ($)**	**2.99**	**3.70**	**5.61**	**5.51**	**5.39**
18	**Total Annualized Cost per Passenger Trip ($) (all modes)**	---	---	**1.61**	**2.16**	**2.33**
19	**Total Annualized Cost per Vehicle Mile ($) (all modes)**	---	---	**5.96**	**6.35**	**6.49**
20	**REVENUE** (millions 1992 dollars)					
21	Earning					
22	Rail	1751 0	1589 6	2048 7	2978 2	2898 2
23	Motor Bus	4531 0	4470 5	3234 0	3183 4	3058 8
24	Total	6282 0	6060 1	5282 7	6161 6	5957 0
25	**EARNINGS/OPERATING COST ($)**					
26	Rail	---	---	0 47	0 46	0 48
27	Motor Bus	---	---	0 39	0 33	0 31
28	**All Modes**	**1.03**	**0.89**	**0.42**	**0.39**	**0.37**
29	**EARNINGS/TOTAL ANNUALIZED COST ($) (all modes)**	---	---	**0.39**	**0.33**	**0.31**

[1] Costs for 1960 and 1970 are not available by mode

[2] Depreciation, amortization, interest payments, and other reconciling items for that year

--- indicates data not available

Sources Association of American Public Transit *Transit Fact Book*, Federal Transit Authority *Section 15 Report*, and Nationwide Personal Transportation Survey

Table 3

Transit Costs and Revenue

private enterprise economy Today, about 70 percent of its money comes from the tax payer. (And tax dollars, remember, are "expensive" dollars, in that there are high transaction costs and distortions associated with the tax system, Payne 1993).

There are also some ancillary goals which are sometimes given for transit the reduction of congestion, air pollution, and energy use Again, the record shows a fizzling of hopes Except in dense metropolitan areas, the subsidization of transit has no significant impact on congestion. Table 2 showed that transit's share of commute trips have been declining steadily. More telling, transit's share of total trips has declined to two percent in 1990 (NPTS 1990) In addition, Anthony Downs reminds us in *Stuck in Traffic* (1992, 27) that for an unpriced facility like a highway, any short-run abatement of congestion brings out some latent demand to use the less congested facility As for air pollution, Lowe (1990, 14) makes emission comparisons between autos and transit vehicles to show that transit vehicles emit less per passenger mile But again, since the transit share is so small, the contribution is insignificant On the matter of energy conservation, again transit is no help Cervero (1983, 16) and Fielding (1995) argue that, based on actual ridership, transit consumes far more energy than autos do, per passenger trip According to The Transportation Energy Data Book (1993), the average automobile consumes 3,593 BTUs per passenger mile, while the average transit bus consumes 4,374, and the average rail system consumes 3,687 When the energy use of construction is factored in, rail systems are extravagant in energy consumption (Altshuler 1979, 159, Lowe 1990, 13).

The transit market is contracting due to natural forces What is unfortunate is that public policy has not allowed the industry to adjust naturally to the trends, but rather has placed false hopes in transit The hype and even mythology (see Richmond 1996) of transit has turned a

natural contraction into an embarrassing fizzle The reasons for this fizzle lie in the troubled operation of public policy and government enterprise

chapter four.

WHY TRADITIONAL TRANSIT FIZZLES

There are two bodies of thought that can help us to explain why traditional urban transit fizzles The first is the Austrian economic perspective, associated with Hayek, which emphasizes the importance of local knowledge This approach tends to grant, for the sake of argument, that public officials are exceptionally scrupulous and diligent The second is the Public Choice learning, which insists that public officials are not especially scrupulous, but rather are just like everybody else This line of thinking explores how incentives interact with ordinary self-regarding interest in government We will begin our diagnosis of traditional urban transit with an application of the Hayekian insights

A Hayekian Critique of Traditional Urban Transit

Let us suppose that a central authority faces the task of planning the entire bus system for a large metropolitan area Centralization might make it easier to integrate service, to coordinate the parts, and to ensure reliable schedules But, as Hayek says, "as the area of unified planning is extended, particular knowledge of local circumstances will, of necessity, be less effectively used" (1960, 352) According to Hayek, the economic terrain must consist of conditions that are highly particularistic and constantly changing

Consider the desires of transit consumers They care about where they have to go to

catch the bus, how long they will have to wait for it, and where it will take them They care about the journey itself the speed, whether there is much stopping, and whether they will have to make transfers Then there are the qualities of the bus itself air conditioning, leg room, privacy in seating, ability to read or to sleep, storage space, seat availability, and peace and quiet Consumers care about the image of using the service, and whether the driver is friendly and helpful And consumers always want to feel safe Consumer preference for these facets of service will, furthermore, vary by neighborhood, time of day, weather, season, and occurrence of special events

On the supply side there are again a vast number of factors to consider the routes to follow, the schedules, whether to permit courtesy deviations, the types of vehicles, the special features on board, the training of personnel, the management of the system, the maintenance of vehicles, and so on There is also the matter of pricing Paul Kerin writing in *Transport Reviews* (1992, page????) gives warning of the formadability of establishing socially optimal fares

> [E]xtremely complex interrelationships must be taken into account in order to determine an efficient set of transit fares For example, one needs to be aware of the implications of fares strategy for transit ridership, costs, and subsidy requirements, usage of alternative modes, the level and location of traffic congestion, noise and air pollution, energy usage, the need for additional road capacity, the long-run dynamic effects on the location decisions of firms and households, managerial and worker incentive effects, and so on

The planner's problem is not to determine performance for each of these facets as a

separate matter, but to discover broad viable alternatives that will address them in combinations In arriving at a plan, the planner must decide among his set of alternatives, weighing one against the other according to some mixture of social and administrative goals Two notable features mark the planner's problem he must decide when to stop searching for additional alternatives to consider, and he must decide on one without much knowledge of how to work out the particulars.

Once a broad plan is worked up and implemented, the agency begins to accumulate experience Its operations are like tendrils touching the local conditions they meet. But compared to the free market, the "tendrils" of the public agency show a lack of reach, of sensation, and of responsiveness

First, the centralized public system certainly will not brook transit competition, either regulation will keep it out, or subsidization of the public system will deter it Thus it is exclusively the tendrils of the public monopoly that reach into the local particulars The agency relies on formalized modes of information gathering such as public hearings, surveys, staff discussions, and so on In a competitive and decentralized system, entrepreneurs bring their contact with local conditions to bear on the evolving transit market Their experiments -- including their failures -- generate information that no amount of "fact finding" will discover

Second, the public agency learns little about the local markets it touches In his book on the Bay Area Rapid Transit system, *Coordination Without Hierarchy*, Donald Chisholm argues that a decentralized system of public agencies better utilizes local knowledge than does an a unitary public agency Independent local agencies are free to cooperate with one another and do so most effectively when relations are relatively informal In the large "integrated" monopoly, the executives cannot assimilate the knowledge that is dispersed among the employees of the

organization Because they must manage the system as a whole, the executives will follow procedures that lack sensitivity to local conditions and special insights

Third, the public agency is inevitably less responsive than free enterprise Even if officials could master the knowledge of local conditions, they are highly constrained in their ability to revise the system Owing to procedural constraints, there is a natural dislike for change and conflict within the organization, and a tenacity of business as usual With a strong organizational orientation towards "integration" of transit services, the bureaucracy is not inclined toward piecemeal experimentation and flexible response to new conditions Moreover, even if an official were readily able to respond to new learning, he probably lacks incentive to do so.

As emphasized by the Austrian economists, a lack of responsive action feeds back into a lack of knowledge Israel Kirzner (1985) explains that discovery of opportunity often takes place only because the individual has an incentive to remain alert to new insights If the public official lacks cause, either because he cannot personally gain from action, or because he would be frustrated in his efforts, then he is unlikely to search out information or to alight upon new insights Where action is lumbering and sluggish the alertness tends to get switched off Stiff joints and weak eyes are both ailments that call for exercise, but each tends to inhibit improvement in the other

In Hayek's view of the free market, it is the active market itself that generates new perceptions by market participants By taking action the individual affects market conditions -- notably, but not exclusively, current prices -- which in turn influence other individuals' perception of opportunity, and again action The utilization of knowledge in the free market can be separated into three points

first, the free market is effective in utilizing the existing, dispersed knowledge of local conditions,

second, by giving individuals the freedom to enter, exit, and contract, it permits them flexibility in responding to perceived changes in the conditions,

third, by pressing entrepreneurs into contact and experimentation with local conditions and by giving them an interest in alighting upon new insights, it fuels the discovery of previously existing opportunities that had gone unnoticed

These functions are all part of what Hayek calls "the discovery process " In contrast, a market served by a protected monopolistic organization is largely innocent of this dialectic of discovery

The importance of Hayek's point is hard to assess -- inherently so In order to measure how well local opportunity is utilized the investigator would have to know about the local opportunity that goes unutilized, and such knowledge is precisely what eludes mastery. Certain comparisons, however, may illustrate Hayek's line of argument Local knowlege is important not only in finding new services and markets, but in finding ways to reduce costs Cost comparisons of public versus private ownership of transit show greater efficiency in the private firms, and less rapid escalation in costs over the past 30 years (Morlock and Viton 1985, Pashigian 1976, Pucher and Markstedt 1983) Tramontozzi and Chilton (1987, 26) point out that private transit systems have succeeded in providing 20 to 50 percent more service per dollar of cost than public systems These private firms are in many cases regulated or subsidized private monopolies, so we cannot take the comparisons as a test between central planning and the free market Nonetheless, the greater efficiency suggests the importance of incentive to discover and adopt ways of reducing costs

The Hayekian teachings about free enterprise rest on a crucial presupposition that a sensible system of property rights defines the market Where property rights are lacking or ill defined, the spontaneous order based on local opportunity will not function An entrepreneur might perceive an opportunity for society on the whole, but because property rights are ill defined he cannot find adequate compensation for his creative efforts

In contrast to traditional transit policies, the property rights paradigm favors policies that promote efficiency and discovery, by favoring property rights not only in transit vehicles but also in *curbspace* (and adjoining sidewalk area) We shall later develop the ideas of curb rights Free enterprise makes a good banner, but first a system of property rights must be devised Then, the survival and expansion of transit forms would depend on the judgment of paying customers, not public officials

A Public Choice Critique of Traditional Urban Transit

There used to be a tendency among academic economists to identify imperfections of the free market and declare them "market failures," as though the mere existence of such imperfections provides grounds for government intervention This tendency was strong in the postwar years when abstract model-building gained a supreme position as the valid manner of economic discourse This style of discourse lent itself to the study of buying and selling, but not of persuasion and politics The government was spared blackboard dissection and academic scrutiny, and kept its popular image as the people's servant This started to change in the 1960s when James Buchanan, Gordon Tullock, and other economists applied their logic of choice and

incentives to behavior in the public sector (Buchanan and Tullock 1965) Lo and behold, careful scrutiny uncovered many imperfections in government as well Thanks to Public Choice research, which has flourished academically and won Nobel laurels, economists are now much more attentive to the idea that corrective government action may well show imperfections more severe than those of free enterprise A policy regime should not be said to fail simply because it falls short of blackboard fictions

Private enterprise works towards profit, but we cannot say the same about government agencies What then are the goals of public agencies? No single goal stands out, generally speaking, except that of serving the public This is the official goal, but its ambiguity becomes evident when one tries to translate it into specifics The specific actions that best serve the public, and how to go about them, must still be decided Moreover, lurking behind the official goal are the personal goals of the public servants, and the two are not always well aligned

When we get down to specifics, the official goals of a transit agency are multiple, confused, and conflicted The obvious goal is to provide mobility, especially to those who do not have alternative means of making trips Yet we have seen other official goals tread on the basic goal of mobility In fact, the original justification for federal funding of public transit was not mobility but rather urban renewal By 1964, cities and states could no longer afford to build or expand new transit systems The Public Works Committee of Congress did not think that mobility called for transit, that goal would be met by highways. Cities and transit agencies instead sold a different Congressional committee on transit as a stimulus to urban renewal (Jones 1985) Ever since that time, one of the powerful official goals of public transit has been to maintain the Downtown This goal competes with mobility in two ways First, it often gives life to rail

projects and diverts transit money away from bus service, which provides much more mobility, dollar for dollar Second, the Downtown orientation favors a radial route structure (for bus or rail), whereas in today's polycentric urban areas a network structure would better connect the parts Official goals have been further aggravated during the past twenty-five years, by the addition of energy conservation, cleaner air, reduced congestion, and alleviation of poverty Whereas the goals of private sector agents are few and frank, the goals of public officials are many and murky

In order to understand his behavior, we need to know the bureaucrat's official goals, his personal goals, and the institutional structure in which he works As shown in Figure 1, these three factors combine to create a set of incentives for the bureaucrat The incentives induce him to appropriate action, and his action has various consequences, some unintended, which then influence anew the goals and institutional structure.

[Figure 1 here]

Public Choice economists are sometimes called cynics because they place the personal goals of civil servant under the microscope But they simply assume that the man in the public agency or voting booth is the same man as the man buying milk in the supermarket, no better and no worse Public officials, like everyone else, value personal comfort, security, prestige, and self-importance They want more money They may want more time away from work In their work they may want more pleasure or stimulation or gratification or peace and quiet Meeting personal goals will sometimes satisfy official goals, but often they will not. There will be a good deal of hokum and false posturing as officials purport to serve one official goal while really pursuing personal goals or some other official goal Also there is a tendency for human beings to "believe

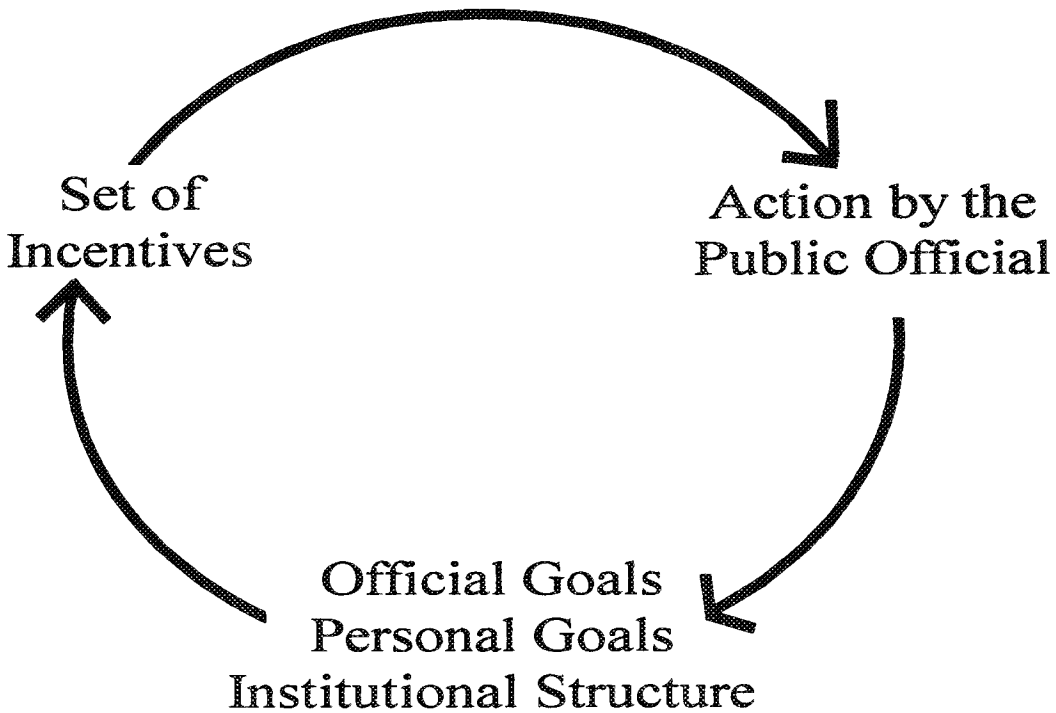


Figure 1

The Circle of Goals, Incentives, and Action
For the Public Official

their own press," making official and personal goals conceptually inseparable (Klein 1994)

William Niskanen (1971) put forth the theory that the personal goals of security, advancement, and power create incentives to increase the agency's budget Niskanen argues that a public agency will tend to overproduce its service and inflate its costs A survey of the best attempts to test empirically these results find support for Niskanen's conclusions Mueller (1989, 266) reports that 40 out of 50 studies examined find public agencies to be significantly less efficient than private firms providing the same service When applied to public transit agencies, the theory offers an explanation for the constant effort to increase the service area and capacity and to exclude competition, and for inflated costs This theory also helps to explain the pattern of ridership forecasts that are grossly exaggerated, as told of in Melvin Webber's paper (1976) on the BART system, John Kain's paper "Deception in Dallas" (1990), and Donald Pickerell's paper, "A Desire Named Streetcar" (1992) That actual ridership turns out to fill such a small percentage of capacity, even with heavily subsidized fares, also accords with Niskanen's theory of the tendency to overprovide service

Official goals are further muddled by the incessant demands of special interests Cities and municipal transit agencies seek state and federal funding, and in turn local interests lobby municipal agencies Gordon and Richardson (1994) report that meetings of the Los Angeles Metropolitan Transportation Agency attract more lobbyists than do all the offices of the state legislature in Sacramento "Rent seeking" is the name given to lobbying and other activities that seek wealth (or "rents") by a mere reshuffling of political prerogative, rather than by producing new wealth (Tullock 1967) Table 4 shows sources of transit subsidies by level of government Because data was kept differently before 1980, Table 4 covers only 1980 to 1992, so it does not

show the fact that subsidy levels were growing in the 1970s as well Line 6 shows that operating subsidies have grown to 60 percent of operating costs Clearly subsidies have become an increasingly large, and even dominant, part of transit budgets Transit officials have increasing incentive to devote resources to lobbying for subsidies State and federal subsidies often carry various restrictions, which prevail over local transit needs in determining how the resources are used

[Table 4 here]

One of the "rents" in question is the political returns to officials from providing contracts and jobs for new construction projects, or local employment in the transit industry. Often we hear about "jump starting" the local economy with new construction projects Rent-seeking of this type is a negative-sum game The resources devoted to lobbying for federal transit money are a net social loss, even when the sought-for redistribution is successful Because construction rents are substantial for rail and negligible for buses, this form of rent seeking creates a bias toward rail

One of the largest rents (or privileges) associated with public transit comes from Section 13(c) of the Urban Mass Transportation Act (1964) This Section prevents the transit agency from taking any action that will have adverse effects on its public-transit union employees Thus the agency is not free to bring in part-time workers for peak periods, or to contract out services, or to cut back service in weak markets Section 13(c) gives great power to the transit-worker unions and seriously impedes efforts to enhance efficiency (Chomitz and Lave 1984, Rottenberg 1985, Love and Cox, 1991, 14) Transit agencies must explicitly serve the interests of transit unions when planning services and route structures Labor's expanding share of transit costs is shown in line 9 of Table 2 It is a striking example of how objectives that are extraneous and

		1980	1990	1992
1	**OPERATING SUBSIDY** (Millions 1992 $)			
2	Local	2901 7	5728 1	4747 8
3	State	1397 1	3238 9	3775 6
4	Federal	1863 1	925 8	964 3
5	Total	6162 0	9892 7	9487 7
6	**Operating Subsidy/Operating Cost**	**0.49**	**0.62**	**0.60**
7	**CAPITAL SUBSIDY** (Millions 1992 $)			
8	Local	382 3	1262 8	830 0
9	State	335 8	747 7	801 0
10	Federal	2606 6	3082 2	2673 0
11	Total	3324 8	5092 7	4304 0
12	**TOTAL SUBSIDY** (Operating + Capital) (Millions 1992 $)	**9486.7**	**14985.4**	**13791.7**

Sources Association of American Public Transit. *Transit Fact Book*, Federal Transit Authority *Section 15 Report*, and Nationwide Personal Transportation Survey

Table 4

Transit Operating and Capital Subsidy

brazenly self-serving can affect institutional structure and even become official goals of the transit agency.

The murkiness of goals and incentives in public agencies often prompt the imposition of rigid rules and procedures on the agency or within the agency Those who impose such rules have one objective in mind, but the lack of flexibility thus imposed is later found to impede other worthy goals For example, Eckert (1979) and Taylor (1992) explain how California's Transportation Development Act taxes gasoline to pay for public transit, and, in the interest of fairness, disburses the funds to the counties such that each gets back what it paid in The result is that the counties which use the most gasoline on a per-capita basis, and consequently the least transit, get the most transit money This induces overprovision of services in these counties, resources are wasted on unused transit

Other perversities of public transit are more striking. Jones (1985, 155) points out that discretionary transit funding tends to go to the agencies that are having the most severe problems with ridership or experiencing the most financial difficulty This policy undercuts incentives to make the service more attractive, to earn added revenues, to reduce costs, or to contract out In the free market the honest dollar selects for what works and leaves failed services to reform or die (Alchian 1950) In the public sector there is no comparable survival mechanism, as failed services clamor for more funding

A final perversity of public transit is its regressivity There is a service regressivity in the bias towards rail over bus, in that the rail passenger is more often a suburban commuter and has a higher income than the average bus passenger (Gross 1995) Regressivity is also found in the tax burden for public subsidies to transit Hodge (1988) and Hay (1993) argue that the tax burden

takes a larger portion of income from the poor than it does from the rich

We can see something of a vicious circle Public ownership and the existence of subsidies mean that within the transit agency funding and service are bifurcated The direct connection between performance and financial reward is severed, and incentives become diffuse, confused, and disingenuous Unintended consequences induce new schemes to reform the agency, schemes that do not address the fundamental problem

The transit official knows that real leadership and a clear sense of priorities will never emerge His attitude toward reform proposals is recalcitrance As Alan Altshuler argues in *The Urban Transportation System* (1979), public transit agencies become strongly biased toward maintaining the status quo When reform or change is in the air, the transit official attempts to "confine new issues within the narrowest possible bounds and thereby to minimize conflict." He tries to avoid having to take anything away from anyone, he tries to "define the policy game as one of winners without losers" (Altshuler p 12) The result is consensus politics and the staving off of significant change When change does occur, it is usually in response to a real or supposed crisis This may indeed change the status quo, but not the status-quo bias

The bias towards the status quo leads to increased intervention Once officials have monopolized the industry, citizens turn to them for remedies to their transit troubles, they cannot turn to competitors! Officials respond with further regulations in an effort to patch up the perceived problem Thus, intervention begets intervention, in a dynamic fueled by the official's desire not to rock the boat (Mises 1978) Frankena and Pautler (1986) describe the intervention dynamic in the taxi industry A similar cycle of intervention occurs in bus service in many less developed countries (De Soto 1989, Diandas and Roth 1995) Illegal private bus drivers form

associations and seek official recognition to guard against interloping on their routes But official recognition means regulation, declining service quality, and finally a new generation of interlopers The pattern begins anew The intervention dynamic produces, at most times, creeping regulatory changes to the status quo, until finally the industry reaches a state of crisis, and drastic changes in policy are made In *Going Private* (1993, 17) Jose Gomez-Ibanez and John Meyer paint a broad picture of a cycle of private and public involvement in transit They argue that the intervention dynamic leads to the decline of the industry, public takeover, further decline, and finally reprivatization -- bringing the issue back to the starting point We propose a way to to break from the cycle by using property rights rather than regulation to govern transit

The experience of public transit provides countless illustrations of Public Choice reasoning Notable studies, beside those cited already, telling of government imperfections in transit include Saltzman and Solomon (1972), Pashigian (1976), Ortner and Wachs (1982), Hilton (1985), Kain (1988), and Gordon (1989) We have tried to give a flavor of the incentive problems that become rife in public and political institutions These points, in conjunction with the Hayekian points about local knowledge, indicate a need to study the route that leads away from traditional public transit

SECTION TWO: NOTABLE TRANSIT EXPERIENCES

Policy insight often comes from a wide knowledge of diverse cases There have been numerous transit experiences through time and around the world, and each experience may serve as a reference or model for a cluster of ideas about urban transit We review a diversity of transit experiences here Discussion of these various experiences will help us to develop ideas that will be used in our formulation of policy recommendations The nine transit experiences summarized here are as follows

The Jitney Episode of 1914-1916

Transit in the LDCs Jitneys and Route Associations

Illegal Jitneys in the United States

Illegal Taxicabs in the United States

Taxi Deregulation in the United States

Commuter Transit Services in the United States

Noncommuter Door-to-Door Services in the United States

Bus Privatization and Deregulation in Britain

Contracting Out Bus Service in the United States

We can organize the experiences into three categories of transit service Figure 2 places the experiences in an urban transit typology based on whether service follows a route and whether it follows a schedule "Freewheeling" services are those that do not follow a schedule But they

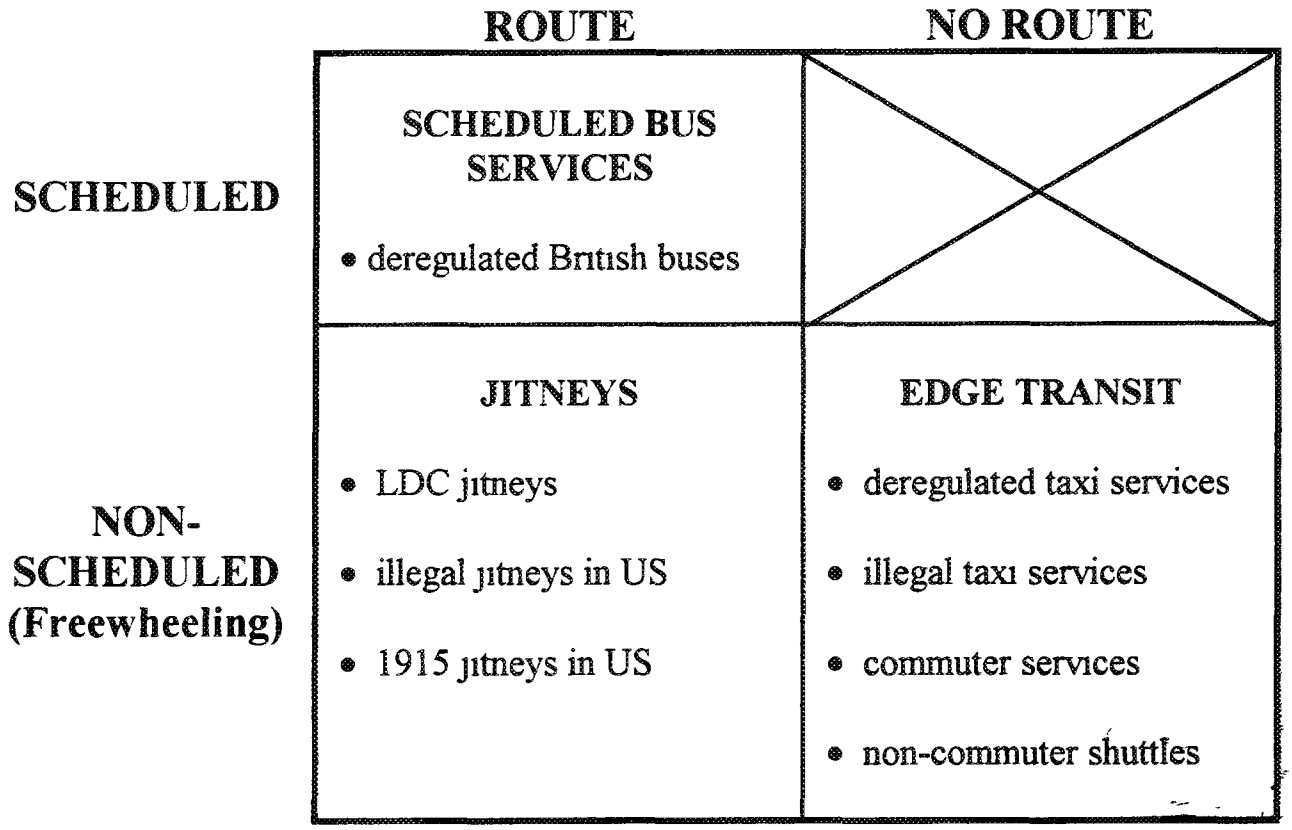


Figure 2

A Typology of Urban Transportation Services

may follow a route, making them jitneys, or they follow neither schedule nor route These services operate at the edge of traditional transit, and are particularly important in edge cities With a nod to Joel Garreau, we call these services "edge transit " Edge transit services most closely emulate the private automobile, but they are not in fact the focus of this book This book pays due regard to the growing and important edge transit sector, but its core ideas pertain to route-based transit, both scheduled and freewheeling, represented by the two left-hand cells.

[Figure 2 here.]

chapter five

JITNEYS AND INTERLOPING

Jitneys are small, unscheduled vehicles plying a route Americans today see little of them, but elsewhere, especially in less developed countries, people rely greatly on jitneys Their operation is typically outlawed, but these "scabs" of the transit world have invariably displayed market advantages in terms of costs, flexibility, frequency, and speed Hence, jitney interloping often survives, to the outrage of public transit agencies Here we discuss three jitney experiences, suggesting great, untapped potential

The Jitney Episode of 1914-1916

In the early part of this century the most popular form of urban transit was the electric streetcar. Technological improvements converted horse cars and cable lines to streetcars running on electricity The technological improvement brought a significant decrease in the cost of public transit and apparent economies of scale in provision (Eckert and Hilton 1972, 295, Hilton 1985, 34) Across the United States, electric street car companies were given a monopoly in the form of exclusive franchises to routes In exchange for the monopoly right, the municipalities regulated the electric streetcar companies by fixing the fares, routes and service levels

In 1914, however, a decentralized form of transit emerged in Los Angeles, where

automobile owners used their cars to provide mass transportation This form of transit is believed to have been initiated by a man named L P Draper who used his Model T automobile to transport passengers for a "jitney," the slang term for a nickel (Eckert & Hilton, 294). Mostly, the jitneys interloped along the streetcar traffic, picking up passengers that were waiting for the streetcar. The jitneys quickly became popular because of their flexibility and the speed at which they travelled Eckert and Hilton (1972, 296) report that jitneys were 150 to 200 percent faster than the electric streetcars Also, jitney drivers would occasionally deviate from the main route to drop off passengers They were more comfortable and less crowded than streetcars As a result, passengers with a high value of time, and people who perceived novelty in riding in an automobile were attracted to the service (Eckert & Hilton 1972, 296, Rosenbloom 1972, 5, Saltzman and Solomon 1973, 63) Shortly after the introduction of jitneys in Los Angeles, they spread throughout the nation They became so popular that by 1915 there were 62,000 jitneys in operation nationally, and a trade journal, *The Jitney Bus*, was founded (Eckert & Hilton 1972, 295-96)

The popularity of the jitneys across the U S had undoubtedly affected the revenues of the electric streetcar companies A few months after the introduction of jitney service in Los Angeles, for example, Los Angeles Railways was losing six hundred dollars per day, laying off employees, and cutting back on service (Eckert & Hilton 1972, 296) Another report indicated that Los Angeles trolley companies were losing three million dollars a year to the jitneys, similarly, Public Service of New Jersey reported an annual loss of four million dollars to the jitneys (Rosenbloom 1972, 5-6) Saltzman and Solomon (1973, 63) report that in some smaller cities the jitneys were able to put streetcar companies out of business

Jitneys no doubt skimmed some of the cream of the streetcar business, yet they also filled important market niches Jitneys were used mainly for short distance services and provided transportation to people who would otherwise not have been served by the electric streetcar companies Jitneys were serving more passengers than were lost from streetcars and opening new market niches Although jitneys charged no more than the streetcars, their gross revenue far exceeded the streetcars' loss of revenue (Eckert & Hilton 1972, 296, Rosenbloom 1972, 5)

The electric streetcar companies perceived the popularity of the jitneys and the subsequent loss of revenue as an infringement on their monopoly right Saltzman and Solomon (1973, 64) write that "[i]nstead of trying to compete by introducing better and more variegated public transportation services, the transit industry's response to recognized competition was to attempt to regulate the innovation out of existence " The streetcar companies lobbied local and state government to regulate the jitneys The municipalities went along with streetcar demands, in part because they received tax revenue and free movement of police and fire department personnel from the streetcars (Hilton 1974, 37) Municipalities required jitney drivers to obtain liability bonds ranging from $1,000 to $11,000 per vehicle, and obtain a franchise license similar to that given to the streetcars These measures and other anti-jitney ordinances proved fatal. The jitneys disappeared abruptly after just two years of remarkable growth and experimentation

Unlike the electric streetcars, jitneys did not exhibit scale economies As a result, jitneys were loosely organized and highly spontaneous Most jitney drivers were independent and worked part-time to supplement their income Many were simply working people who picked up passengers on the way to their regular jobs (Eckert & Hilton 1972, 294) Moreover, jitneys adapted spontaneously to changing demand conditions, such as weather, time of day, day of the

week, holidays and special events Routes and the general supply of jitneys were highly flexible Despite the decentralized nature of jitneys, an emergent order in the form of customs, voluntary associations, and company fleets was evolving to meet institutional and market needs These associations were formed to help drivers obtain insurance, share maintenance service, and protect them from hostile legislation, and in some cases to coordinate routes and schedules (Eckert & Hilton, 295-97).

The jitney episode was one of change and discovery in an otherwise heavily regulated and monopolized industry Passengers saw the benefit they were getting and left the streetcars *en masse* to patronize the jitneys As the jitneys grew in size and importance the industry began to self-organize and coordinate to better serve the paying customer. However, the jitney episode also gives credence to Public Choice notions (Tullock 1967, Stigler 1971) that regulators respond not to the needs of the public, but to the industry they regulate Despite the jitney's popularity with paying customers, the regulators chose to neglect the clear potential for public betterment in favor of a static and knowable order.

The regulated monopoly structure of the electric streetcars was inflexible to changing demand and cost conditions During World War II, gas rationing led to an increase in ridership and service levels, and thus in the cost of providing service Rationing also prevented the replacement of rail and vehicles After the war, the streetcar companies spent a great deal on replacement, and ridership declined, but regulators hindered them from reducing service or raising fares (Adler 19xx,) As George Hilton argues in "The Rise and Decline of Monopolized Transit" (1985, 34-37), the regulatory constraints on raising fares concommitant with monopoly franchise should bear much of the blame for the eventual demise of the private operators Some innovation

and the introduction of motor buses in the 1920s and 30s, which decreased the cost of mass transit, allowed the private monopoly operators to stay in business until the middle of the century As household income increased and people moved to the suburbs, however, mass transit could not pay for itself As a result, in the 1950s and 60s most of the transit companies went bankrupt. Congress passed the Urban Mass Transportation Act in 1964, mandating and providing money to local government to save urban mass transit Municipalities responded by purchasing the private transit companies and setting up their own local or regional transit agencies to operate mass transit.

The jitney episode may seem like ancient history, but really it is a landmark on the road we have travelled As soon as the automobile appeared, freewheeling transit appeared Also making its appearance was the fundamental property rights issue that has persisted ever since Is interloping on scheduled service a form of thievery or a form of competition? The answer of the authorities was "thievery," plain and simple Instead of developing a framework that would accommodate competitive co-existence, freewheeling transit was stamped out in favor of large-scale monopoly After generations of protection, monopoly transit is collapsing, again due to competition from the automobile, but now because everyone can afford to be his own jitney driver Freewheeling transit is an idea whose time had come in 1914, and has never really gone

Transit in the LDCs: Jitneys and Route Associations

Transit services similar to the 1915 jitney experience still operate on the streets of hundreds of cities throughout the less developed world In reviewing transit in Southeast Asia, for example,

Peter Rimmer (1988, 188) tells of service needs being "filled by a 'mosquito' fleet of microbus and minibuses based on converted sedans, ex-troop vehicles and motor cycles with pedicabs." Isaac Takyi (1990, 170) reports on six LDC cities "The archetypical urban jitney system consists of a constellation of loosely regulated owner-operated collective vehicles following more or less fixed-routes with some deviations as custom, traffic and hour permit" (see also Grava 1980, 279). Although there are important differences between the LDCs and present day America, the LDC transit experience affords valuable insights for transit strategies anywhere.

We have said that America is undergoing "edgification " That is, wealth and the private automobile are diffusing urban development and reducing the demand for transit. In the LDCs, however, migration from traditional communities to urban centers is heavy, and the demand for urban transit increases each year (World Bank 1986, vii) Edgification is still generations away In this regard, the LDC experience speaks better to past American than present, and better to urban America than to edge city

There is another fundamental difference between the LDCs and America Although there are extensive black markets in America (Tucker 1993), the rule of law remains intact to a far greater degree than in most LDCs The average American rarely turns to the underground economy to serve his needs The average Peruvian or Filipino or Kenyan rarely turns to the above-ground economy! There is an irony here sometimes the most *dirigiste* economies show the most entrepreneurial and freewheeling markets

As government regulations proliferate, government becomes increasingly arbitrary, incomprehensible, and absurd, and respect for law declines (Hayek 1944). Black markets expand, corruption spreads, and the rule of law disintegrates In his famous study of the economy of

Lima, Hernando De Soto (1989, 234) says that "the existing legal system -- red tape, the widespread mistreatment on waiting lines, the bribes, the rudeness -- are a Kafkaesque trap which prevent .. resources from being used efficiently " In the face of this trap, however, there emerges extralegal practices which often displace government-made law Because government law has strangled itself, monopoly by regulatory law is impossible, and the streets of many LDC cities display a *de facto* approximation of "free market" transit.

In most of the LDC cities there are official bus services which receive subsidies (Takyi 1990, 170) Furthermore, formal regulations for jitneys, governing safety, routes, and fares are on the books "Although jitneys may have legal status," Takyi (1990, 175) says, "they never operate legally " Many jitneys operate without authorization, and others have official recognition but disregard government regulations

Takyi (1990, 171) describes the jitney's appeal to riders·

> They charge relatively low fares and provide wide coverage across a city, often serving poor areas that get no other service Their operations are flexible so they can add service at peak times and quickly cover new neighborhoods Their small size and cheap labor enables them to profitably provide frequent service in smaller neighborhoods and along narrow streets, as well as work the main thoroughfares With fewer passengers, they often make fewer stops and faster time.

These advantages also marked the American jitneys of 1915, but in that case regulations were imposed to undercut their competitive advantage In the LDCs, laws are passed to prevent jitneys from interloping on official service and from establishing competing routes, but often the laws are not enforced Takyi (1990, 175) tells of "the loss of passengers at transit stops to jitneys during

lean as well as peak periods " Across LDC transit markets there is a continuum with respect to legal status of independent jitney operators, and with respect to success of the jitney systems

Usually jitneys are loosely regulated and operate with small regard for the law, often paying bribes to be left alone As service develops on heavy urban routes, various curbside conflicts and confusions start to occur Any operator that attempts to establish scheduled service will face an interloping problem Some operators will headrun on the scheduled service, others will linger at the curb to fill up, disrupting traffic and taking ridership from the arriving vehicle (Roth and Shepherd 1984, 4, Diandas and Roth 1995, 27-28, Takyi 1990, 167, 175). Consumers may be reasonably well served, but problems of discoordination and lack of trust are often severe

A common development is for the jitney operators to form a route association These are informal organizations created to bring order and regularity to service, by creating an extralegal system of norms and explicit rules The jitney literature suggests that route associations have in large measure governed transit services in Lima (De Soto 1989), Hong Kong, Istanbul, Buenos Aires, Manila, Calcutta, and Caracas (Roth and Shepherd 1984, Takyi 1990). The route association becomes a regulatory body, somewhat like government, but more local and entrepreneurial in nature The association lays down rules against interloping and deviating from schedules Also they fix fares on the route, though these may vary with time of day. Associations create a degree of order sufficient to control wasteful conflict, but one must wonder whether the route associations operate as a cartel Roth and Shepherd (1984, 42), De Soto (1989, 99), and Grava (1980, 282) report that associations function to limit entry

Thus we arrive again at the fundamental issue of rights to waiting passengers -- or curb rights The jitneys initially transgressed the curb rights of the formal bus operators, yet in time

they organized to establish curb rights for themselves How, then, do they prevent new interlopers from transgressing their rights? The main answer seems to be physical intimidation and strong-arm tactics Roth (1987, 224-25) notes that "the methods used by route associations to protect their territory can become criminal, unlawful, perhaps even homicidal " Sigurd Grava (1980, 282) speaks of route enforcement by means "considerably beyond the law" by "district strongmen, .. local bosses, criminal gangs, powerful families, brotherhoods of operators or otherwise legal associations " As is common in black markets everywhere, outlaw entrepreneurs employ violence to maintain their territory. De Soto (1989, 102) tells of route associations in Lima appointing "dispatchers" to monitor compliance with rules, and bribing the police to accost and harrass "pirates" who are trying to invade their route Thus we see a fascinating cycle of law being disintegrated and regenerated

Once route assocations have organized their operations, they often turn to the government for official recognition Through a long effort of lobbying, bribery, petition gathering, and so on, the route association often acquires official status, and is granted permits or licenses. Along with official recognition, however, come political obligations and regulations Transit history in Colombo (Diandas and Roth 1995) and Lima (De Soto 1989) shows a cycle of transit governance once the decentralized private operators gain official recognition they are hamstrung by regulation and suffer invasion by a new generation of interlopers Without curb rights, established officially or otherwise, orderly scheduled service does not last

There is however one scenario in which scheduled service is preserved even when interlopers may carry on unhindered If scheduled service is subsidized enough to allow it to charge fares lower than the jitneys, then riders might opt for it, rejecting the offers of the speedier

jitneys In thick markets or at peak hours we might see the scheduled buses filled to capacity, while jitneys supplement by carrying the excess demand and those willing to pay for better service This vision conforms to De Soto's remark that "[i]nformal transport operators [jitneys] concentrate their service in popular areas, while the state corporation and other formal companies mostly serve traditional neighborhoods" (1989, 94) In thin markets, there may be no curb rights to speak of, but jitneys do not headrun on scheduled service because they cannot compete with the subsidized fare levels of official service

The LDC transit experiences are varied, but some fascinating models present themselves Two cases stand out, and they are distinguished mainly by the issue of curb rights First, during certain periods in thick markets, curb rights have been minimal and a cascade of jitneys serves people efficiently and reliably Unsubsidized, scheduled service is likely to be dissolved by the competition from speedier, low-cost jitneys Many advantages of this type of flexible service are on display, and on the whole the performance of the jitney is thought to be "very positive" (Grava 1980, 286) Second, the route association scenario shows that operators will organize to establish curb rights and normal operating practice, bringing more order to the market Now scheduled service is protected from the cascade of interlopers These associations probably also work as cartels, and even resort to strong-arm tactics, but nonetheless they offer an interesting model of an organization setting standards for the market based on excellent local knowledge and entrepreneurial sense Roth and Shepherd (1984, 42) state that given the circumstances, route associations work well, "serving both the public and their members " In as much as route associations use a system of curb rights, rather than centralized direction, to generate order, they provide a model that local governments everywhere can learn from

Illegal Jitneys in the United States

Black market transit is not restricted to the less developed countries In most major American cities, illegal transit, especially by taxicab, is extensive We reserve the name "jitney" for vehicles which follow a fixed-route at least loosely and a schedule at *most* loosely, and picks up and discharges per request. In contrast, illegal taxi service mostly either responds to radio dispatch or picks up passengers at stands Although Jitney and taxi services are distinct, an entrepreneur can choose at any given time to work at either type of service Illegal taxis have been called "jitneys," to distinguish them from legal taxicabs while avoiding the connotations of terms like "illegal," "unlawful," etc We use the terms strictly to distinguish between the type of service offered, and shall discuss in turn illegal jinteys and gypsy cabs

People who ride illegal jitneys in the United States, mostly in New York City and Miami, give a number of reasons for prefering them to the city buses [1] By far the most often mentioned is that the jitneys are faster and even cheaper than the city buses Jitneys also provide a more comfortable ride, with no standing, and many riders enjoy having a driver that speaks their native language Finally, many riders say that riding the jitney is safer than the public bus Since jitneys come more often, riders do not have to wait as long at the bus stop, where they fear getting mugged (Levine and Wachs 1986) Also, jitney drivers will not pick up passengers who are drunk and disorderly, or who otherwise pose a nuisance Jitney riders, who are mostly minorities, appreciate being able to escape the forced association with all comers that a public bus entails Opponents of illegal operators often "play the safety card," claiming that illegal operators imperil safety or commit crimes against passengers But researchers tend to find that "this warning is

entirely unfounded" (Davis and Johnson 1984, 97)

Extreme cases of interloping jitneys may develop where market conditions are favorable and enforcement efforts not yet mobilized To persist once enforcement begins, interloping must expand to the point where the individual illegal operator finds safety in numbers, like someone taking part in a riot This jitney outbreak either persists as a significant force or disappears. In most U S cities, either market conditions have not favored illegal jitneys or enforcement has been effective [2] The two notably instances of such jitney outbreaks have been in New York City and Miami

Modern jitney operation in New York City was prompted by the transit strike in 1980 Illegal jitneys emerged to provide local service and feeder service to the Long Island Rail Road station in Jamaica (southeast Queens) As Boyle (1993, 3) explains, "[t]he jitneys thrived along busy bus routes . because of the high numbers of people congregated at the bus stops along these routes " Boyle reasons that jitney service has developed especially in neighborhoods of Caribbean immigrants, because lands those riders became accustomed to relying on jitneys in their native lands

Although the strike had long been settled and regular bus service reinstated, enforcement against the jitneys had been only "sporadic" (Boyle 1993, 3) Jitneys reached the "take-off" point to self-sustained operation, and are now forming associations The authorities face the dilemma of cracking down on services which are well regarded by paying customers and treated sympathetically by reporters and news commentators

"[The vans] siphon off our revenue," according to an Metropolitan Transit Authority spokesman (Zimmerman 1992) An MTA executive claimed that each year the jitney vans were

diverting $30 million in revenue from the MTA (Machalaba 1991) Transit police have been assigned to areas near bus stops to crack down on the interlopers *The New York Times* reports as follows "In the 18-months ended December 1991, a special task force issued 6,542 civil notices of violation against the vans and 11, 773 criminal summonses, ... [and] 251 arrests" (Mitchell 1992) Still, the vans are thought to be uncontrollable A police officer remarks that two or three vans sail by for every one he tickets Most vans are driven by Caribbean immigrants, and who pay small regard to the summonses *The Wall Street Journal* (Machalaba 1991) reports that over a one year period the van drivers have been assessed fines over $4 million, but the city collected only $150,000 The authorities face the dilemma of cracking down on services which are well regarded by paying customers and treated sympathetically by reporters and news commentators Also, considerations of racial flash-points probably dampen the will to go beyond current enforcement measures, which amount to random delay and hassles for the drivers and their patrons

To operate legally the vans would have to obtain special permits and a special insurance policy and undergo multiple inspections each year, and the driver would need a special license The vans could then pick up and discharge passengers only by pre-arranged appointment, and of course not use city bus stops (Zimmerman 1992) It is estimated that between 2,500 and 5,000 vans flout these laws (Boyle 1993, 4)

Jitney experience in Miami is similar Miami has a history of *legal* jitney service, but a 1989 state law inadvertantly opened opportunities for extensive jitneying. The law prohibited local governments from regulating passenger carriers engaged in intercity service. There was a surge in jitney services crossing the city boundaries between Miami, Miami Beach, Hialeah, and

Coral Gables The surge came from both licensed certificate holders who expanded their operations to new unlicensed routes, and newcomers, primarily Caribbean immigrants, operating entirely without authorization (Urban Mobility Corporation 1992) Although subsequent legislation changed the intercity proviso, the critical mass had gathered and the "riot" set in motion Now the Metropolitan Dade Transit Agency has to deal with an extensive system of illegal service which has strong public support and a strong racial component Surveys show that of the jitney passengers, between 55 and 60 percent most frequently speak a language other than English (mainly Spanish), and 78 percent earn below $20,000 per year Although Dade County has resorted to stern enforcement, notably vehicle impoundment, it faces social and political constraints in waging a war on an entrepreneurial, unsubsidized service for poor people In both New York and Miami, as the jitneys build support, they aim for recognition and "integration" into the official system, and the authorities have responded in that direction (Urban Mobility Corporation 1992, Garvin 1992, Muhs 1993)

Dade County officials state that the illegal jitneys skim the cream from the bus routes (Garvin 1992) Only some of these jitney riders are would-be transit riders -- the jitneys both take patronage from transit and develop new markets of their own. The Urban Mobility Corporation (1992) finds that the jitney fleet of 400 vans carries about 45,000 riders per weekday, or about 20 percent of the number of weekday riders on the public transit system In surveys, 50 percent of jitney riders say that they "always ride the jitney," while 31 percent say they use "whichever vehicle arrives first " Over 30 percent say that, if the jitneys were not available, they would travel by means other than the county transit system The Urban Mobility Corporation figures that roughly 22 percent of the jitney riders are would-be riders of the public bus system

The New York and Miami jitney experiences show again that unsubsidized private enterprise can supply fixed-route transit, even when having to cope with enforcement efforts against them We see also that property rights to secure waiting bus passengers, and the degree of enforcement, is a fundamental component in such operations

In thick transit markets, active suppression is required to keep entrepreneurs from offering jitney services The market advantages of jitneys are easy to see, yet their great potential continues to go untapped in the United States If the problem of interloping can be resolved, perhaps travellers can enjoy the blessings of both the freewheelers and scheduled service

chapter six·

EDGE TRANSIT SERVICES·

GYPSY CABS, TAXIS, COMMUTER SERVICES, AND SHUTTLES

Under a regime of minimal regulation, transportation modes inevitably blend into one another. solo driving melds with carpooling, which melds with vanpooling, which melds with shuttle vans, which melds with shared-ride taxis, which melds with jitneys, which melds with minibuses, which melds with buses The focus of this book is route-based transit -- notably jitneys and buses -- but a rounded discussion of transit policy needs to recognize the growing roles of transit services operating at the edge of route-based transit. Taxis, commuter services, and shuttles are the services that most closely approximate the private automobile, the giant of urban transportation

Illegal taxicabs in the United States

Another form of illegal transit in America is the gypsy or "vernacular" cab. Illegal cab services have developed primarily in low-income black neighborhoods, which are often poorly served by legal cab companies Peter Suzuki (1985, 345) explains that, because these services are illegal and predominately black, it is difficult for social researchers to do basic field work. Suzuki worked as a jitney driver in Omaha and tells of fascinating practices of the field The cabs work the streets for hails, the telephone market from nondescript "stands" (also called "stations"), or the supermarket parking lot for shoppers who had arrived by bus but depart with groceries These

operators are neighborhood features often of long standing, and not in direct competition with any lawful service Compared to the jitney vans, illegal cabs enjoy a live-and-let-live attitude on the part of officials, but only so long as they do not become too ambitious or overtly commercial.

The case of Pittsburgh has been studied by Otto Davis and Norman Johnson (1984), with the assistance of black students who worked their way into the network Little is known about the vernaculars of Baltimore, Boston, Chicago, Los Angeles, New York, Philadelphia, and elsewhere, and that which is known comes largely from the efforts of newspaper reporters (see citations in Suzuki 1985, 1995) Gypsy cabs are not confined to the U S ; London alone supports a remarkable 40,000 illegal taxis (Stevenson 1993)

Even gypsy cabs need to be organized Entrepreneurs run "stands" (or "stations") where calls are taken and cabs dispatched Suzuki (1985, 342) describes the illegal taxi stands of Omaha

> The typical stand is an unkempt place, and many even have the doors and windows boarded with plywood The only indication that it is a stand may be a sign with the key words "delivery service," euphemism for jitney stands Inside a typical stand one sees a pool table or two and perhaps a soft-drink machine Old wooden chairs and an old overstuffed sofa with its springs showing may also be found. Invariably, the stand will be dark and dingy, with only a naked light bulb or two lighting the interior Even in the morning hours the stand may be a lively place, with drivers -- usually males -- shooting pool while waiting for the dispatcher's call

Stands are often found "near a bus stop, at the bottom of a steep hill, or near a shopping area" (Davis and Johnson 1984, 93) Davis and Johnson (1984) emphasize that the stand operators must protect their reputation for friendly, reliable, trustworthy service, and screen drivers accordingly Although outlaw existence might prevent them from investing in their place of business, they guard their brand-name capital

The gypsies also find their patrons -- mostly poor and black -- by cruising the street or arranging shared-rides from the supermarket They are cheaper than regular cabs, and tipping is not the custom (Davis and Johnson 1984, 97)

Davis and Johnson (1984, 88) report that 40 percent of the drivers are only part-timers, many being between jobs or driving as a second job The full-timers "are often older persons, retire or disabled (almost always male), who have adopted this occupation as a means of supplementing other income (such as retirement pensions) or simply in order to have something to do."

The relationship between the gypsies and the offical cabs depends on particulars and history Where the gypsies hustle rides at the airport or cruise the territory of the legal cabs, as they do in New York, tension is severe and the authorities are more active in enforcement, mediation, and regulatory reform Where the gypsies function primarily in poor neighborhoods otherwise unserved, *de facto* accommodation typically is made by the official cabs and the authorities (Davis and Johnson 1984, 81) In Los Angeles, officials recently offered gypsy cabs license to operate legitimately, but only in the poor areas (Lacey 1994)

The illegal jitneys and taxicabs can be said to confront a comples of economic and political factors There are three variables that will work together to determine the level of official

restraint (1) the ire that the illegals arouse in legal operators, (2) the political influence these competitors have with the authorities, and (3) the will and ability of the authorities to police against the illegals If all three of these variables are strong, the illegals will be suppressed

The illegal jitneys arouse tremendous ire when they travel the official bus routes and interlope at bus stops, and their bus competitors have much political muscle For this reason such jitney operations are very rare in the U S But in New York and Miami special circumstances and historical accident have generated a "critical mass," and jitney operation has reached a scale where the authorities lack the ability to shut them down The political will comes to be influenced by public support for the illegals In the case of th gypsy cabs, they often exist simply because they do not arouse the ire of competitors Whatever the calculus of power, once illegal operators becomes part of the status quo, it is difficult for the authorities to shut them down, because at bottom they are entrepreneur peaceably offering a service to willing customers As one hispanic housewife, who rides illegal cabs between Santa Ana and Tijuana, describes enforcement activities "The ones who are bothering people are the police" (Gurza 1995) Over time illegal operators often obtain varying degrees of recognition *de jure*

Taxi Deregulation in the United States

In our thinking, "transit" means nonauto-mobility, not non-automobile, and taxis ought to be viewed as a prominent mode of transit Taxis carry at least 40 percent more passengers nationwide than all other mass transit combined (Wohl 1982, 329, Rosenbloom 1981) The taxi share of total trips has remained steady while the bus-and-rail share has declined Taxi fares

average five times more per passenger-mile than fares of other transit services (Wohl 1982, 329), so taxis must offer something that other transit modes do not Weiner (1982, 327) suggests that taxis better serve emergency trips, the elderly and handicapped, business trips, night-time trips, and trips to points not served by bus or rail Senior citizens, housewives, and the poor each account for a much higher share of taxi trips than their share of the population (Rosenbloom 1972, 11, Weiner 1982, 324).

That taxis have developed such a market share is remarkable in light of the constraints on their activities Municipal authorities (and sometimes state authorities) regulate taxis extensively, usually covering entry, fares, service, and safety The most obvious effect has been to reduce the number of taxis, restrict ridership, increase wait time, and concentrate the number of firms in the industry (Rosenbloom 1981) Another effect has been to segment the market by race Taxi drivers often refuse to serve minority areas of the city, and in consequence, illegal taxis fill that niche (Suzuki 1985) Drivers also sometimes refuse the short trip, because regulated rates make them unremunerative Finally, restrictions on shared rides decrease the occupancy rates and increase fares to the individual passengers (Frankena and Pautler 1986)

Public Choice thinking should teach us not to suppose that taxi companies have been passive victims Pressure to regulate came initially from existing cab companies (Eckert 1970, Frankena and Pautler 1986, 147) Once entry restrictions were imposed, companies with permits enjoyed some monopoly power and consequently sought to increase fares and shade on service This led to a familiar dynamic of inducing further regulation to manage fares and service (Frankena and Pautler 1986). The agencies charged with managing and enforcing the regulations operate according their own peculiar logic, and consume resources in the process (Eckert 1970,

1973) Leading taxi companies are now locked into a protected and highly regulated market, and tend to oppose any efforts to change the legal ropes of the industry.

Economists have long argued that deregulation, especially of entry, would allow the taxi market to expand Mobility would improve, entrepreneurs would differentiate services, fares would decline, employment would increase, and perhaps with shared-rides even congestion and pollution would decline Some of the anticipated benefits of deregulation did materialize. In such cities as San Diego, Seattle, Oakland, Fresno, Phoenix, Tucson, Sacramento, Kansas City, Tacoma, and Washington, the number of taxis increased greatly (Doxsy 1986, Teal and Berglund 1987), the industry became much less concentrated, fares decreased or remained level (Styring 1994, Teal 1986), the average wait time for a cab decreased, and the number of taxi trips per-capita increased (see Frankena and Pautler 1986 on all of these points, pp. 148f) The magnitude of many of these changes, however, has been moderate

The effects of deregulation have been mixed Duffy (1993) and Teal and Berglund (1987) points out that deregulation has led to declining wages for taxi drivers Yet many individuals were now able to earn those wages who could not before With regard to service quality and complaints, Styring (1994) reports an improvement while Duffy (1993), LaGasse (1986), and Teal (1986) report a decline in quality and a rise in complaints. In their lengthy review of taxi deregulation, Frankena and Pautler (1986, 151) report that across all deregulated cities there were as many cases of quality improvement as decline

Beginning in the 1970s, a number of cities experimented with deregulation, but changes in the industry were disappointingly small The apparent failures of deregulation were salient and well-broadcasted, and enthusiasm began to taper off The recent taxi deregulation in Indianapolis,

Denver, and Houston, however, indicates that some still believe in the benefits

There are three reasons why deregulation has been regarded as a disappointment First, analysts over-estimated what would follow from deregulation, because they did not recognize some of the inherent difficulties in the taxi market Second, deregulation was usually incomplete and often poorly managed Third, some of the benefits of deregulation are difficult to measure and have not been taken into account

The taxi market involves information problems Customers at the curb are uncertain about the terms offered by any particular cab, and about alternative offers. These problems are inherently more severe for transit services than for most other consumer goods and services We shall take up this matter when we address the issue of consumer information

Little entrepreneurial flair has been observed in cities that have deregulated (Rosenbloom 1985, 191) Deregulation, however, has been only partial Although most cities permitted free entry, they did not fully deregulate fares and service Shared-ride services generally remained forbidden, yet shared-ride might be a valuable service at high volume origins like airports where an agent or stand operator helps passengers arrange shared rides In dispersed origins and especially edge cities where everyone drives, shared-ride service is unlikely to develop (Teal 1986) Another problem of incomplete deregulation has been in charging for the short haul In some deregulated cities taxis still could not price the short haul specially, and continue to refuse such trips (Frankena and Paulter 1986, 155, Teal 1986) Furthermore, there may be inertia on the part of customers in responding to enhanced taxi markets and the offers of newcomers

There are some benefits from deregulation that have gone unnoticed, benefits associated with the changing status of cabs that were formerly illegal Frankena and Pautler (1986, 155)

argue that municipalities saved money by reducing the extent of regulation that they had to enforce Rosenbloom (1986) says, however, that almost all cities had to spend more than before, to track down independent and formerly illegal cabs and enforce safety codes The cost to municipalities is an empirical question, but we suspect that the cost of enforcing lighter regulations on a larger taxi market is less than the combined cost of enforcing heavier regulation on a smaller taxi market and of policing illegal cabs

Peter Suzuki (1985, 1995) is the leading student of the illegal cab market, and points out that the deregulation literature has ignored the impact of erstwhile illegals Prior to deregulation, complaints about the illegals, which, like any black market service, probably had given ample cause for complaint, were not heard With deregulation, large numbers of cabs suddenly enter the legitimate market, so we should expect the absolute number of complaints to increase. Also, one would expect it to take some time for these taxis to bring themselves into compliance with safety and insurance codes

Rosenbloom (1980) makes a telling point when she argues that the net benefits of taxi deregulation are diffuse and take time to accrue Deregulation has not been a dramatic success, but it is reasonable to maintain that it nets out as beneficial Rosenbloom points out that it is difficult to sell taxi deregulation to politicians, asking them to risk conflict and turmoil today for modest benefits in the future Perhaps taxi deregulation will become more palatable to officials as traditional public transit continues to decline, and if a general shift is made in thinking about transit If taxis come to be seen as part of transit's future, as belonging to the range of services between the private car and the city bus, policy reform for taxis might be undertaken in a new spirit

Commuter Transit Services in the United States

Transit agencies have focused much of their efforts on serving commuters, particularly those traveling to the downtown Yet traditional transit services face certain special problems in appealing to the commuter By "commuter" we mean someone who travels a considerable distance to work. A commute on public transit generally involves numerous drawbacks, including walking, waiting, repeated stopping, and transferring Public-sector express services avoid some of these drawbacks, but they carry only a minute portion of total commuters Since most commutes cross municipal boundaries, express commuter service depends on regional agency cooperation, which may not be easy Because gaps remain in the market, private commuter services have emerged

Commuter transit services have the following distinguishing characteristics First, most of the journey is an uninterrupted haul between the local neighborhood and the work center At the home end of the main haul there might be either a small-radius scooping of passengers or a pick-up-and-discharge point, like a park-and-ride lot Second, commuter trips are repeated week in and week out, and most commuters find that it makes sense to arrange for regular riding Third, commuter transit services experience a "down time" of several hours between the morning and evening rushes In this section we will discuss the various types of private commuter transit services

Figure 3 offers a typology of commuter transit The top and bottom halves of the figure separate the alternatives by how the rider chooses to participate The top half includes services for which the rider participates by the trip, no long-term commitment is required The bottom half

includes services for which the rider makes a longer commitment to riding, usually by the month. The left and right sides divide services by whether the driver of the vehicle is a commuter or a commercial driver

[Figure 3 here]

One of the significant advantages of having a commuter driver is that such services, including carpools and vanpools, avoid the taxes and regulations that pertain to income and labor, whereas using a commercial driver means regulation Also, having a commuter driver eliminates the problem of driver down-time between morning and evening rush hours The most spontaneous commuter-driver arrangement falls in the top-left cell "APTS" stands for Advanced Public Transportation Systems, an idea tested by the Federal Transit Administration and advocated by Melvin Webber (1994) The concept is commuter ride matching in real time. The service would link in minutes persons offering a ride with persons seeking a ride In other words, it arranges one-time, short-notice carpools.[3] David Friedman (1989, 75f) proposes a similar scheme of designated carpool pick-up spots and electronic identification cards for drivers and passengers

Moving to the bottom-left of the figure, we come to the "pools " Carpools are far and away the most significant form of commuter transit They are often informal voluntary arrangements, but also they are encouraged, brokered, and even subsidized by employers. Commercial involvement in carpools is usually limited to private ride-matching services Public-sector involvement takes the form of public park-and-ride lots, HOV lanes, ride-matching services, and marketing and publicity for ridesharing, as well as "transportation demand management" measures to discourage solo driving

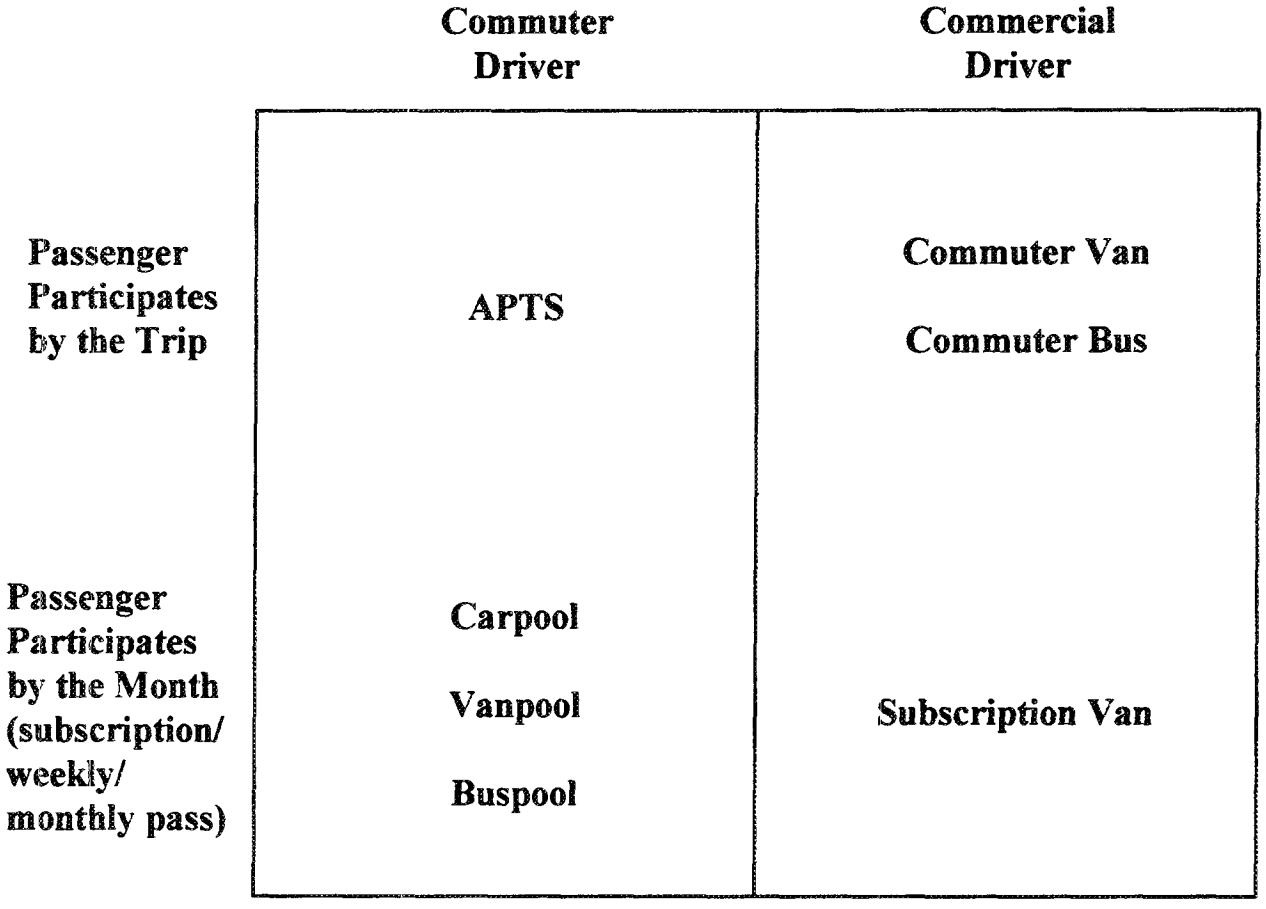


Figure 3

A Typology of Private Commuter Transit Services

Vanpools are often employer sponsored and subsidized, but another form of vanpool is increasingly popular Vanpool-lease operators, like Van Pool Services Inc and the Ford Corporation, provide organizational and insurance assistance, and lease vans to individuals who want to vanpool (Transportation Systems Center 1985, 313; Kirby et al 1974, 234) Giuliano and Teal (1984) found that, excepting regular carpools, vanpools are the predominant form of unsubsidized, private commuter service

Even buses are used in commuter-driver arrangements Buspool services tend to be much less expensive than subscription buses with commercial drivers They tend to use older buses and to offer few amenities (Teal et al 1984, 63) According to Giuliano and Teal (1985), extensive buspool operations exist in Los Angeles and Virginia In Los Angeles they are regulated by the state Public Utilities Commission, which gives buspool-lease companies monopoly privileges over specific routes These companies primarily serve white-collar workers living at least 25 miles from downtown In Virginia, buspools are not regulated, and firm size ranges from 2 to 32 buses They serve mostly blue-collar workers and Naval personnel in Newport News and Norfolk

The services on the right side of the figure are less sharply divided between top and bottom many commercial commuter services offer riders the choice of riding for a single day, or of purchasing a monthly pass or subscription Commuter van and bus services are often developed for specific destinations or groups of riders They are usually organized by employers or employees, but sometimes by transit entrepreneurs Kirby et al (1974, 236-48) describes subscription bus operations in St Louis, Illinois, Michigan, Virginia, San Francisco, Los Angeles, and Washington, D C The services vary somewhat, but they share some general characteristics They often recruit riders at large employment centers to assist in building a subscription bus route,

and usually serve only markets with a very long haul They require a minimum threshold of committed subscription riders, but sometimes will take additional riders on a per-trip basis One bus service in Los Angeles simply facilitates employee organization of the route, and then provides the bus and driver (Transportation Systems Center 1982, 315)

Private commuter van service has developed in many places where either regulation prevents larger bus operations or market conditions cannot support larger vehicles Commuter vans are particularly prevalent in New York City, where they are technically illegal, but encouter little enforcement Jay Walder (1985, 105f) describes commuter van operations

> The vans typically seat eleven to fifteen passengers, operate during rush hours, and charge the same fare as authorized express buses Beyond these generalizations, individual arrangements may vary widely The van operator may park and work in Manhattan, ride around until the afternoon trips, or return to Staten Island after the morning runs The operator may make one or more trips per day Passengers may ride regularly or sporadically, they may be friendly or strangers Pick-ups may be at homes, street corners, or bus stops Payment may be made on a daily or weekly basis

Flexibility allows the vans to offer superior service for at the same price as public express buses, and 74 percent of their riders formerly rode the public buses Evidently the passengers find the service sufficiently appealing to make up for the transaction costs associated with unauthorized, loosely structured service In addition, the vans make a profit, while the public express buses operated at a loss (and according to Walder would do so even if they had the passengers carried

by the vans). Commuter vans operate similarly in Miami, but are more actively suppressed by the authorities (Gomez-Ibanez and Meyer 1993, 5f) Poole and Griffin (1994) argue that if policymakers removed regulatory barriers and implemented HOV lanes or road pricing, commuter van services would be much more competitive with the private auto, and would proliferate.

Regulation of commercial commuter services varies from state to state. The most common restriction is that a proposed service must show a "public need" to obtain permission to operate Regulators generally interpret this in the following way if a route or market is served by public transit, there is no public need for a private service Thus private service is prevented from competing with public service Regulators often require excessive insurance In addition, many jurisdictions do not allow private transportation services to use owner/drivers They require firms to use employees, who are paid wages or salary and receive all mandated benefits, such as workman's compensation Firms typically would prefer to use owner/drivers, not only to avoid workman's compensation, labor and customer litigation, and social security taxes, but also because it creates better incentives for hard work, safety, and vehicle maintenance What's more, entrepreneurs are wary of regulator caprice, for good reason [4] The burden of regulations certainly diminishes the private provision of commuter services As a result, we observe more commercial commuter operations where regulation is light, or where firms can secure franchises to specific markets

Kirby et al (1974, 248f) identify three market characteristics for successful commuter transit service long trips, which make service a closer substitute for the automobile, a large concentration of employment in a small area, and socio-economic homogeneity within the potential market Giuliano and Teal (1985) note that congested highway access and high parking

costs can also be important. Citing the experience of a successful subscription bus service in southern California, Transportation Systems Center (1982) say a route should have between three and five stops, travel a direct route, pick up most people at the last origin, drop off the most people at the first destination Furthermore, if road pricing were also to exist, the cost of driving alone would increase and commuter transit would be made significantly more competitive with the private auto

Noncommuter Door-to-Door Services in the United States

Noncommuter, shared-ride door-to-door services are generally summoned by phone or arranged on a subscription basis They take a variety of forms, notably dial-a-ride, shared-ride taxis, and shuttle vans Small niche markets call out for these types of services, but state regulations commonly obstruct entrepreneurial response to these opportunities.

In spite of obstructions, private providers have gained small footholds in some markets On a small scale, shuttle services are provided by unsubsidized private companies, senior citizen organizations, charitable organizations, and employer associations (Transportation Systems Center 1982, 306) Also there has been a recent growth in private shuttle van companies offering services for airport travellers, for retirement communities for shopping trips, for minors to school, sports practice, and music lessons, and for tourists for trips to resorts, hotels, and malls (Haas 1994, Tetrault 1994, Young 1995, Gardener 1994)

While private providers of noncommuter services struggle with regulatory burdens, public transit agencies remain focused on serving commuters and cannot bother with niche markets In

response to extensive lobbying, some public transit agencies offer limited dial-a-ride services This is door-to-door service offered primarily to those who have difficulty using regular transit service, such as the elderly, the handicapped, and children. The service quality is not quite as high as a private taxi, since the ride is shared, but the service is cheaper to the rider.

Some public transit agencies operate their own dial-a-ride vans or buses, but most commonly they contract with a taxi company to provide subsidized service.[5] This is particularly ironic because it demonstrates the appropriateness of private service in these markets Dial-a-ride service is essentially a shared-ride taxi, summoned by phone and publicly subsidized Commercial vehicles devoted to dial-a-ride service may not be used for other types of service (Teal et al 1979, 2) The service is provided at lower cost by private firms under contract than by public transit agencies (Teal 1988, 218) Teal et al (1984, 17) points out, however, that publicly operated dial-a-ride vans have higher productivity than contract taxi companies [6]

Even without public subsidy, private firms succeed in providing dial-a-ride service, sometimes with a municipal franchise (Kirby et al 1974) and sometimes with no public-sector involvement at all (O'Leary 1982, Transportation Systems Center 1982) The key to such success is twofold First, the competition from subsidized public service must be low Second, shared-ride service must be legally permitted There are few urban areas where these two conditions are met

The experience of airport shuttles, like SuperShuttle, offers valuable lessons When heading to the airport the shuttle vans may pick up at hotels or by prearrangement only, not by street hails Most firms use dispatchers to arrange shared-ride journeys pieced together in real time For the trip originating at the airport, the vans must pick up only at designated curb spaces

Two types of curb arrangements exist At the Los Angeles airport, until recently, shuttle curb space was open to all shuttle companies It was a "commons " As a result, even when a customer called one shuttle company for pick-up, he often got aboard whichever one came along first This form of interloping causes waste and uncertainty. Since many of the interlopers or transient operators offer a much lower quality service, customers using their service are often soured on shuttle vans in general SuperShuttle, the largest shuttle company in Los Angeles, claims that since curb space had been made a commons, the shuttle business in general had been in decline; SuperShuttle has been successfully operating its own vans elsewhere around the country but has stopped operations in Los Angeles and merely franchises its name SuperShuttle's complaints about curbside conflict have been substantiated and remedied by recent changes at the airport In 1994 the airport assumed staging responsibilities by assigning a shuttle coordinator at each shuttle curb to coordinate passengers and vans This has significantly reduced interloping and related problems [7]

The situation at other airports stands in sharp contrast In San Francisco and elsewhere, the airport allots each shuttle company exclusive curb space to pick up passengers Firms are able to cultivate brand-name recognition, and service quality gives a competitive edge SuperShuttle claims that at airports with curb rights, the shuttle van market has been steadily increasing Again, the key lesson appears to be the judicious use of "private" curb rights to give foundation to a self-regulating order

Although public transit is usually thought of as route-based services, edge transit services -- taxis, commuter services, and shuttles -- are also a large and growing part of the transit system, often

complementing route-based service Private, unsubsidized provision of edge transit service has proved itself in many isolated cases. Regulatory barriers, competition from subsidized public services, and free highway access for the solo driver have hampered the market development of these services If the government wants to increase vehicle ridership or make transit available for equity reasons, the best plan would be a system of user-side subsidies or vouchers for taking the bus, shuttle, or shared-ride taxi [8] Such a system would be rich in flexibility and entrepreneurial discovery, and would be self-correcting by virtue of competitive market forces

chapter seven

BUS PRIVATIZATION AND DEREGULATION IN BRITAIN

Introduction

During the 1980s, in one of the most significant events in transportation policy making, Britain privatized and deregulated almost all bus services, except in London. Government officials and scholars alike have anticipated, debated, scrutinized, and reviewed the results to a degree that is both remarkable and exemplary Prior to deregulation, opponents of deregulation focused on issues of integrated planning, coordinated systems, and economies of density in arguing for the retention of some degree of central planning (Gwilliam, Nash, and Mackie, 1985a, 1985b; Savage, 1986) Supporters of deregulation discounted these arguments and invoked basic market principles, maintaining that free enterprise can do for bus transport what it does for other services (Beesley and Glaister, 1985a and 1985b) As it happens, the deregulated bus industry evolved in ways that surprised both camps There have been reduced load factors, little fare competition, little on-the-road competition, and considerable market concentration

Background to Deregulation and Privatization in Britain

Britain had a competitive and expanding private bus industry until 1930 That year, the British government passed the Road Traffic Act, imposing a system of regulation that converted the bus

industry into segmented local monopolies By the early 1980s, buses carried one-fifth the share of travelers they carried at their peak (Banister 1985, 99) The government decided that public spending on bus transit must be reduced drastically, and in 1984 it published a White Paper calling for privatization and competition (Bannister 1985, Savage 1993; and Hibbs 1993).

The White Paper anticipated that privatization and competition would result in lower fares, lower costs of operation, better service, increased patronage, and new operators It also suggested that some "socially necessary" services might still require subsidy, but that these services be provided privately under competitively tendered contracts The government would mainly enforce adherence to registered routes and safety regulations

[Table 5 here]

These proposals sparked heated debate A series of articles, pro and con, appeared in *Transport Reviews* in 1985 (Gwilliam, Nash, and Mackie 1985a and 1985b, Beesley and Glaister 1985a and 1985b, and Foster 1985) Table 5, following Beesley and Glaister (1985b) and Mackie, Preston, and Nash (1995), summarizes the predictions from both camps Opponents of deregulation believed that a gradual approach, retaining a degree of central planning, was better than a precipitous one They argued that competitive contracting for bus services, creating competition *for* the market rather than *in* the market, would capture most of the benefits and none of the disorder of full deregulation Retaining some central control would allow authorities to avoid undesirable outcomes, and to use bus services as a policy tool for various social ends The supporters of deregulation argued that the supposed "disorder of deregulation" was simply planner's angst over loss of control, and that only full deregulation would permit the industry to cope with declining patronage and subsidies They recognized that profound change in the

	Predictions Regarding Bus Deregulation		
Subject	**Against Deregulation**	**For Deregulation**	**Outcomes**
Competition	Deregulation will not lead to a contestable market since there are sunk costs for new operators and incumbent operators have an advantage over new entrants	Deregulation will lead to a contestable market as new operators are free to enter and the law ensures they will be able to compete on equal terms	Some on-the-road competition occurs, but contestability limited by schedule jockeying, 42 day wait period, and sunk costs
Costs	There is some scope for cost savings, but deregulation is not necessary to achieve them Under deregulation, most of the savings will be realized by cutting wages, to the detriment of bus employees	Competition will lead to cost savings of up to 30% While wages will probably be cut, the industry will employ more people	Operating costs fell by 40 percent per bus-kilometer Cost savings were achieved buy cutting wages and employment
Fares	Due to the elimination of cross-subsidy, fares will rise on many routes	Competitive pressure will force fares down on many routes	Fares increased 17 percent between 1987 and 1994
Congestion	Congestion will be a problem as number of buses increases	Congestion problems will be limited and local, and the law makes provisions for alleviating problems that arise	No evidence of any significant congestion problems associated with buses
Service	-Due to elimination of cross-subsidy, service levels will fall for late nights, weekends, and in peripheral locations -Reliability of service will decline due to congestion increasing	-Local government can maintain service levels by competitively tendered contract -Operators have every incentive to maintain reliable service, and the government has power to enforce adherence to posted schedules	Service levels, as measured by bus-kilometers, rose by 17 percent after deregulation Some reductions in weekend and late-night service occurred
Innovation	Innovation is sufficient in a regulated environment	Deregulation will lead to greater innovation and responsiveness to customers	Significant successful innovation has occurred, particularly the widespread use of minibuses
Patronage	Higher fares, reduced service, unreliability and instability will lead to a decline in patronage	Lower fares and improved service will increase patronage on some routes	Patronage fell precisely the amount that would be expected taking into account the long term ridership trend and the increase in fares
Integration	Operators will have no incentive to integrate services This will reduce service quality and access	Operators will have an incentive to integrate services if passengers want it	Inter-operator trips more expensive and difficult than before, but still a small share of all trips
Safety	Safety will decline as congestion increases, vehicles deteriorate, and staff training falls off	Existing regulations provide for adequate safety enforcement	No decrease in industry safety, despite increase in bus age and decrease in maintenance staff
Costs of regulation	"Capture" of regulatory bodies is not a problem, nor are the costs of administering a competitive contract system	The administrative costs of regulation are high, as are those of a competitive contract system Capture of regulatory bodies is a constant risk with regulation	Government expenditures on the bus industry fell by over 50 percent, or nearly £250 million

Table 5

Predictions and Outcomes of Bus Privatization and Deregulation in Britain

industry would be required, which would not likely come from continued central planning They also pointed out that the regulator, lacking local knowledge, has great difficulty in identifying good and bad outcomes, whereas profits in a competitive market give entrepreneurs clear feedback on their decisions.

The 1985 Transport Act deregulated the British bus industry everywhere except London (Gomez-Ibanez and Meyer 1990, Bannister and Pickup 1990, and White 1995). (In London competition is required only as competitive contracting, there is no on-the-road competition.) Outside of London, publicly owned bus companies have been reorganized as private corporations. The Act requires operators to register the commencement of, or changes to, bus service at least 42 days in advance The only grounds for local government refusal to allow a service is serious safety or traffic congestion problems Besides privately registered routes, local authorities can supplement services by putting unserved routes out for competitive tender.

Some Basic Results: Costs, Public Funding, Service Changes, and Innovation

The last column in Table 5 summarizes the outcomes of privatization As both sides predicted, privatization unequivocally lowered the operating costs of the industry By 1993 the industry overall had reduced the cost per bus-kilometer by around 40 percent (White 1995, 194, Mackie, Preston, and Nash 1995, 238) Firms realized cost reductions mainly by reducing wages and employment, and increasing productivity (White 1995, 194, Mackie, Preston, and Nash 1995, 238, Banister and Pickup 1990, 80) Many new bus drivers were willing to work for wages below what the public transit union had been demanding As a Public Choice analysis would anticipate,

former public firms found plenty of "deadwood" in their supervisory staff, and also discovered that they could maintain the buses adequately with fewer maintenance workers . These changes had no effect on the safety of the industry (Savage 1993, 153; White 1995, 190) As a result, by 1994, total employment in the industry had declined 15 percent, but labor productivity had risen by 42 percent

Privatization massively reduced public expenditure on the bus industry. By 1991 public support of the industry had fallen by over 50 percent -- by almost ,250 million (White 1992, 50) The cut in subsidies meant that even though costs had fallen dramatically, fares had to increase Expanding service levels (meaning more bus kilometers) on new and marginal routes also demanded higher fares These service level increases surprised many observers, and were most welcome by passengers, most of whom had less distance to travel to the nearest bus stop. In addition, "the need to change buses for a given sample of origins and destinations was reduced" (Banister and Pickup 1990, 74)

The quest for profits motivated the bus industry to adopt a number of innovations, the most significant being the introduction of minibuses (Gomez-Ibanez and Meyer 1990, 15, Banister and Pickup 1990, 73, Mackie, Preston, and Nash 1995, 234) The minibus enabled firms to increase service levels, and to increase productivity and reduce operating costs Studies such as Bly and Oldfield (1986) had suggested the potential of minibuses, but only the competitive pressure of deregulation moved bus firms to adopt them

Competition and Contestability

The opportunities afforded to bus firms by the privatization of scheduled service led to some changes in the industry which were not predicted beforehand The two most important and unexpected changes in the industry were how competition evolved, and the steady tendency towards concentration into fewer and fewer firms The literature does not offer a complete explanation for these developments, nor does it discuss alternative forms of deregulation, aside from competitive contracting We argue that both changes can be largely explained by the form of deregulation that Britain chose

On-the-road competition was initially strong, but it has tapered off to a level that is more than was expected by opponents of deregulation, but less than expected by supporters (Dodgson 1991, 125, Hibbs 1993, 52) Participants in the debate over privatization, however, focused less on actual competition on-the-road than on the question of contestability, or the ability of *potential* entry to discipline incumbent firms The simple picture of contestability envisions potential entrants disciplining incumbents by being ready to make superior service/price offers to consumers, who in that event opt for the entrant rather than the incumbent

There are a number of indications that contestability has been somewhat effective in the privatized British bus market Direct competition on many routes, and the use of defensive measures by incumbent firms to fend off competition, indicate that entry influences the incumbent (Banister and Pickup 1990, 72, Gomez-Ibanez and Meyer 1990, 11) There is a steady, if small, flow of new entrants into the market (Banister and Pickup 1990, 72, Mackie, Preston, and Nash 1995, 241) Both White (1992, 51) and Gomez-Ibanez and Meyer (1990, 17) show that the

profits of bus firms were quite small in the first two years after deregulation One might expect that if the market were not very contestable, incumbents would enjoy some monopoly power, and higher profits

Mackie, Preston, and Nash (1995, 232) and Dodgson and Katsoulacos (1991,265-6) take a more pessimistic stand on contestability They argue that since direct competition in the bus market is not widespread and constant, contestability has been imperfect They suggest that contestability is constrained by the sunk costs of establishing a scheduled service, and the "economies of experience" held by incumbent operators Another constraint of contestability, which they do not mention, is the ability of an incumbent firm to react quickly to a competitive challenge Contestability theory suggests that if an incumbent firm can quickly and easily reduce its fares when a competitor challenges it, would-be entrants might be reluctant to enter, even in a market with high fares (Bailey 1981, Bailey and Friedlander 1982) The challenger can no longer expect to grab market share by offering a lower price, and the incumbent has the advantage of experience, reputation, and, in most cases, size.

In fact, it has been very rare in the British experience for firms to compete by offering lower fares (Dodgson and Katsoulacos 1991, 271-2) Rather, real bus fares increased 17 percent between 1987 to 1994 (White 1995, 198) Instead of competing by offering lower fares, firms chose to offer more frequent service than their competitors Price cutting does not necessarily result from free competition, as has been learned in deregulated taxi markets (Frankena and Paulter, 1986, Teal and Berglund, 1987) It seems that information and coordination problems between drivers and potential riders may push transit markets toward a single, or focal, rate of fare.

While the two sides debate whether or not the privatized bus market is contestable, we doubt whether the simple notion of contestability really applies People do not necessarily make a clear choice between the incumbent and the entrant; rather they merely go to the bus stop to catch the first bus that comes by

Though a clear picture of competition in the bus industry is difficult to draw, it is easier to see the increasing concentration in the industry Mergers between large incumbent firms and small rival firms have been common, as have been mergers between firms that do not directly compete against each other (Mackie, Preston, and Nash 1995, 235; Savage 1993, 147) Many of the latter mergers have been in the form of holding companies, with their subsidiaries often geographically dispersed (Gomez-Ibanez and Meyer 1990, 12-13)

The result has been concern about oligopolistic and even monopolistic operations in the industry(Banister and Pickup 1990, 81; Savage 1993, 147). There is no clear evidence, however, that concentration in the industry has reached a point to justify such concern To some extent, it appears that small operators have been kept to the fringes of the competitive market, and only find real success in the tendered contract market Yet for evidence, Banister and Pickup, (1990, 81), point to merelt a single county, where just five large firms control over 80 percent of the market More than five firms serving just one county does not seem to us to indicate a lack of competition, especially compared to monopoly public provision

Nonetheless, the literature reflects great concern about industry concentration, and offers a plethora of explanations for its development Hibbs (1991a, 4) suggests economies of scope and management efficiencies Mackie, Preston, and Nash, (1995, 235-36) and White (1995, 202-3) point to financial advantages of larger firms, managerial economies of scale, and purchasing

power Gomez-Ibanez and Meyer (1990, 12-13) argue that holding companies offer many advantages, including very low costs and the ability to move vehicles and managers from subsidiary to subsidiary as market conditions dictate They add that firms with large networks have a distinct advantage in the growing use of single-rate unlimited-travel fare cards Nash (1988, 110) indicates that larger firms enjoy considerable economies of scope in scheduling buses and avoiding long layovers between runs Finally, Dodgson and Katsoulacos (1991, 267) advance the notion that to some extent the managers of formerly public firms may have retained their old habits of output maximization, even though they are inappropriate for the new goal of profit maximization The issue of integration calls to mind yet another explanation Dodgson (1991, 124) and Nash (1988) point out that there has been a steady decline in inter-operator ticket availability White (1992, 56) mentions one case where the removal of schedule coordination and inter-operator ticketing led to a 20 percent reduction in ridership [1]

Schedule Jockeying and Route Swamping

The literature provides detailed reports of the outcomes of deregulation, but makes little endeavor to explain it, and overlooks a very fundamental issue whether an operator is able to appropriate its investment in generating passenger congregations at the curb The disappointing lack of competition in service quality and fares and the increase in industry concentration makes sense when we think of firms seeking to secure their claim to waiting passengers

Under the British reforms, registering a scheduled service does not secure one a right to the congregating passengers at the curb Interloping by unscheduled carriers is not permitted, but

an entering firm *can* interlope, in a manner of speaking, by registering his own *scheduled* service just minutes before the scheduled service of another The law does not proscribe this, and local authorities are obliged to allow it Many British bus operators avail themselves of this strategy, which we call *schedule jockeying* (Dodgson 1993, 126, Savage 1991, 146, Gomez-Ibanez and Meyer 1990, 13) Since there is no window of security for the established firm from the schedules of competitors, congregations of passengers waiting at the curb can be snatched up by competitors offering comparable fares Incumbent bus companies, however, quickly learned to monitor the registration of new services by competitors using this strategy, and often respond in kind The 42-day registration period makes it easy for firms to see each other's changes in service and to respond, in a potentially endlessly regressive Dodgson and Katsoloucos (1991, 269) describe a typical conflict between an incumbent bus firm, Little Gem, and an entrant firm, Bee Line

> [Bee Line] started operating in South Manchester with a fleet of minibuses which soon totalled 225 vehicles The entrant charged the same fare scale as [the incumbent] [The incumbent's] response was to match the entrant's services with its own fleet of minibuses operating along very similar routes

In the face of this prospect of mutually destructive battle, the incumbent has often responded simply by scheduling service so frequently that the challenger cannot expect to get enough riders to make a go of it This practice, known as *route swamping*, has been very common (Dodgson 1991, 126, Dodgson and Katsoloucos 1991, 269, Savage 1993, 146, Gomez-

Ibanez and Meyer 1990, 13) Incumbent firms have an investment in the passengers waiting at the curb, it is the service they have been providing which draws the passengers to the curb. Faced with interlopers engaged in schedule jockeying, route swamping is simply a means of protecting their investment Route swamping has a twofold strategic quality. it not only drives out the current challenger, it also demonstrates a willingness to use route swamping and thus discourages future challenges Larger incumbent firms were known to maintain "fighting fleets" which were "available immediately to meet any competitive challenge" (Dodgson and Katsoloucos 1991, 270) The ability of incumbent firms to quickly and easily change their schedules in reaction to entry, by virtue of the 42 day registration period, constrains contestability in the same way that easy and quick adjustment of prices does in standard contestability theory.

The British form of deregulation has created an environment where an incumbent firm's ability to retain access to waiting passengers, and make worthwhile efforts to attract them out to the curb, depends on its ability to respond to a schedule jockeying entrant. Under current rules, registering a schedule affords the firm no right other than to operate as registered A competitor can use schedule jockeying to snatch away the waiting passengers that the incumbent firm's investment has brought to the curb If the incumbent firm engages in schedule jockeying in response, the tit-for-tat conflict settles into a war of attrition between the two companies. The resulting chaos in service schedules may drive off many riders. The incumbent firm can avoid an ugly war of attrition by simply swamping the route with service No other reasonable defensive measures are available Waiting time so dominates passengers travel decisions that any reputation and amenity advantages an incumbent may offer are not likely to keep waiting travelers from taking the first bus to arrive (Weismann, 1981, Wachs, 1992, Dobson and Nicolaidis, 1974).

Route swamping helps us understand why bus-kilometers have increased 17 percent between 1986 and 1991 (White 1992, 47), while total patronage has merely declined in line with what one would expect from the fare increase and the secular trend of bus ridership (Dodgson 1991, 123; Gomez-Ibanez and Meyer 1990, 17; White 1992, 48)

If we accept that the ability to swamp a route is necessary to combat schedule jockeying, it is easy to see advantages in larger firms with broader networks As Gomez-Ibanez and Meyer (1990, 13) point out, a larger company has more supervisors, drivers and buses at its disposal, which they can shift about to swamp a route where a competitor has commenced schedule jockeying A larger firm will also have greater financial flexibility to support a route swamping strategy (Dodgson and Katsoulacos 1991, 267) Indeed, the very largeness of the firm presents a formidable warning, signaling to potential entrants that entry can and will be met by swamping

Conclusion

It is not issues of density economies, integration, and so on, that lie at the heart of Britain's deregulation experience The central failing of British bus deregulation is the difficulty the bus firms have in appropriating their investment in waiting passengers The result has been schedule jockeying and route swamping, which disrupted service and diminished competitiveness in the industry With some type of property right protection of their investment, however, incumbent firms would no longer have need nor the ability to engage in route swamping Like an inventor enjoying a degree of patent protection, they would be able to recoup the value of any investment they make in drawing customers to the curb Perhaps this incentive would enable the bus industry

reverse the decline of ridership

In addition, the forces discussed in the literature that work towards greater concentration in the British bus industry would be undermined, if not eliminated, by a system of property rights The incentives to absorb small rivals firms to prevent their interloping would be removed, and firms would no longer need to maintain "fighting fleets" to use in route swamping What is more, allowing unscheduled service -- jitneys -- to pick up passengers at their own curbs would put market discipline on the incumbent In essence, unscheduled service enhances both on-the-road competition and contestability

In the words of Gomez-Ibanez and Meyer (1990, 18), "The clearest winners from the combined package of deregulation and subsidy cuts are British taxpayers " Even opponents of deregulation agree that there were considerable benefits to deregulating scheduled bus service in Britain Most bus firms certainly benefited The gain or loss to bus riders is hard to determine Many may have lost from the fare increases or lost service, but many also gained from increased and more convenient service A privatization scheme that relies on property rights would induce more on-the-road competition, including both scheduled service and jitneys, while avoiding schedule jockeying and route swamping

chapter eight

CONTRACTING OUT BUS SERVICE IN THE UNITED STATES

The escalating costs and the large subsidies required to operate urban mass transit services have led officials to seek private sector participation (Teal 1988, Gomez-Ibanez and Meyer 1993). In the Eighties, the Reagan Administration required transit agencies receiving federal subsidies to consider whether the services could be provided by the private sector (Federal Register 1984, Vol 49) Similarly, some small cities and counties that sponsor local transportation services have increasingly relied on the private sector to provided some or all of their fixed-route services, and many transit agencies enlist private firms to operate paratransit (Teal 1988) Contracting out allows the public sector to maintain the planning decision of routes and fares, and the type of vehicle to be used, while putting production and operations in the hands of cost-conscious private companies

Contracting Out: Competition for the Market

Contracting out provides a way to get competition into service provision Although it is only the firm that receives the contract that gets to provide the service, many firms compete to get the contract In the context of franchise bidding, this is sometimes referred to as competition *for* the market, as opposed to competition *in* the market Competing contenders will offer the best terms the can, in order to win the contract The winner of the contract would then be obliged to live up

to the terms of the contract, the law of contract, rather than regulation or internal hierarchy, would then govern the relationship (Demsetz 1968) Contracting out for bus service is not, strictly speaking, the same as bidding for a franchise contract, as much of the compensation comes directly as payment from the agency, but the logic of franchise contracting carries over to contracting out Contracting therefore may bring competition and entrepreneurship to an otherwise regulated or publicly-operated industry We will revisit the theory of contracting, raising criticisms of this rosy scenario, but first we will review the U S experience of contracting out transit services

Which Transit Agencies Contract Out?

Large transit agencies find it convenient to arrange dial-a-ride services for the elderly and handicapped through contracting with the private sector Contracting for dial-a-ride service started in the early 70's when congress passed a law requiring that no handicapped individual shall be discriminated against receiving services that are federally funded (Gomez-Ibanez and Meyer 1993, 63-64) As a result, transit agencies were required to make their buses accessible to the handicapped Although most transit agencies equipped their buses with lifts, the inability of handicapped individuals to get to and from bus stops made it difficult to provide services for the handicapped using conventional buses Thus, transit authorities implemented a system of dial-a-ride service and contracted some of the services with private providers, often with taxicab companies (Gomez-Ibanez and Meyer 1993, 64) Teal (1988 211) found that one-third of dial-a-ride services were contracted out

Giuliano and Teal (1987) identify two forms of institutional structures by which transit agencies are organized In the *consolidated agency,* funding and operating authority are joined Regional transit authorities, such as the Los Angeles Metropolitan Transit Authority are examples of consolidated agencies They often have dedicated transit taxes, such as sales or property tax, to operate transit services In contrast, the *operating agency* is limited to operating transit services, funding is controlled or allocated by external entities, such as counties and cities or transportation boards Teal (1988, 215) reports that consolidated agencies with dedicated funds rarely contract out with the private sector On the other hand, when cities without a consolidated agency use general funds to support transit services and have other municipal services to consider, such as road repair, they tend to find the most effective way to provide transit services As a result, cities using an operating agency were found more often to contract out some services, bypassing the operating agency, more than do their counterparts with consolidated transit agencies.

Similarly, Teal (1988, 215) reports that some small transit agencies that have access only to state and local funds were more likely to contract out than similar transit agencies that have in addition access to federal In particular, Teal (1988, 215-216) found that 49 percent of transit agencies with 50 or fewer vehicles which have access only to state and local subsidy contracted for all of their services (Even when an agency contracts out bus service, it usually provides and continues to own the vehicles) On the other hand, only 23 percent of the transit agencies of similar size which have access to all of the three sources of funding contracted for all of their services

Labor laws play a large part in explaining whether a transit agency contracts out Transit agencies that receive federal subsidies are constrained under Section 13c of the Urban Mass

Transportation Act from taking actions that would harm transit workers Therefore, if contracting would lead to the layoff of drivers or others, or reduce their fringe benefits, transit agencies may not contract out Moreover, Section 13c has provided labor unions a powerful bargaining chip to influence policy making Thus, most transit policymakers are never given decisive authority over whether to contract out (Transportation Research Board 1988, 27-32)

Results of Contracting Out

Studies have been done to determine whether contracting with private providers leads to efficiency gains by reducing costs and subsidies, and increasing productivity. The most widely cited and extensive research was done by Teal et. al in the Eighties The authors surveyed over 800 transit agencies through out the country, and found that 35 percent of public agencies in the United States contract for some or all of their services (Teal 1988, 209-210) Teal (1988, 218f) found that contracting reduces costs and subsidy by 10 to 50 percent However, despite the actual and potential savings and the large number of systems that contract out, the actual expenditure and the level of service contracted is relatively small. Teal (1988, 212) reports that contracting accounted only for 5.1 percent of nationwide transit expenditure, and 8 6 percent of revenue vehicle miles

In addition to the study by Teal, others have examined whether contracting leads to efficiency gains Perry et al (1988, 134f) survey the literature and report that some studies found that there were efficiency gains from contracting, while others found to the contrary, or no difference The ambiguities stem from the fact that there are differences in the service bundles

that are provided by the private contractors and the public sector Most private providers, for example, only operate specialized services, such as express commuter services, or demand responsive services On the other hand, public agencies provide an array of services Therefore, since most of the empirical studies did not control for size and scope variations between the two sectors, and other variables, such as the existence of subsidy and labor unions, the conclusions could be biased

Sclar et al (1989) have argued that the cost and subsidy savings, if any, from contracting does not result from an increase in productivity or efficiency of the private contractor. Rather, they maintain that the cost and subsidy savings merely reflect the ability of the private sector to pay low non-union wages, while the public agency pays premium union wages Talley (1995), however, studies the impact of contracting out on wages By comparing U.S transit wages before and after contracting out, he found that both non-union and union wages increased (by 13 percent and 11 4 percent) He explains wages increases by an increase in the quality of drivers (and hence, productivity), and the increase in the demand for transit labor Thus, Talley's findings suggest that the savings from contracting accrue, not just from lower wages, but from an increase in productivity and efficiency

Cervero (1988) argues that contracting not only reduces costs on the contracted services, but also provides transit agencies with, what he calls, second-order benefits These benefits emerge as a result of wage and work-rule concessions made by labor unions in an effort to forestall further contracting or to protect their jobs The concessions often include the elimination of 40 hour guarantee and the ability to hire part-time drivers Talley (1991) used regression analysis to determine whether contracting for some services improves the overall cost

effectiveness of a transit firm He found that the Tidewater District Transportation Commission was able to reduce the costs of its regular services by contracting its dial-a-ride services He maintains that the threat of future cuts in mass transit and Tidewater's plan to convert some of the fixed-routes to paratransit services forced the labor unions to make cost saving concessions

Two Critiques of Contracting

There is no doubt that contracting out is often an improvement over production within the public transit agency But contracting still is open to two sorts of criticisms (a) Oliver Williamson (1976, 1985) and Victor Goldberg (1976) have argue that in practice it is difficult to keep the contracting process competitive, and (b) Hayek would argue that contracting retains centralized control and chokes off entrepreneurial discovery

The Williamson-Goldberg Critique of Competitive Bidding

Williamson argues that although contracts might initially be bid on by many competing firms, this "does not necessarily imply that a large numbers bidding condition will prevail thereafter" (1985, 61) When relationship-specific investments in human and physical assets are needed to support the transaction in question, "contractual asymmetry" between the initial winning bidder and non-winners will emerge during the contract renewal stage The inital contract winner learns the job by doing it, giving it an advantage over other contenders Consequently, "what was a large numbers bidding condition at the outset is effectively transformed into one of bilateral supply

thereafter" (Williamson 1985, 61)

A working relationship between a transit agency and a contracted firm requires that the two parties depend on each other for many specific needs Relationship-specific investments made by one side may give incentives to the other party to behave opportunistically, or to "hold-up" operations by demanding new and more favorable terms (Williamson 1979, Klein, Crawford, and Alchian 1978) As such, the contracting parties will need safeguard mechanisms in their contracts, spelling out future contingencies and appropriate adaptations In a world where future contingencies cannot be full delineated, however, the contract must be complex and incomplete. In particular, Goldberg (1976, 428) writes, "[a]s the relational aspects of the contract become more significant, emphasis will shift from a detailed specification of the terms of the agreement to a more general statement of the process of adjusting the terms of the agreement over time " Therefore, complex, long-term contracts call for an institutional mechanism to monitor and administer the contract, and to resolve disputes among contracting parties In effect, operations under complex, long-term contracts come to resemble internal production of the service by the agency itself

The criticisms of Williamson and Goldberg do apply to the current practices of contracting in the transit industry. Teal (1988, 213f) found that 47 percent of the contracts are awarded through negotiations and renewals that are not competitively bid Moreover, Teal notes that when an agency develops an ongoing relationship with a contractor, it is more likely to renew the contract rather than put out the service for competitive bidding Thus, although contracting may be a step in the right direction, it seems that it does not really guarantee that even the contest *for* the market will be competitive

The Discovery Critique of Contracting Out

A simple, optimistic view of contracting suggests that competition *for* the market can closely simulate competition *in* the market. Yet, as we argued in Chapter 4, entrepreneurial insight based on local knowledge is best developed within the process of entrepreneurial *action* Knowledge depends on the active burden of decision making The optimistic view of contracting based on Demsetz (1968) posits that constraints, opportunities, and preferences are known in advance and static, hence, the pre-production competition for the market will tap all that competition has to offer Even the critique by Williamson and Goldberg focuses on the incentive to perform according to the contract, uncertainty simply enlarges the scope and severity of opportunism

The Hayekian critique of contracting is that new opportunity is discoverd throughout the process of providing service, by the contract holder, the contracting agency, or some other entrepreneur outside the contract relationship but connected to the market Exclusive contracting cuts off the seizing of newly discovered opportunity, and therefore chokes off the discovery in the first instance

Both the Hayekian and the Williamson-Goldberg critiques tell us not to expect too much from contracting The Williamson-Goldberg critique suggests that contracting may not be significantly different from production within the agency The Hayekian critique suggests that contracting out is not likely to measure up to what is achieved in orderly markets with active, ongoing competition The Hayekian critique would suggest that we fix transit by devising an appropriate system of property rights to make possible active competition in the market

SECTION THREE: PROPERTY RIGHTS AND ROUTE-BASED TRANSIT MARKETS

chapter nine

A PROPERTY RIGHTS THEORY OF TRANSIT MARKETS

The Market Advantages of Jitneys

The experience of America in 1915, of illegal interloping today, and of some LDC transit markets suggests that jitneys have market advantages on both the supply side and the demand side over scheduled (and unsubsidized) bus service Since they follow a route but not necessarily a schedule, jitney operators enjoy efficiencies in being highly flexible with respect to their own schedules and the hour-by-hour market conditions,depending on weather, congestion, time of day, day of week, and so on Many of the jitney drivers of 1915 were part-timers or between jobs; some were simply people going to or from their regular job, or teenagers who borrowed Dad's car to earn a few bucks after school They enjoy flexibility in negotiating traffic conditions and can make small deviations from the route Under a free entry policy for jitneys, we could expect a random cascade of irregular, short-term participants -- a steady wave of unsteadiness

On the demand side, passengers waiting for a scheduled bus are generally quite happy to ride a jitney which charges a comparable fare and goes to the same destination The headrunning jitney displays several advantages It is available "now," whereas the bus is yet to arrive The jitney vehicle is a smaller, faster, and probably more pleasant vehicle to travel in Furthermore, it

may offer deviations, perhaps at an extra charge The bus is cumbersome and dreary, the jitney is entrepreneurial, more personalized, and even somewhat charming [9] On the other hand, waiting passengers may prefer to wait for the scheduled bus because it offers more certainty and trustworthiness, and it is perhaps more comfortable than the jitney (Grava 1980, 285). In what follows we posit that passengers generally prefer to ride in the headrunning jitney which charges the same fare as the scheduled service

Appropriability of the Investment in Scheduled Service

If in the presence of scheduled service, the jitney cascade enjoys inherent market advantages, we can see that a fundamental issue affecting the fate of scheduled service is whether or not jitneys are given free run of the streets It is the issue of curb rights that separates the experience of deregulated, unsubsidized bus service in Britain from the experiences of America in 1915, illegal jitneys in America today, and some of the LDC transit experience In the latter cases, jitneys flourish Exclusive curb rights are not fully established for the scheduled service, either because jitneying is legally permitted, or because it is prohibited but not effectively policed against.

Where interloping is both prohibited and effectively policed against, bus companies will invest in establishing routes and schedules, in publicizing the information, and in running the service in an incipient market, beacause they will be able to appropriate the value of these efforts at bringing people out to the curb Although transportation economists have found that there are no economies of scale in merely expanding bus service (Viton 1981, Shipe 1982, Hensher 1988), they have neglected the issue of the appropriability of the investment in setting up and cultivating

a route We maintain that there are specific investments made in cultivating a route and schedule, and that the appropriability of this investment depends on curb rights We assume that because jitneys enjoy inherent market advantages, if they are free to interlope, they will dissolve any scheduled service Without the "anchor" of scheduled service, however, it might be that fewer riders will congregate at the curb and thus fewer jitneys ply the route

An Analysis of Thick and Thin Transit Markets, in the Absense of Curb Rights

Another distinction of fundamental importance is whether ridership on the transit route is potentially heavy enough to sustain the cascade of jitneys in the absence of scheduled service. If the market is potentially thick, we may get the outcome in which there is no scheduled service, yet jitneys ply the route spontaneously because they have confidence in finding congregating passengers, and passengers congregate at the curb because they have confidence in finding jitneys plying the route In an inherently thin market, however, this outcome, even if it were to exist at a point in time, cannot be sustained there will not be an adequate number of congregating passengers for jitney service to be *frequent*, and consequently waiting times for unscheduled jitney service will be too long to induce passengers to congregate Because the coordination problem of unscheduled service is severe in thin markets, service might disappear altogether

The Thick Market The Jitney Cascade is Sustained

The dynamics of thick and thin markets can be shown diagrammatically Figure 4 shows the case

of a potentially thick market There are no exlusive curb rights, and hence no scheduled service The horizontal axis measures the number of jitneys per hour that ply the route. The vertical axis measures the number passengers who congregate at the curb per hour The thick curve shows the number of jitneys that would come out to serve the route given a number of congregating passengers This jitneying function shows that no jitneys serve the route when there are no congregating passengers, but then as congregation grows, the jitneys expand at an increasing rate As passenger congregations become even heavier, however, the rate of increase in jitneying declines, because of congestion problems The thin curve shows the number of individuals who would come out to congregate at the curb, given a number of jitneys serving the route It also starts at zero, then rises at an increasing rate, but, since there are only so many people who have any demand at all for jitney service, the curve eventually flattens out

[Figure 4 here]

The curves show the mutual dependence of the two sides of the market. If only 60 people congregate per hour, over the course of a week, then the jitney response, read off the jitneying function, is about 6 7 per hour The next week, people expect about 6 7 jitneys per hour, and the congregation function shows that therefore only about 50 people will congregate. The next week, jitney operators expect only 50 people per hour, and the jitney function shows that therefore the jitneys come out in even smaller numbers, and so on For a point to the lower-left of point Y, the system degenerates down to no market at all -- point Z At point Z, a stable equilibrium, it would indeed make no sense for any jitneys to ply the route, or for any individual to wait for a jitney

If somehow a critical mass develops beyond point Y, the system will maintain life If, for example, eight jitneys per hour were to ply the route, that would induce significant congregations,

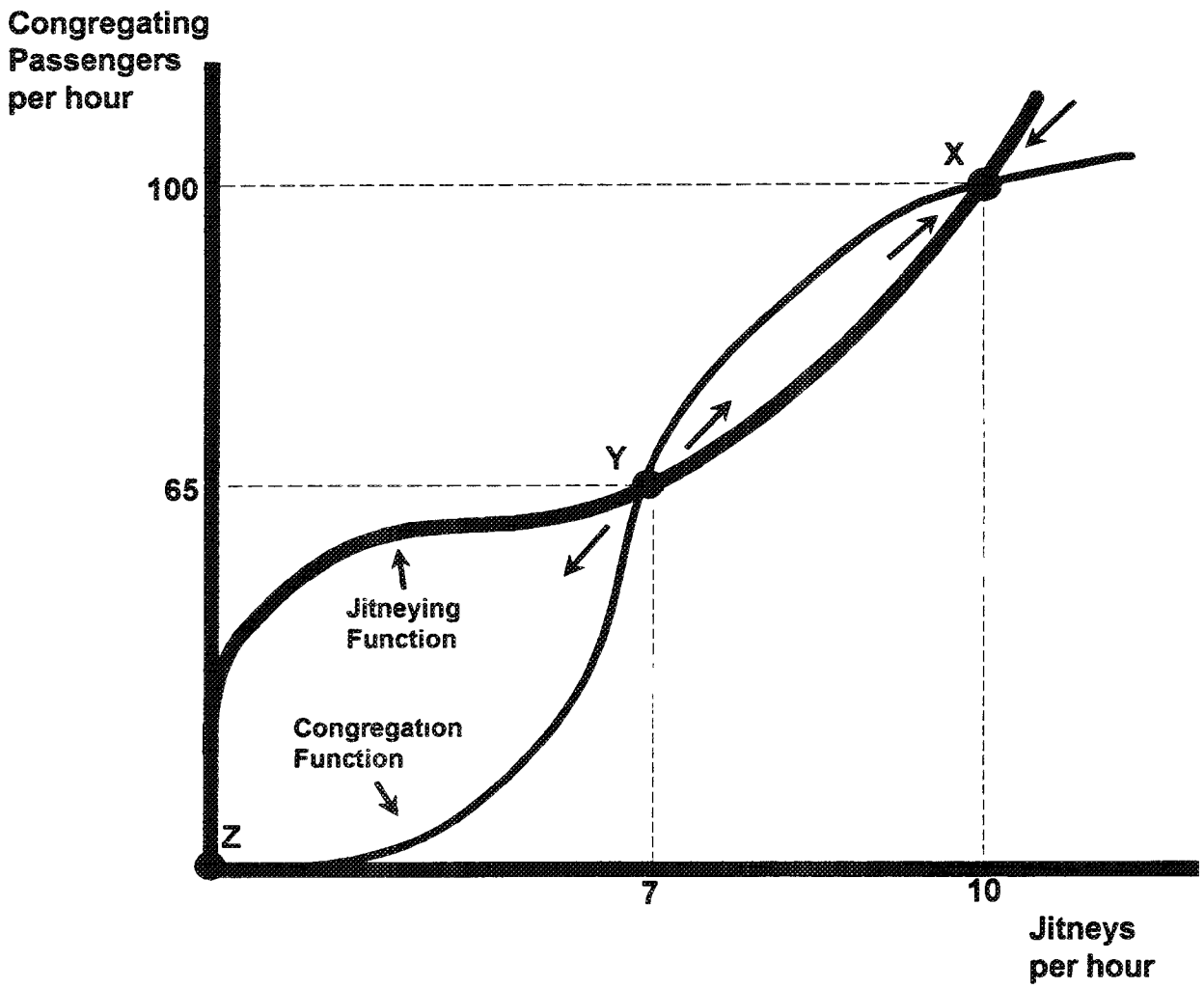


Figure 4

Interactions Between Congregating Passengers and Cruising Jitneys in a Potentially Thick Market

which would induce even more jitneys, and the system would bounce up to the other stable equilibrium at point X Ten jitneys per hour induce exactly 100 congregating passengers, and 100 congregating passengers induce exactly 10 jitneys This is the realization of potential in a thick market.

The Thin Market The Dissolving Anchor

Figure 5 presents the thin-market scenario, but also assumes that the market begins with scheduled bus service This scenario may be called *the dissolving anchor problem* With scheduled service and no jitneys, the number of passengers corresponding to point A wait for the bus This degree of passenger congregation is the "anchor" provided by scheduled service Assume that for some reason jitneying suddenly becomes possible -- perhaps because of a public transit strike Jitneys begin to headrun on the scheduled service, and many passengers are willing to take whichever vehicle comes first The relationship between the upper congregation function (with scheduled service) and the jitneying function implies that the system will be driven to point B, where 9 jitneys ply the route and 100 passengers wait for service Passengers and jitneys like this outcome, but there is one problem the scheduled bus is now not getting enough ridership, and it pulls out The anchor dissolves. Now passengers are less enthusiastic about congregating at curbside, for two reasons First, they do not have the guarantee of anchor service, so they may have to wait longer, or with more uncertainty, for a jitney Second, without scheduled service, there is no longer a focal schedule for arrival times at the stops. Jitney arrival times become less predictable Hence, when an individual goes to the curb he goes with less certainty of when a

jitney will come, and waits longer at the curb.[10] The decrease in passenger enthusiasm is shown by the shift downward of the congregation function Nine jitneys per hour now attract much fewer passengers This in turn reduces the number of jitneys, which in turn reduces the number of passengers, and so on Finally the system settles at point Z, for zilch. Thus, the progression is as follows. We begin at point A with scheduled service, jitneys come to interlope and the system moves to point B, the anchor is dissolved, and then the system moves to point Z, or market disintegration In a thin market the jitney cascade cannot be sustained

[Figure 5 here]

The dissolving anchor problem is analogous to the problem of invention in the absense of patent protection If there is no patent protection, the inventor sees that he will not be able to appropriate much of the value of his invention. Imitators will expropriate the value of the invention Therefore the inventor does not invent in the first place Like inventing, setting up scheduled bus service entails sunk costs organizing routes and schedules, disseminating information, and running the service at low levels of ridership for months until ridership begins to build Without a system of exclusive curb rights to secure passenger congregations, interlopers would expropriate the investment, so scheduled service either never arises in the first place, or does not persist

A Typology of Route-Based Transit Markets

We suggest a typology of fixed-route urban transit, shown in Figure 6 Consider the first two columns The top-left cell represents unsubsidized buses with exclusive monopolies on routes

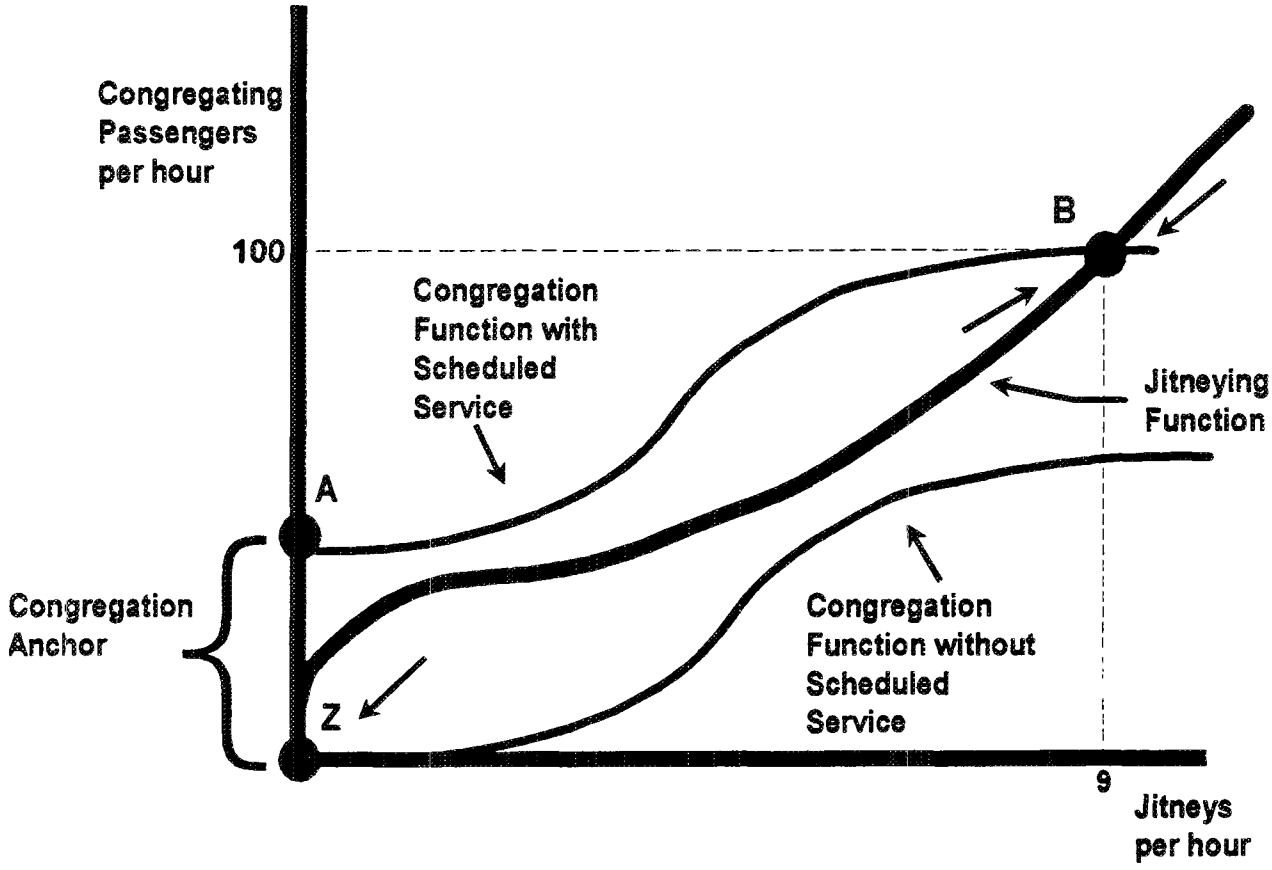


Figure 5

Interloping Jitneys Dissolve the Anchor of Scheduled Service and Destroy the Market

with moderate to thin patronage There, exclusive rights are established. there is no interloping and no competition Therefore the "anchor" (or scheduled service) is preserved In this case there are some potential problems The chief problem is inadequate competition and inert monopoly. the incumbent anchor knows that entry is unlikely, and consequently shades on service or increases fares Another problem is that potential operators will waste resources seeking the "rent" associated with monopoly privilege (Tullock 1967)

[Figure 6 here]

In the bottom-left cell the story is not much different Again, anchor service is preserved because interloping is not tolerated Because the market is thick, it would be better able to support multiple scheduled services, more frequent service and more consumer choice, but still competition is not tolerated The problem of inert monopoly is more severe

Moving to the next column, we come to the cases where there are no exclusive rights at all, either because they are not granted or not enforced The entire route is essentially a pure commons Assume that there is no impediment to headrunning or interloping In a thin transit market, shown in the top-middle cell, interlopers will headrun on any scheduled service and collect the waiting passengers This is the case of the dissolving anchor The lack of property rights in the waiting passengers in this case results in the "tragedy of the commons" (Hardin 1968) The entire market may be destroyed, for, once the anchor has dissolved, people no longer wait and jitneys no longer ply the route

The case of the thick market is shown in the bottom-middle cell. In this case the lack of curb rights may not be a serious problem Indeed, any anchor will be dissolved, but the market may not need an anchor The reader may make the following visualization In Figure 5, picture

	Exclusive Route for the Scheduled Service Provider	No Exclusive Rights for Scheduled Service	No Exclusive Rights and Scheduled Service is Subsidized (and charges low fares)
THIN MARKET	**Anchor Service Preserved** Possible Problems inadequate competition and inert monopoly	**Interlopers Dissolve any Anchor** Possible Problems market destroyed	**Anchor Monopolizes Market** Possible Problems subsidy payers unhappy, limited discovery, limited flexibility, inefficiency, politicization
THICK MARKET (potentially)	**Anchor Service Preserved** Possible Problems inadequate competition and inert monopoly	**Interlopers Dissolve any Anchor, but a Cascade of Jitneys Offers Low-Cost, Unscheduled Service.** Possible Problems low quality, irregularity, unreliability, untrustworthiness	**Anchor Serves the Market, but Jitneys may Serve Excess Demand** Possible Problems franchising conflicts, subsidy conflicts

Figure 6

A Typology of Fixed Route Urban Transit

the lower congregation function as intersecting the jitneying function as does the congregation function in Figure 4 In this case the market is thick enough to sustain the cascade of jitneys, and riders will be satisfied by flexible, low-cost, and frequent service This outcome was sometimes found in the American jitney experience of 1915, a few markets in America today (both illegal and legal), and many of the LDC transit markets In any country, however, there are possible problems with the jitney cascade outcome, such as low quality, irregularity of service, high uncertainty over terms, and lack of trust Mitchell Rouse, the CEO of SuperShuttle, reports in private conversation that because curb rights for shuttle vans had not been defined at the Los Angeles International Airport, the shuttle market had suffered from opportunistic shuttle operations, unpleasant rivalries at the curb, poor service, and a lack of trust In consequence, demand for airport shuttles in general had been diminished

Consider a case that does *not* fit into the typology, a case that would go between the first and second columns In the British deregulation experience, bus operators enjoy neither exclusive monopolies (column one) nor operate on a pure commons (column two). Rather, free competition is permitted among providers who register schedules in advance. The situation is not that of the pure commons, since freewheeling is not permitted. The British example suggests that nuanced approaches can be fashioned to go between the two extremes, exclusive monopoly and pure commons We will pursue this idea and propose a property rights framework that avoids monopoly by refining rights along a route

The cases considered so far have assumed that any scheduled provider could enter the market, and that those that do receive no subsidies Let us turn now to the case in which scheduled service *does* receive subsidies (notably government subsidies, but much of the

reasoning will work also for cross-subsidies), and charges low fares Where subsidized service is combined with exclusive curb rights, we get cases similar to those we have placed in the first column of Figure 6 The scheduled service, because it charges low fares, is now even more immune to interloping, so the "anchor" again is preserved The likely problems are inadequate competition and the familiar problems attendant to government subsidization

The cases of subsidized, low-fare service *without* exclusive curb rights are shown in the third column of Figure 6. Interlopers are free to headrun on the scheduled service, but in this case it is to no avail because waiting passengers figure that they will keep waiting for the scheduled bus, which offers a *lower fare* For example, in Los Angeles in 1983 private jitneys were allowed to operate on thirty public transit routes Matching the 85 cent public bus fare, they were successful initially, but promptly withdrew once the city lowered bus fares to 50 cents (Teal and Nemer 1986)

The low fares that accompany subsidization provide a new defense against interloping and dissipation of the market Thus, one might defend subsidization of transit on the grounds that curb rights are too costly to establish and enforce, and therefore transit subsidies (and low fares) are the only way to keep the anchor from being dissolved by headrunners Subsidization would be a "second best" solution in the case where curb rights are too costly to establish In a thin market, transit subsidization may be the only means to have any transit service at all, even though there is adequate demand, in a blackboard sense, to support transit

In a thick market, shown in the bottom-right cell, the low fares of the scheduled service again will attract riders, but demand might exceed supply One of the present authors has witnessed transit operations in Shanghai, where low-fare buses are packed sardine-style, and a

rich cascade of jitneys and taxis cater to the excess demand In this case, jitneys survive even though they charge higher fares, because of excess demand, and because of superior quality (less crowding, speedier service, etc) Further, jitneys charge according to trip distance, so someone traveling a short distance might find the jitney fare competitive to the undifferentiated bus fare.

Although subsidization and low fares may be one way to keep an anchor from dissolving, we are chary to favor any kind of subsidization As spelled out in our discussion of transit fizzle and the Public Choice critique, subsidization carries problems of its own which, we believe, outweigh its benefits in anchor preservation, regardless of whether the market is thin or thick

Now, imagine a decision to privatize and deregulate, such as Britain faced in 1985. If we eliminate public transit and subsidies, there remains the first two columns of the Figure 6. These two options represent the horns of a dilemma In one case a provider of scheduled service has an exclusive monopoly over the entire route Because competition is absent, there is little incentive for service improvement and innovation, and fares will be higher In the other case, no exclusive rights exist at all The anchor of scheduled service would be dissolved by jitneys, and markets may never come to be If policymakers are confined to choosing between these two horns, they should choose on the basis of whether the market is thin or thick If the market is thin, they should choose exclusive monopoly because the alternative results in no service at all If the market is potentially thick, they should choose not to grant exclusive rights to the route, and simply allow the jitney cascade to burgeon This will bring freewheeling service and competitive energy to the market, whereas the alternative would be inert monopoly.

What would be even better, however, would be an option that avoids either horn of the dilemma, an option which entails a limited degree of exclusive rights, to prevent the anchor from

dissolving, and yet permits freewheeling competition on the route

chapter ten

DEVISING PROPERTY RIGHTS FOR TRANSIT MARKETS

Numerous cases of transit experience -- including the jitneys of 1915, the jitneys of LDC cities, the illegal jitneys of New York and Miami, the airport shuttes, and deregulated bus service in Britain -- show how the entire structure of transit operations often comes down to the crucial issue of curb rights We have cited reasons to believe that freewheeling jitney operators will always enjoy market advantages over scheduled bus service, and will dissolve the anchor of scheduled service if they are free to interlope at bus stops There is a subtle relationship between the triad of scheduled service, freewheeling jitneys, and the travelling public To some extent, freewheeling jitneys subsist parasitically on scheduled service, but they do so with the willing cooperation of the travelling public -- the very ones that transit is supposed to serve The "parasites" in fact place a competitive check on the bus operator's tendency toward inert monopoly If left unrestrained, however, the parasites might consume the "host," and the system dies We propose a new framework which promises a healthy balance, and, in Hayekian fashion, provides a mechanism for making transit self-ordering based on local knowledge

An Analogy to Patent Policy

The issue of scheduled service and interloping is like the problem of invention and imitation Setting up scheduled service entails certain fixed costs planning out routes and schedules,

disseminating information, providing benches and shelters, and running the service before ridership has developed, regardless of the weather, and so on The tangible achievement of this fixed cost is bringing passengers to congregate at designated sidewalk areas, just as the tangible achievement of an inventor's experiments or tinkering is a new device or process If the provider cannot appropriate his investment, whether in creating passenger congregations or inventing a new device, because interlopers carry off the patrons or imitators copy the invention, then he will not invest in the first place These situations call for a system of property rights

Think of the two extremes in patent policy At one extreme is the policy of granting to inventors no patent protection whatever other manufacturers are free to use the concept This policy allows vigorous competition in the manufacturing and marketing of the item *once* it has been invented, but it reduces the incentive to invent Now consider the other extreme· Every invention enjoys full and exclusive patent protection for all time This would give strong incentives to invent, but it the inventor of every transistor and ball-point pen would forever enjoy exlusive monopoly control over the concept If such a policy had always been in place, we would still be paying tribute to the person who invented the wheel It is obvious that a policy of limited patent protection would be superior to either of the two policy extremes

Yet in urban transit policy, we keep to the two extremes! In the U S , local governments create exclusive monopolies for scheduled bus service by prohibiting competition on the same route. This grants monopoly power and chokes off product differentiation and discovery. It inevitably brings regulation and subsidization, generating a bureaucratic and highly politicized operation At the other extreme are jitney markets in some LDC cities, where there is no curb right protection and jitneys roam free This arrangement might be tolerable in thick markets, but

in thin markets the jitney cascade will dissolve any form of scheduled service, leaving travellers without service

A Proposal of Curb Rights

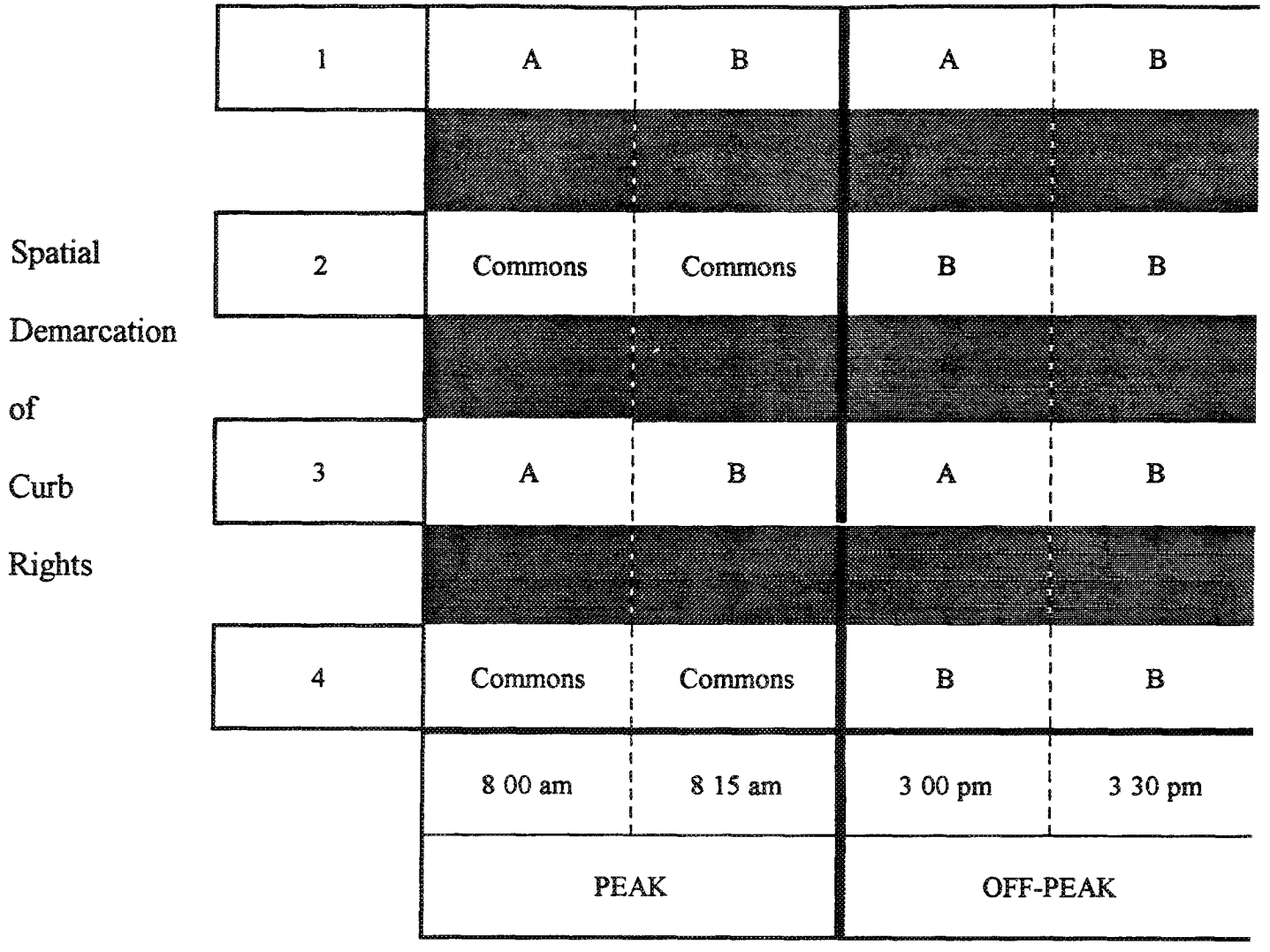
The answer lies in a system of curb rights that both guarantees some exclusivity to those who successfully cultivate passenger congregations, *and* gives play to the jitney cascade. There is no specific system of curb rights that is necessarily best for all transit conditions An important part of our idea is that each case is unique, and that local officials ought to use their knowledge of local conditions to create a suitable curb-rights system

A simple case would combine a scheduled service provider with the jitney cascade Figure 7 is a schematic diagram showing curb rights as they are demarcated in both space and time Consider first just the spatial component, where exclusionary zones are separated by a distance. Focus your attention exclusively on the column at the 8 00 hour This column shows four curb zones When we speak of "curb zones" or "curb rights," it should be understood that we mean not only the curb, but also adjoining space on the sidewalk and road -- in other words, a complete bus stop The column shows how Company A is granted two exclusionary curb zones where no other operators are allowed to pick up passengers. Think of each exclusionary zone as being 200 feet in length, with the bus-stop situated at the mid-point Company A has every incentive to invest in creating passenger congregations at its bus-stops It would establish a route and schedule, and be free from interloping Yet along the same route, jitneys meeting safety and insurance requirements would operate, picking up passengers at non-exclusive zones, or

commons At the commons, passengers have an alternative to Company A, since most anyone may stop and offer service (including Company A)

[Figure 7 here]

The plan depends crucially on the exclusionary rights of such curbspace being *enforceable* We cannot say with certainty that such enforceability is feasible, but there seems to be good grounds for optimism. Today in the United States it is only in very exceptional instances, such as in New York City and Miami, that the curb rights of official services are transgressed at all In Britain where the scheduled service is typically unsubsidized, there is no interloping Americans are predominately law-abiding, and local government can mobilize to protect curb rights We recommend that the holder of the curb rights be encouraged to monitor its "property " We propose that curb rights violations be treated as a private tort, as well as a municipal violation Therefore, in addition to enforcement by the traffic or transit police, curb-right holders could do such things as set up enclosed video cameras to watch for repeated "trespass " The video footage of trespassing jitneys would make identification and apprehension rather easy, and serve as evidence It is now common for property and contract enforcement to rely on undercover operatives and video evidence (Turner 1995). Furthermore, the drivers of scheduled service could provide eye-witness accounts of headrunning Suit could be brought against riders of trespassing jitneys Company A could then put up signs at its bus-stops "Mounting an unauthorized vehicle in this zone is a trespass and subject to civil suit." The traveller would find this reasonable, since he could simply exit the exclusionary zone to wait legally for a jitney By creating a sense of curbspace proprietorship and fair competition, both jitney operators and passengers would be likely to respect curb rights



Temporal Demarcation of Curb Rights

A denotes a curb right held by Company A
B denotes a curb right held by Company B

Figure 7

Property Right Assignments to Curb Zones

The jitney commons zones are designated in Figure 7, but it might not be necessary to pre-establish such zones It might be sufficient to say that jitneys cannot pick up in the A zones, and to let their own locations emerge spontaneously. Local officials may wish to manage the emergence of such pick-up spots, to avoid sidewalk congestion or to provide focal points, but if certain places seem to be emerging as workable jitney spots, the local officials ought to smile on the development They may wish to alter parking or standing rules at such spots, and perhaps even provide turnouts, benches, and shelters Imagine a McDonald's restaurant emerging as a jitneying point, where travellers can buy breakfast and organize shared rides. Pick-ups may take place at the public curb, or within McDonald's private lot If the restaurant began to charge for all-day parking or to cooperate in announcing or arranging jitney departures, this ought to be regarded as legitimate private enterprise Throughout the city, entrepreneurs may find it profitable to develop jitneying staging areas on private property In our scheme, local officials are not primarily regulators, they are creators and enforcers of property rights. Provided that jitney operators and staging entrepreneurs do not tread on the rights of others, they should be allowed to operate unencumbered

We have discussed the spatial demarcation of curb rights, but the notion of exclusionary zones may also be defined according to time intervals. Consider now the two peak-period columns, at 8 00 and 8 15 These illustrates the idea that curb zones may be exclusive for Company A during fifteen minute intervals, but then they become the "property" of Company B. This system may make enforcement more difficult, but time-elapsed video evidence still could show curb-right violations This principle of exclusionary intervals speaks to the central failing of the British experience of bus deregulation, which permits providers to schedule their service just

before the competition's This leads to schedule jockeying and route swamping, which disrupts service and diminishes competitiveness in the industry.

We have argued that in a thin market, giving free play to the jitney cascade could possibly dissipate all service Off-peak periods often correspond to thin markets. The off-peak times in Figure 6 shows an arrangement that precludes jitneys but accommodates competition on the route by granting exclusionary zones first to Company A and then to Company B Instead of temporal alternation, local authorities might deem it wiser to have spatial alternation of A and B in the same column Either way, this competitive arrangement would avoid monopoly (unless the two providers were to collude), and would give each incentives to invest in building its ridership It forgoes, however, the creative and highly efficient input of the freewheelers

Now, look at Figure 7 and in place of the As and Bs envision dollar signs -- $$$ The authorities could set out exclusive curb zones and simply put them up for sale, say, in five-year leases The leases could be sold at a set price or auctioned off The curbspace holder, say Company A, could then run its buses with stops in its leased zones Under this scheme, individuals with local advantages and knowledge of local opportunities negotiate to make the most of the resource, and the one with the highest valuation gets the curbspace Further possibilities emerge if the curb rights may be sublet or resold -- which, we think, should be permitted Company A may then wish to authorize other carriers to pick up in its curbspace, and require a monthly rental payment Or it could resell the lease altogether to a provider with a higher valuation of the curbspace We can well imagine the emergence of professional curb-zone entrepreneurs who buy up available curb zones, sublet pick-up rights to carriers, stage passengers and carriers, and monitor and police the curb rights Firms operating curb-zones may also profit

by utilizing the advertising opportunities on transit benches and shelters (Weisman 1984)

The scenario of having a market in curb rights might raise the specter of holding companies or "robber barons" buying up all the curb zones and exercising monopoly power over the route The local authorities could prevent this, however, in a variety of ways. In a thick market the most powerful method is for them to reserve certain curb zones as jitney commons, giving the jitney cascade play to compete with scheduled service In a thin market with a monopoly problem, authorities could see to it that competing providers each have their own curb rights

The unknown possibilities of entrepreneurship would operate to utilize local knowledge and to discover opportunity It works in free markets for soap and corn flakes, and it can work for transit -- *once a sensible property rights framework is established* The use of curb rights promises to enable local authorities to achieve the best of both worlds reliable, scheduled service and real competition, notably from the jitney cascade. Thus many of the problems we found in the transit experiences -- such as a lack of on-the-road competition, schedule jockeying in Britain, and jitney interloping in America, past and present, and in the LDCs -- would be avoided Because the system defines property rights, rather than imposes regulation, it unleashes market forces and minimizes the pitfalls of government control Curb rights are an antidote to the dismal political cycle of intervention, government takeover, and transit service decline.

chapter eleven

HOW PROPERTY RIGHTS RESOLVE PROBLEMS OF FREE MARKET TRANSIT

Introduction

An artless proposal of "free competition" for route-based transit -- unregulated operation of buses and jitneys with no particular system of bus stops or curb rights -- should raise serious doubts. More refined proposals for market-based transit might be less susceptible to criticism, depending on the specifics of the proposal In this chapter we examine several broad criticisms that have been made against ideas of market-based transit The criticisms are as follows

* cut-throat competition
* density externalities, disjointedness of transit pieces, and poor consumer information
* curbside conflict and inadequate passenger facilities

We present each criticism and assess its merit In our assessment, however, we will be assuming a transit context of curb rights, based on the ideas presented in Chapter Ten More specifically, let us suppose that a large metropolitan area such as Los Angeles shut down its transit services, sold off its vehicles, and declared a free competition policy for all bus and jitney services The only requirements are a driver's license, vehicle insurance and registration, and

safety certification Entrepreneurs both large and small begin offering their services We would expect vehicles to be buses, owner-operated vans, and even ordinary sedans, and over time the development of brand-names and associations Operations take place within a system of curb rights Local officials define curb zones, auction them off, allow the emergence of staging areas on private property, and assist in enforcing the corresponding rights Curb-right holders may sublet their curbspace to other carries, or resell the lease altogether Jitney commons and competing exclusive curb zones are assumed to be created by local officials as appropriate to market conditions

We will argue that when "free market" transit takes place within a well-devised framework of curb rights, the various criticisms of market-based transit are well answered -- in fact, better answered than by alternative systems

Cut-Throat Competion

One concern about free market transportation is "cut-throat competition," an idea that was originally developed in the context of railroads and public utilities (see Keeler 1983, 22, 47, Savage 1986A, 1986B) Fixed costs for a particular network of bus service may include costs of planning routes and schedules, disseminating information, and cultivating market demand (Nash 1988, 112) If these fixed costs are high and sunk, and marginal cost is low, competition may drive firms to cut prices to such low levels that costs cannot be recouped

The storyline of the cut-throat competition argument is indefinite Suppose Company A sets up a bus system Perhaps there is call, in a blackboard sense, for a second firm Company B

enters, but the tendency towards price cutting is too strong, and both firms are ruined Variations on the story are, first, that Company B is smart enough not to enter, in which case Company A enjoys an unrestricted monopoly Since it can easily and promptly revise its price downward in the event of entry, there in not much discipline exerted by "contestability," or potential new competitors Another variation is that Company B enters and the firms recognize that there is neither profit nor sport in cut-throat competition, and manage to collude or to merge In these cases, we get prices well above marginal cost and ridership remains correspondingly low Indeed, it is often argued that, since the marginal cost of an additional rider is very low, urban transit ought to charge very low prices and receive subsidies

Response to the cut-throat competition criticism There are reasons to doubt whether the entire notion of cut-throat competition is a fair description of any industry, depending as it does on assumptions about identical cost condititions, knowledge of cost conditions, single-product firms, a homogeneous service, and so on Thomas Hazlett's (1985) splendid critique of the theory of natural monopoly largely carries over to the theory of cut-throat competition

But taking the theory on its own terms, there are reasons to believe that a curb-rights framework defuses the problem First of all, in thick markets, jitneys would operate along the very same routes as does scheduled service Thus we could expect that scheduled service, even if provided by only one firm, would keep its fares and services competitive The jitneys, picking up passengers at designated commons, would be freewheeling independents that do *not* face the fixed costs associated with setting up a scheduled service Thus the jitneys would guarantee a competitive fringe -- or even a competitive mainstream -- in the market

Even in thin markets, local authorities can prevent consolidation of curb zones (or time windows at the curb) Resale or subletting of curb rights can be restricted to prevent mergers or monopolization Shopping mall owners make sure that visiting shoppers have more than one dining service to choose from, and local officials can do likewise for transit services An anti-monopoly policy might be misapplied, preventing a more efficient firm from expanding its market, but it would be available in the event of an egregious case of collusion or monopoly power.

Some commentators (Savage 1993, 146, Dodgson and Katsoulacos 1991; Nash 1988, 112) have likened Britain's experience of route swamping to cut-throat competition, as one firm invests heavily in "predatory" behavior The problem in Britain, however, is that, after cultivating the market, competitors can register service to match the schedule of the incumbent It is a problem of appropriating one's own investment in setting up scheduled service A curb-rights scheme solves this problem

Density Externalities and Disjointedness of Pieces of the Transit System

Another criticism of free market transit is the argument from economies of density, or density externalities Although it is agreed that bus service does not show economies of scale in production (Viton 1981; Shipe 1992, Hensher 1988), there are systemwide gains from increased volume Part of the gains may come in the form of lower production costs, due to larger vehicles, but part accrues to riders from the shorter waiting times associated with higher frequencies, and the short walking costs associated with a denser route structure (Mohring 1972, Gwilliam et al 1985) Christopher Nash (1988, 118) argues that the free-market process of "piecemeal infilling

of gaps" will not successfully achieve economies of density because some of the benefits flowing from volume-enhancing actions accrue beyond the calculus of the piecemeal operator; he neglects consumer surplus that he cannot capture and other benefits which accrue in other pieces of the system Due to the density externalities, the free market incentives are not functioning properly.

A related criticism maintains that piecemeal operators will inevitably be disjointed. They will fail to coordinate schedules and to achieve smooth through-ticketing and interchange Riders will be frustrated in connecting the pieces of their journey, and will have to make a separate transaction for each piece Nash (1988, 114) argues that again there are systemwide benefits from schedule coordination and through-ticketing schemes, benefits that the piecemeal operator would ignore Nash combines this coordination argument and the density argument to make a case for transit "integration," or central planning

Even if piecemeal operators were to coordinate schedules and permit through-ticketing, a decentralized transit system might suffer from poor consumer information The passenger might be unsure of the fare or route, and cause delay by inquiring with the driver, asking for change, making payment, and so on Passengers might have an especially hard time in learning the routes and fares of freewheeling and independent jitneys

Response to the density/disjointedness criticisms: Issues of density effects and disjointed interchange are certainly all around us, and in that sense these criticisms have an obvious validity But their very pervasiveness leads us to doubt that these points make transit a significant departure from normal market conditions One of the reasons that private organizations often grow to enormous size is to centrally coordinate diverse activities, or to achieve economies of

scale and scope, which are akin to economies of density (Coase 1937; Chandler 1990)

Density externalities can be seen as a variety of the advantages of the division of labor, discussed by Adam Smith ([1776], Bk I, Chs I-III) A thicker transit market makes for larger vehicles, a denser route structure, shorter walks to the bus, and shorter waiting times But such benefits are equally the case in most markets and industries -- for example, the private automobile If people drive cars rather than take transit, and the government builds more roads rather than subsidizes transit, then the markets for auto sales, parts, repairs, and fuel will be thicker and better, and the road system more efficient As another example, consider the case of a man who decides to become a saxophone instructor Now saxophone students will have shorter distances to travel and greater flexibility in arranging saxophone lessons It may be true that density externalities play an especially important role in transit services, but how much more important? Economies of density are notoriously hard to measure (Caves et al 1985) Transit may not in fact display density externalities significantly more than do the typical uses of taxpayer money.

Even if density externalities are peculiar to transit, there remains the issue of whether a centralized government authority would realize them better than free enterprise would. Appropriate integration to realize density economies and smooth interchange would depend on a knowledge of where such benefits lay and what forms they take We might break up the question of such realization into two parts (1) the knowledge of market conditions and opportunities, and (2) the incentive for providers to make welfare-enhancing actions in service Now, when Nash compares central planning with the free market, he assumes that in either regime providers are *omniscient* about market conditions Thus he sweeps aside the chief problem: the knowledge problem Doing so biases the comparison because, as we argued earlier, one virtue of free

enterprise is its ability to dig up new and better knowledge It is no wonder that analysts who assume the ready availability of all relevant knowledge tend to discount the free enterprise system As Hayek ([1968], 179) remarks, "If anyone really knew all about what economic theory calls the *data*, competition would indeed be a very wasteful method of securing adjustment to these facts." One of the great virtues of airline deregulation, for example, has been the emergence of the hub-and-spoke structure, the value of which *simply had not been known*

In real life we have to compare the imperfect knowledge of one regime against that of the other As we have said, regimented service planned by public officials is not especially effective in discovering new knowledge Inefficient systems often persist due to bureaucratic inertia and lock-in Roth and Shepherd (1984, 70) report that one city transport manager in Britain estimates that it takes up to eighteen months for a franchised operator to make a schedule change Furthermore, the idea of "integrated" planning is somewhat illusory Donald Chisholm (1989) argues that the executives of large public agencies do not really command the knowledge that resides in the diverse offices and departments of the agency One department may make mistakes because it lacks knowledge that is commonplace to those in another wing of the building There is no reason to assume that the knowledge is integrated just because all the individuals work in the same building

As for the incentive to make welfare-enhancing action in service, Nash again accords superior-being status to government officials They are assumed to want nothing but to act in the service of social welfare maximization Thus Nash neglects all the Public Choice learning about how real-life public officials behave, notably in large public agencies

Private entrepreneurs in Nash's model are assumed to be totally piecemeal in their scope of

action Because density and interchange benefits extend beyond the piecemeal operator, private entrepreneurs in Nash's model develop service at levels that are less than "optimal " We ought to question whether free-enterprise transit is bound to operate in such a piecemeal fashion It might be said that entrepreneurs are in the coordination business, they are deal makers. Wherever private taxis, jitneys, or buses have emerged, organization in form of firms or operator associations have almost universally followed Route associations, company fleets, organization representatives and agents all function to take into view the connections and network effects The creation of curb rights, furthermore, would introduce curb-right holder, who are specifically interested in the connection between different bus or jitney lines The curb-right holder would have an obvious incentive to coordinate schedules and encourage smooth interchange, because market demand for services intersecting at his curb (or network of curbs) would directly effect the value of his curb rights The bus companies will have an especially strong incentive to take advantage of interchange benefits if there is head-to-head competition on their route, which is likely in our curb-rights scenario Offering patrons smooth and convenient interchange with connecting services would be one way to outdo the competition

We can well imagine industry associations of carriers or curb-right holders that discuss and plan timetable issues and through-ticketing schemes With new technologies like electronic debit cards, through-ticketing is much less difficult in any transit system As for information dissemination, just as newspapers now publish movie timetables, interested parties would publish and distribute transit information about timetables, through-ticketing and fares Perhaps carriers or curb entrepreneurs would organize to establish a telephone service that tells callers how to piece together their trip on the transit system Curb right holders would have a strong incentive

to publicize the information with signs, printed schedules, and so on

As for traffic management at the jitney commons, we may well imagine a simple system of sign cards, used by patrons and drivers The number would refer to the destination or route, while the color represents fare scales or service options Different places at the curb could serve as staging zones for different routes Local jitney registration and safety certification could be displayed on the exterior of the vehicle's passenger-side door Perhaps there would be a curbside coordinator designated to jitney commons, to assist staging

Even in the implausible case where the individual pieces did not look more than one link beyond their bailiwick, they are looking out for opportunity to coordinate with the next link In so doing, there emerges a nexus of mutual voluntary planning across transit providers In his book on economic planning, Don Lavoie (1985, 27) offers an analogy "Termite colonies have the remarkable ability to regulate precisely the temperature of their intricately constructed and often gigantic hills by sophisticated ventilation techniques that would surely perplex the cleverest single termite " Piecemeal operators, like myopic termites, might not see the big picture, but they may be able to recognize opportunity for enhanced patronage and smooth interchange, and be quick to seize it The aggregate effect of such local activities might be a complex and fluid system, one that emerges more by accretion and serendipity, rather than by preconceived design (Alchian 1950)

Curbside Conflict and Inadequate Passenger Facilities

Critics of freewheeling jitneys sometimes raise the problems of dangerous driving and curbside

conflict. We can imagine competing van drivers battling for customers on the line-haul routes and becoming agitated (Grava 1980, 284) There might be incidents such as fist-fights at the curb or accidents involving pedestrians

Another issue is the provision of passenger facilities, like benches, shelters, stations, and signs, which are important complements to transit services When carriers operate under laissez-faire, local authorities might have difficulty coordinating the provision of these facilities The operators might lack an impartial representative to work with the local authorities, and the laissez-faire market might itself be in constant flux Waiting passengers might begin to accumulate at places where they impede pedestrian traffic or access to commerce

Repsonse to the curbside problems criticism Transit currently takes place on public commons. the roadway, the sidewalks and the bus stops Public bus stops are often unsafe and ill-maintained A curb-rights regime would create private holders of the curbside facilities They would have the incentive and much independent authority to provide the appropriate facilities and to police for good conduct and trustworthiness Not only could we expect much improvement in safety and comfort, but also in security It would be a simple matter of serving the customer

The various doubts about free enterprise transit -- cut-throat competition, density effects, coordination, information, and curbside matters -- all depend on the nature of the property rights framework within which free enterprise functions As Hayek (1944, 38) puts it, "[t]he functioning of a competition depends, above all, on . a legal system designed both to preserve competition and to make it operate as beneficially as possible " The curb rights system should largely dispell

the traditional criticisms of free enterprise transit

SECTION FOUR. POLICY RECOMMENDATIONS AND CONCLUSIONS

chapter twelve

POLICY RECOMMENDATIONS

Our survey began by noting the triumph of the automobile Next it documented the fizzle of traditional transit, and articulated the broad reasons -- based on Hayekian and Public Choice analysis -- for the failure We have explored a variety of transit experiences and a variety of features of free market transit, both its virtues and vices In this investigation we have delineated the broad terrain of transit issues and formulated an understanding of the fundamentals at work

We have proposed in Chapter Ten a property rights framework for route-based transit designed to give full vigor to private enterprise and entrepreneurship The property rights proposal elaborated in Chapter Ten forms the core of our policy recommendations, and we will not repeat the proposal here Instead, we turn to a brief discussion of auxiliary policy recommendations These proposals are not required for a property rights approach to function, but would enhance its effectiveness Also, we address issues aside from route-based transit -- notably, taxi markets

We advance a set of serious, even drastic, policy reforms that correspond to our sense of the fundamentals of urban transit Our proposals overlap to some degree, and we treat each of them as if it stood alone, though there may be increasing returns to the set of proposals We restrict ourselves to a brief overview of the proposals, and do not address the immediate issues of

policy feasibility and gradual transition This is not to suggest that the immediate issues do not call for attention If there is to be any real hope of reform they must be attended to in detail But, we see our purpose as setting out, for the consideration of policy makers, a number of long-term destinations for policy reform Think of these proposals as establishing a *context* in which property rights transit can flourish to its greatest potential We hope that this will aid policy makers in forming a better idea of what they should be working toward Some might disparage our approach as "impractical" or "utopian," but we believe that paying attention to fundamentals is the only way to gain far-sighted vision, as well as key insights for the here-and-now.

(1) Deregulate All Transit Services

We have discussed in some detail the faulty justifications and perverse results of much transit regulation The law must clearly limit the aspects of transit services that authorities are permitted to regulate Specifically, authorities may require only that a transit service provider have a valid driver's license, vehicle registration and insurance, and periodic safety inspection This restriction applies to all levels of jurisdictional authority, and to all forms of transit service buses, jitneys, shuttles, shared-ride taxis, taxicabs, and so on Given a property rights framework, one can expect transit services to develop trademarks, brand names, and association identifiers These are the normal market institutions that sustain quality and trustworthiness (Klein forthcoming) Their presence would diminish the need for regulation, even the minimal level we have suggested

(2) Dissolve Public Transit Agencies and Sell Off All Public Transit Capital

It makes no more sense for government to be producing transit than it does for government to be producing corn flakes The basic Hayekian and Public Choice teachings apply here in full force, and every bit of more specific learning shows that government is characteristically inept when producing transit Virtually all public transit agencies should be drastically reduced and redirected, and all public transit capital should be sold off The British experience provides an example of privatization that worked reasonably well, and the property rights framework we propose would improve the results

(3) End Federal Involvement

Privatizing transit services will eliminate the justifications often proffered for subsidy. Federal involvement in local transit comes mainly through Federal Transit Administration subsidies The whole program came into being in response to blatant rent seeking by large cities, and amounts to redistributing wealth from rural or suburban dwellers to transit systems that serve the central city The transit agency's role would be simplified to managing curb rights, and possibly other roles discussed in this chapter All of this is true of state subsidies as well, and they should also be eliminated

Taxpayers would not be the only beneficiaries Without external subsidy, local transit decisions would no longer be so distorted Forced to pay for themselves, local authorities would no longer have incentives to pursue grandiose schemes and wasteful monuments, like Los Angeles's Gateway Intermodal Transportation Center Local officials would no longer be tempted to vainly pursue urban renewal or job growth with transit project funds [11] Mobility needs rather

than politics would again be the driving force behind transit

In meeting mobility needs, the elimination of subsidy would have its advantages State and federal subsidies bring with them restrictions on local employment, purchasing, and service decisions For example, section 13(c) of the Urban Mass Transportation Act restricts local authorities from using federal subsidies in ways that might have a negative impact on transit union employees Local financing would return transit decisions to local needs and opportunities

(4) Create A Nested Commerce Clause for Jurisdictional Authority

There will always be a temptation for local interests to lobby for special privileges. Likewise, some public officials will find cause for intervening in transit decisions In our scheme, clear and simple constraints are placed on each jurisdictional level, describing the limits of authority. Such a scheme must specify what level of jurisdiction has regulatory authority for each transit service We propose a nested jurisdictional authority clause, in the spirit of the Interstate Commerce clause of the United States Constitution

Any transit service that crosses a jurisdictional boundary can be regulated only by the encompassing level of authority For example, a jitney service that operates on a route running through two cities could not be regulated by the cities, but only by county or regional authority Likewise, a taxi service that operates across a county line could not be regulated by the county, but only by regional or state authority This prevents local protectionism and the like Curb rights, however, remain the responsibility solely of the immediate local government

(5) Create Locally a System of Curb Rights for All Route-Based Transit

The core of our proposal for route-based transit is developed in Chapter Ten We refer the reader to that chapter foe an exposition of the curb right proposal Here we wish only to discuss the local nature of this proposal and the many peculiarities to be dealt with

We have emphasized that the conditions of time and place are particularistic and always changing Successful entrepreneurship and effective markets depend on the utilization of local knowledge In proposing a highly localized approach to urban transit, we extend the emphasis on local knowledge to *the devising of property rights by public officials* Hoping that officials will pursue what we believe will work best for transit, we urge them to study local conditions in crafting the property rights that underlie transit markets There are no fail-safe principles, but intelligence, experience, and comparative study can help to answer many relevant questions how many years should curb-right leases last?, how many yards long should the exclusionary zone be?, how many minutes apart should the exclusive time windows at curbside be?, how many commons curbs for jitneys should there be?, should local authorities provide turn-outs?, should they provide benches and shelters or leave that to the lease holders?, how should they cope with congestion at the curb?, should carriers be restricted from *dropping off* passengers in exclusive curb zones?, *et cetera, et cetera.* These are local matters to be investigated and decided upon by local officials, the way that officers of a proprietary community decide contracts and resource utilization We have provided in Chapter Ten the fundamental idea breaking down curbspace into numerous pick-up zones -- some exclusive and transferable and some non-exclusive -- and to allow entrepreneurship to build services upon theses cornerstones

Besides the curb rights issues, may of our ideas -- selling off all transit capital, requiring safety inspection, providing user-side subsidies, and setting up a taxi watchdog agency -- also depend on local conditions and the judiciousness of local officials Although Public Choice analysis suggests that public officials often lack strong incentives for good performance, our scheme would to some extent depend on the intelligent decision making of local officials We feel, however, that compared to the paradigm of regulation and government ownership, the property-rights paradigm depends less on the good faith, imagination, and hard work of people in government Instead, our scheme depends more on private sector entrepreneurs with normal human qualities and motives

(6) Institute Highway Pricing

We must recognize the triumph of the automobile Although many lament this triumph, we regard the private automobile as an unambiguous vehicle of betterment. It is both cause and consequence of widespread prosperity Nonetheless, the automobile ought not to be indiscriminately favored It too should pay its own way, and in a sensible manner The best means available is highway pricing, where toll revenue pays for highways and drivers are charged for causing highway congestion In making the private auto pay its own way, transit will be made more competitive Commuters traveling in shared-ride vehicles pay only a fraction of the toll High-occupancy vehicles may even travel free, as they do on the new Route 91 median-lanes toll road in Orange County, California (see Fielding and Klein 1993) This would give the traveler new incentives to go by carpool, subscription van, or commuter bus Road pricing is good

highway policy and good transit policy

(7) Consider User-Side Subsidies to Meet Equity Goals

Government involvement in urban transit, through subsidy or public provision, creates inefficiencies and political influences Nonetheless, some communities may wish to ensure transit services for persons not otherwise well served by private providers If a community has a desire, based on equity or other reasons, to subsidize transit use, we recommend that they do so only at the local level, where the information problems for the administrators are minimized Staying local also reduces the number of interest groups tempted to get involved, reducing the scope of rent-seeking problems We recommend that a system of user-side subsidy be used By providing vouchers directly to the persons to be subsidized, the community allows the market to determine the best way to provide the service Apart from paying for the subsidy, a transit voucher plan conforms nicely to the property rights approach to transit Transit entrepreneurs are still private, and they still compete by freely offering their services to paying customers Kirby (1981) reviews a number of user-side subsidy programs in transit and reports good results

(8) Reform Taxi Policies to Cope with Consumer Information Problems

We have discussed in Chapter Eleven problems of poor consumer information with route based services Here we focus on consumer information problems with edge transit services -- notably the taxi hail market and queue market The telephone market for cabs is much less problematic,

because callers can easily inquire about fares and ponder the alternatives

With taxicabs in a queue at the airport and the stand operator instructing passengers to take the lead cab, there is no role for price or quality competition Unrestricted fares in this case could mean severe price gouging and "rip-offs " When taxis are free to roam at the airport, and cabbies enter the terminal to solicit passengers, the visitors get a general sense of chaos. Even researchers who are very sympathetic to taxi deregulation, like Sandra Rosenbloom and Bill Styring, maintain that in the airport market fare deregulation might create severe problems (Rosenbloom 1986, 15, 18, Styring 1994, 35, La Croix et al 1985, Kirby's comments following LaGasse 1986)

There are two general solutions for the airport taxi market either the airport should manage service and fare differentiation with multiple taxi stands and a designated coordinator to aid passengers, or uniform rates should be set for all trips originating at the airport. Since many travelers emerge from an airport terminal in a state of bewilderment, and terminal traffic is heavily congested, fare regulation often will make the most sense But municipal authorities ought to devolve the regulatory decision to the airport authorities, since they have better knowledge of local resources, more incentive to serve the traveler, and less motive to distribute monopoly rents to service providers Motivated airport officials could emulate practices at hotels, where the doormen shepherd the patrons to the appropriate transit services, and excluded "problem" operators (see Reinke comment p 18 following Rosenbloom 1986)

Information about fares in all taxi markets might be improved by a restriction like the following If the taxi establishes rates by distance, it must set its flag drop charge for the first 1/5 mile and additional travel per 1/3 mile (Doxsey 1986, 8) Imposing such units for rates would

facilitate fare comparisons by consumers Taxis could set their own flag drop charge high enough to make short trips worth their while We think that taxis ought to be permitted to utilize other rate structures -- by zones, by journey duration, by time of day, etc. -- but be required to use a uniform measure of distance *if* they elect to charge by distance

Another idea for the alleviation of information problems is for an organization to perform watchdog services regarding taxi trustworthiness, and to gather information to help travelers comparison shop, in the way that *Consumer Reports* does They could gather information on the fares and quality of the various various fleets or associations, and go undercover as customers to check on trustworthiness They could distribute the information to airports, travel agents, hotels, tourist centers, information booths, apartment buildings, hospitals, and senior citizen communities The information could be printed periodically in local newspapers (see comments following Rosenbloom 1986, 18) It would be best if private firms, akin to credit bureaus or to Consumer's Union, provide these services In some cases, however, if the market response is not sufficient, local government may wish to contract the job to a private firm We do not urge government to get involved in consumer reporting for route based services, because curb-right holders would have a direct interest in doing so

chapter thirteen

CONCLUSION

Around the world, a broad-based intellectual shift is in progress, a shift away from regulation and government ownership, toward property rights approaches For generations the mixed-economy thinking of American policymakers has led, in the case of urban transit, to a high degree of regulation and government ownership Our study submits that the general shift to property rights systems should take place in transit policy, and we try to show how this can be done

We have delineated a number of transit markets First, there are commuter services, door-to-door shuttles, and taxis We regard current regulation of these services as patently unjustified The property rights approach here is straight-forward allow free entry and free enterprise, with minimal insurance and safety requirements There may be problems for trips originating at airports, but the property rights approach then suggests that airport authorities be regarded as independent property holders. They can arrange with taxis to charge a uniform price, to wait in appropriate holding areas, and so on Citywide regulation is unnecessary.

The most difficult, most important, and most interesting challenge is route-based service We have developed a theory of scheduled service which recognizes the importance of generating passenger congregations Furthermore, the investment in cultivating passenger congregations must be appropriable, or protected from interloping We have reviewed the literature of numerous transit markets, showing that they are gored by one of the two horns of a transit dilemma Some markets enable scheduled operators to appropriate the value of passenger congregations, but this is

achieved by granting exclusive rights, not only to the waiting passengers, but to the entire route. Thus the first horn is transit monopoly The other horn is the pure commons, giving rise to freewheeling competition like that found in some LDC cities In this case there is no cultivation of passenger congregations for scheduled service, because interloping will expropriate the investment In consequence, thick markets are somewhat chaotic and thin markets are especially poorly served

A nuanced approach based on property rights can maneuver between the horns of this dilemma We can have the best of both cases, schedule service and freewheeling jitneys. Figure 8 revises Figure 6, by inserting our solution between exclusive monopoly and the pure commons (and by eliminating the case of subsidized service)

[Figure 8 here]

Our solution is based on a new idea, a previously unnoticed policy opportunity: create exclusive and transferable curb rights, leased by auction This way scheduled service will have exclusive protection where its passengers congregate, and jitneys will be able to pick-up passengers elsewhere along the route, at curb zones designated as commons Better transit is readily available, we need only to organize policymakers to attain it

Our scheme would rid the transit market of government production and over-regulation, and all the pitfalls that Public Choice analysis has exposed In addition to avoiding certain government imperfections, the scheme also avoids avoids certain market imperfections, such as cut-throat competition, schedule jockeying, route swamping, the dissolving anchor, interloping, and curbside conflict

Our scheme would truly give life to transit entrepreneurship Within the property rights

	Exclusive Route for the Scheduled Service Provider	Refined System of Curb Rights for Scheduled Service	No Exclusive Rights for Scheduled Service
THIN MARKET	**Anchor Service Preserved** Possible Problems inadequate competition and inert monopoly	**Anchor Services Preserved. Potential for Competing Scheduled Services; Commons Provides Jitneying Opportunities.**	**Interlopers Dissolve any Anchor** Possible Problems market destroyed
THICK MARKET (potentially)	**Anchor Service Preserved** Possible Problems inadequate competition and inert monopoly	**Anchor Service Preserved and Cascade of Jitneys Offers Low-Cost, Unscheduled Service.**	**Interlopers Dissolve any Anchor, but a Cascade of Jitneys Offers Low-Cost, Unscheduled Service.** Possible Problems low quality, irregularity, unreliability, untrustworthiness

Figure 8

A Typology of Unsubsidized Fixed-Route Urban Transit Incorporating the Property-Rights Solution

framework based on curb rights, entrepreneurs would be free, able, and driven to introduce ever better service, to revise schedules and route structures, to establish connections among transit pieces and passenger interchange, to introduce new vehicles, and to utilize new pricing strategies. Alongside scheduled service would be the freewheeling jitneys. They would respond flexibly to changing conditions, such as the weather, offer service on a short-term basis, fill market niches, provide courtesy door-to-door service, and simply pick-up paying customers on the way to work. Once our system of curb rights is sensibly created, the market process would take over. One salient feature of this process is competition, but the other is discovery of new opportunity, based on entrepreneurial insight into changing local conditions Thus, within a suitable framework of property rights, the invisible hand will be able to do in transit what it does so well in other parts of the economy

ENDNOTES

1 This paragraph is drawn from news reports of jitney riders See Bonaspace 1993, Fried 1994, Garvin 1992, Machalba 1991, and Onishi 1994

2 Boyle (1993, 1) states "Transit and planning personnel in Chicago, Los Angeles, Atlanta, and Houston indicate that jitneys were not operating in any extensive or arranged fashion in their cities "

3 The system will require some way of assuring an acceptable level of personal safety for riders and drivers to overcome the natural concern about strangers Webber suggests that if people are from the same neighborhood, safety is usually not a problem

4 Two recent examples from southern California show how justified are these fears The Prime Time airport shuttle company has been continually harassed and prosecuted by the Public Utilities Commission (PUC) for using owner/drivers, even though airport and state regulations read as though such practice is permitted Many other firms use owner/drivers as well, but the PUC appears to be singling out Prime Time Second, Young (1995) describes how the PUC is considering changing regulations governing what it calls "tot toters," or private transporters of young children It is unclear why the PUC feels that it must change the regulation of existing providers just because the practice is expanding Knowledgeable sources maintain that these regulatory problems stem from the capricious agendas of just two or three bureaucrats at the PUC.

5 Becker and Echols (1983, 56) point out the difficulties that public transit agencies have in accepting the use of these "edge" type of services First, the services tend to be new and innovative, threatening the status quo Second, public transit labor resist these services as threats to their jobs In addition, potential providers, such as taxi companies, resist schemes to have the services contracted to themselves They see the services as competition even though they will be the ones providing it Perhaps they are taking a long-term view, and do not want such alternative services to get a foothold

6 They credit the higher productivity to more effective dispatching, resulting in a greater number of shared rides Carlson (19xx) describes the failure of dial-a-ride in Santa Clara County, California, where the system failed to attract enough trips to justify its existence.

7 The information on SuperShuttle comes from interviews with Mitchell Rouse, the CEO of SuperShuttle Information about recent changes in airport practice comes from interviews with a shuttle curb coordinator and shuttle van drivers

8 User-side subsidies, like food stamps or school vouchers, allow government to subsidize certain riders while leaving the market to discover and operate efficient means of producing transportation Kirby (1981) surveys a number of user-side subsidy programs, finding that they have been cost-effective and show little fraud

9 Takyi (1990, 165) notes "One feature of the Manila jeepney that has made it world famous is its artistic beauty Its decoration has developed into a true folk art very comparable to that of baroque art The basic body color (red, blue, yellow, green, and lilac) is embellished with swirling designs of exuberant hue and configuration "

10 It might be thought that once the scheduled service pulls out, the jitneying function would shift outward because jitneys pick up passengers that had been taking the scheduled service This may not be so, because passengers are now more randomly dispersed over the course of the hour, due to the loss of schedule focus

11 The idea that greater transportation infrastructure increases productivity, which might have positive effects on the whole region, has been fairly well debunked See Boarnet 1994, Giuliano 1989, Gramlich 1994, Holtz-Eakin 1994, and Kelejian and Robinson 1994. Some of the studies show that increased transportation infrastructure simply redistributes productivity

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