

SAN FRANCISCO PLANNING AND
URBAN RESEARCH ASSOCIATION

Making Taxi Service Work in San Francisco

FINAL REPORT

Nelson\Nygaard Consulting Associates
833 Market Street, Suite 900
San Francisco, CA 94103

A Report For

San Francisco Planning and Urban Research Association
312 Sutter Street, Suite 500
San Francisco, CA 94108

November 2001

This report represents the official position of SPUR, the San Francisco Planning and Urban Research Association.

The study was conducted during the first eight months of 2001, and was debated and adopted by the SPUR Board of Directors on September 19, 2001.

The work was conducted under contract to SPUR by:

Nelson\Nygaard Consulting Associates
833 Market Street, Suite 900
San Francisco CA 94103

The SPUR Taxi Task Force managed the study and served as the client for Nelson\Nygaard. The Taxi Task Force consisted of:

Ken Cleaveland
Peter Hartman
Sean Jeffries
Marie Jones
Al Maher
James Mathias
Ron Miguel
Linda Mjellem
Tom Radulovich
Kent Sims
Stephen Taber

The SPUR staff represented on the Task Force were:

Jim Chappell
Gabriel Metcalf
Greg Wagner

The project manager for the study at Nelson\Nygaard was Jeffrey Tumlin, Principal, and the lead planner was Adam Millard-Ball.

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Acknowledgements

Nelson\Nygaard and SPUR would like to acknowledge the extensive input, feedback and other assistance received during the course of this study from members of the San Francisco taxi industry, the business community and other stakeholders. We are also grateful for assistance from many taxi regulators, drivers, dispatchers and firm managers in cities around the United States and other parts of the world.

We would like to thank the members of the SPUR Taxi Task Force that oversaw progress on the study, and helped develop the recommendations.

We are also extremely grateful to the following contributors, who, along with the full SPUR members, underwrote the cost of the study.

Organizations

Argent Hotel
Arup
Barnes Clarke & Associates
Chancellor Hotel
Emerald Fund, Inc.
Forest City Development
Galleria Park Hotel
Grand Hyatt San Francisco
Holiday Inn Financial District
Holiday Inn Golden Gateway
Hotel Council of San Francisco
Hotel Nikko San Francisco
Hyatt Regency San Francisco
Korve Engineering
Loews Theaters Metreon
Lurie Company
Macy's
Millennium Partners
Pan Pacific Hotel
Pier 39 / Blue and Gold Fleet
Providian Financial Corporation
ROMA Design Group
San Francisco Marriott Hotel
Sir Francis Drake Hotel
The Related Companies of California
TMG Partners
Vintage Court Hotel

Individuals

Anthony Bruzzone
William S. Clark
Michael Ferro
Robert C. Friese
Martin Gellen
Hartmut H. Gerdes
Karl Heisler
Leonard Kingsley
Robert Lawrence
Kelley LeBlanc
Peter Moylan
Mr. & Mrs. Harold L. Moose, Jr.
Brad Paul
Paul Sack
Joan San Jule
Mary Louise Stong
Tay Via

Executive Summary

This report proposes a win-win-win package of reforms to San Francisco's taxi industry. Its recommendations will improve service for passengers, making it easier and faster to get a cab. It will safeguard driver incomes. And it will allow firms to increase profits – provided they rise to the challenge of providing a better, more reliable service.

By making taxis more reliable, and by providing powerful incentives for firms to increase taxi use, these recommendations will encourage more people to use taxis than ever before. The result will be a reduction in our overall reliance on automobiles, decreased congestion, and improved availability of parking near key destinations.

A more reliable taxi service will benefit tourism and the economy, through improving the efficiency of the transportation system. It will also increase the mobility of those who do not have access to a car, particularly the elderly and disabled. An improved taxi system will make the entire transportation system of the city work better.

When this study was conceived and begun, the San Francisco economy was experiencing a boom that has been likened to the second Gold Rush. Not surprisingly, complaints about lack of availability of cabs had never been higher. By the time of publication of the study, the economy had considerably cooled, and international events had had an additional chilly effect on San Francisco's (and the world's) visitor travel, and consequent use of cabs. Because SPUR has tried to guide San Francisco public policy for more than 40 years, we were keenly aware of the certainty of business cycles. Therefore, a key goal was to develop policies that would work for passengers, for drivers and for customers in good times and in bad. We believe we have succeeded in this goal.

Current problems

Poor availability and reliability

The most pressing complaint about the San Francisco taxi system over the long run is its extremely poor reliability. According to the Police Department Taxi Detail's annual survey for 2000, if a passenger telephoned for a cab, there was only a 40% chance that one would arrive. Of 588 test calls made, 170 were not even answered, and 20 callers were told there was no cab available. Of the remaining calls, just 237 cabs arrived, and there were 161 'no shows.'

No one in the taxi industry has an incentive to increase ridership

Our studies determined that the primary reason for this unreliability is that neither the drivers nor the companies have a direct interest in attracting passengers. Taxi companies are currently not in the business of carrying passengers. They might more accurately be described as vehicle leasing firms, rather than taxi companies. They derive revenue from leasing vehicles to drivers, for a flat fee per shift. It makes no difference to a firm's

revenues if the driver carries one passenger or fifty passengers during his or her shift, at least in the short run.

This means that firms have little interest in improvements that could help to boost overall taxi ridership. Marketing is virtually non-existent, and there is little incentive to improve efficiency, in terms of the percentage of time a taxi is carrying passengers, or performance.

Taxi companies do not compete for passengers. Instead, they compete to attract the individuals that hold the City-issued taxi medallions (permits), without which the firm cannot continue to exist.

Drivers are more concerned about competing for a finite pool of passengers in the short-run, than increasing the long-run size of the pool of business. Any increase in taxi numbers, through increasing the number of medallions, is seen as reducing the amount of business for existing taxis, even if this increase is required to cater for growth in ridership. Drivers focus on the short-term, seeking to maximize the profit from each individual trip, rather than helping to create a reliable service that would expand the overall market share for taxis.

There is no objective process for setting taxi numbers

The number of taxis on the streets is determined by the Taxi Commission, which has the power to set the number of medallions (permits). Decisions are highly politicized, and bear little relationship to any objective measure of the need for more taxis.

Moreover, the lack of incentives for firms to carry more passengers means that it is difficult to judge the extent to which availability problems are caused by too few taxis. Availability is not the same as supply, since both the supply of cabs and their distribution determine availability. For example, poor availability in some parts of the city may be due to taxis clustering at the airport or downtown hotels, rather than an overall shortage of cabs. Dispatch technology, the number of taxis handled by each dispatch service, and the incentives for drivers to accept radio orders are other important factors that affect availability.

Recommendations

SPUR makes three core recommendations to alter the structure of San Francisco's taxi system:

- **Split the "meter."** At present, firms derive their revenue by leasing vehicles to drivers, through a flat fee per shift. Their income is the same regardless of how many passengers are carried. Instead, we recommend that firms should receive a share of fare revenue, rather than a flat fee. This would provide a direct financial incentive for them to carry more passengers, improve service and increase the market. Taxi firms would become real taxi firms, rather than vehicle leasing firms.

- **Allow firms to grow based on performance.** A firm's ability to expand, through taking in new medallion holders, should be made conditional on meeting performance targets for availability. These targets are already spelled out in Taxi Commission regulations. A taxi must arrive within ten minutes 70% of the time, within 15 minutes 80% of the time, and within 30 minutes 99% of the time. We recommend that these targets be given the teeth that they lack at present. Firms that failed to meet them would not be permitted to take on new medallion holders. In a worst-case scenario, after failing to meet the targets over a three-year period, the firm would lose its permit to operate and be closed down.
- **Depoliticize the process of setting cab numbers.** Rather than being set by who screams the loudest, taxi numbers should be determined by availability. If availability targets are not being met, more medallions should be automatically issued. Due to the split meter, firms would have every incentive to maximize the efficiency of the existing fleet. If they are still unable to meet demand, more taxis would be put on the streets.

SPUR's other recommendations will improve the information available to passengers, give priority for medallions to better drivers, and integrate taxis more closely with the transit system.

Firms should bear the primary responsibility for increasing taxi use and improving performance. Regulators should use every tool available to give firms the incentives to increase ridership and improve performance. A wide variety of strategies are available to improve availability, such as better dispatch equipment, rewards to drivers that accept hard-to-fill orders, staggering shift changes, and order sharing between firms. Firms should be free to develop their own preferred package of options, and to pursue innovative strategies to improve performance.

Who benefits?

Firms will benefit, provided they rise to the challenge of improving performance. The best-performing firms will be allowed to expand and increase market share. There will also be far greater scope for firms to increase revenue under the split-meter system through carrying more passengers, compared to the flat, capped per shift fee.

Drivers will benefit, as the split-meter system means that they will share the risks of slow business and traffic congestion with firms. They can also expect their incomes to rise, as firms' interests will be aligned with drivers in maximizing the number of passengers per shift. They will benefit from measures that firms will take to improve efficiency.

Passengers will benefit, through the incentives given to firms to carry more passengers and improve service; the automatic release of more medallions if availability targets fail to be met; the introduction of advanced dispatch technology; the consolidation of dispatch organizations; and the guarantee that the City will regulate the cab industry based primarily upon availability for passengers.

Summary and Recommendations

1. BACKGROUND

Taxis are an integral part of a city's image. Black cabs are as synonymous with London as yellow cabs are with New York, and jitneys with Bombay or Calcutta.

The flexibility of taxis means they also have the potential to be a key part of the urban transportation system. Taxis can help address the scarcity of parking in San Francisco, as they provide the point-to-point mobility of the private automobile, without the need to store the car at the destination. Furthermore, a combination of transit and taxis, along with walking, bicycling, car sharing and rental cars, can offer a more attractive alternative to private car ownership and use than transit alone. Only when people believe they can rely on alternatives to the private automobile will they be persuaded to give up their cars.

A well functioning taxi system also is a valuable resource for visitors, business people, the young, the elderly, and the disabled. It reduces the cost of paratransit provision, allows people to drink alcohol and still get home safely, and increases the mobility of many

Anecdotal evidence of poor availability aside, the Taxi Commission's own dispatch survey from Fall 2000 shows that if a passenger calls for a taxi, there is only a 40% chance of one arriving.

sectors in society. For the remainder of the population, taxis can offer a viable alternative to the private automobile and a supplement to the public transit system. Thus, taxi use can contribute to economic development and quality of life.

At present, however, taxis in San Francisco are nowhere near achieving their potential, as discussed in detail later in this chapter. Anecdotal evidence suggests poor availability, and the Taxi Commission's own dispatch survey from Fall 2000 shows that if a passenger calls for a taxi, there is only a 40% chance of one arriving. A survey conducted in Spring 2001 for the San Francisco Chamber of Commerce, meanwhile, found that more than half of people surveyed consider a shortage of taxis, 'no shows' and

difficulty in ordering taxis in the first place to be serious problems.

The Chamber survey found that most San Franciscans do not use taxis regularly. One-third use them "never" or "almost never," while a further 24% use them only a few times a year. In itself, this suggests that there is significant scope to expand the mode share of taxis. That it is difficult to quantify the exact potential to which the taxi system might aspire, however, is a reflection on the current state of the industry.

As discussed below, decisions on fare levels and medallion numbers are taken by the Taxi Commission and Board of Supervisors in a void of factual information about the state of the current system. Not only is there a lack of marketing data; the fundamental information on passenger numbers, mode share and availability does not exist.

There also is a lack of integration between taxis and other transportation modes, particularly transit services provided by Muni and BART, together with AC Transit, SamTrans and Golden Gate Transit. This limits the extent to which taxis can form part of a package of modes offering an attractive alternative to the private car. However, reliability appears to be the primary problem preventing taxis from fulfilling their potential as a link in the transportation system. If passengers cannot depend on taxis to arrive when needed, they will turn to other modes – particularly the private car.

During this present study, San Francisco, along with the rest of the nation, has entered an economic slump that is likely to depress the demand for taxis and improve availability. This study, however, is concerned with creating a robust regulatory framework that will improve taxi service at any stage of an economic cycle. This framework will let the taxi industry respond to fluctuations in demand, and encourage availability at a reasonable price at all times and in all economic circumstances.

Nor does this study attempt to reach a conclusion about the optimal number of taxis, or optimum fare levels. Rather, it recommends a framework that will allow objective decisions to be taken, free from political interference, and provide incentives for firms, permit holders and drivers to provide the best possible service.

2. STUDY GOALS

The primary goal of this study is to discover achievable ways to increase the use of taxis in San Francisco. Increasing the mode share of taxis will permit the provision of a better service to passengers, and increase business for drivers and firms. This study:

- Identifies, evaluates and recommends the most promising measures to increase the proportion of trips that are made by taxi (mode share) in San Francisco, as a strategy to decrease the mode share of single-occupant automobiles.
- Evaluates the taxi system as a critical element of the transportation and public transit systems in San Francisco.
- Recommends initiatives to increase the availability, reliability, customer service and efficiency of the taxi system in San Francisco.

Taxi use largely is a function of urban form, particularly density which also is the major determinant of rates of vehicle ownership and transit use. However, within any urban form, the regulatory framework influences the share of trips made by taxi to a great extent.

This report focuses on how to improve taxi service from the passenger's perspective, where external issues, that directly affect the experience of the journey, are crucial. Policy objectives are stated in terms of customer satisfaction and the external issues that form the customer's experience. However, since internal issues, such as driver turnover and dispatch systems, strongly influence external issues such as availability and customer service, the report addresses both internal and external issues. Internal and external issues considered are shown in Figures 1 and 2.

Much of the debate within the taxi industry has focused on internal issues, such as numbers of permits. Internal issues are important – indeed, many have a decisive influence on the passenger's experience. However, their effect on increasing taxi mode share comes primarily through their influence on external issues such as reliability and availability. Taxi numbers, for example, are a significant determinant of availability, but not the only one.

Figure 1 External Issues

Availability	street hail telephone orders taxi stands ramp (wheelchair-accessible) cabs outer neighborhoods airport
Reliability	telephone calls answered taxis show up when arranged
Fares	flag drop mileage rate waiting rate any surcharges
Response times	length of time to get a cab
Service quality	vehicle quality driver courtesy and knowledge handling of complaints, lost property, etc
Safety	in vehicles
Information	how to obtain a cab which firm to call

Figure 2 Internal Issues

Numbers of taxis	whether numbers are limited in any way mechanism for setting numbers total medallions/permits issued any restricted medallions/permits (e.g., neighborhood only, peak-time only)
Enforcement	dispatch regulations vehicle/driver regulations other regulations, e.g. driving requirement for permit holders
Dispatch systems	number of systems size of each system technology employed
Taxi Commission	priorities set public input regulations adopted
Drivers and permit holders	number of drivers income and benefits employee status potential for drivers to become permit holders safety
Firms	number of firms size of firms profitability investment and ability to raise capital
Gate and lease fees	
Permit/medallion allocation system	
Traffic/congestion	
Data availability	

3. STUDY PROCESS AND REPORT STRUCTURE

This study was undertaken by Nelson\Nygaard Consulting Associates, on behalf of the San Francisco Planning and Urban Research Association (SPUR). Study progress was overseen by the 12-member SPUR Taxi Task Force, comprised of representatives of business organizations, neighborhood groups and SPUR staff.

The study involved the following elements:

- Analysis of the problems facing San Francisco's taxi system and 26 recommended reforms, presented in this section.
- Review of the literature on taxis, presented in Appendix B. This review includes academic contributions on the role of taxis, the economic rationale for entry regulation, and reports on efforts to reform the taxi industry in other cities.
- Analysis of existing data on the San Francisco taxi system, such as the Police Department's surveys of taxi availability and the Spring 2001 survey of public perceptions of taxi service undertaken for the San Francisco Chamber of Commerce. These data are presented in Appendix C, along with a discussion of previous San Francisco taxi reform efforts, such as the 1998 Taxi Task Force, and the existing legislative basis for taxi regulation in San Francisco.
- Interviews with key stakeholders in the San Francisco taxi industry. These stakeholders include business organizations, the hospitality industry and groups representing seniors and disabled people, as well as taxi firms, permit holders and drivers. These are documented in Appendix D.
- A peer review of taxi service and innovations in other cities, both in North America and elsewhere. The findings are presented in Appendix E.

Further appendices provide a glossary of key terms used in this report, and the full text of Proposition K (1978) and Proposition D (1998), which govern taxi regulation in San Francisco.

4. ISSUES WITH SAN FRANCISCO TAXI SERVICE

Availability – or rather the lack of it – is the key problem with taxi service in San Francisco at present. That is the conclusion from Police Department Taxi Detail dispatch survey data, the Chamber of Commerce survey of public attitudes, and the current study's interviews with stakeholders. According to the dispatch survey, the chance of successfully telephoning for a taxi in Fall 2000 was just 40%.

Poor availability does not *necessarily* mean that there are too few taxis on the streets. Availability is not the same as supply, because both supply and distribution determine availability. Poor availability in some parts of the city may be due to taxis clustering at more lucrative locations such as the airport or downtown hotels, rather than to a shortage of cabs. Dispatch technology, the number of taxis handled by each dispatch service, and the incentives for drivers to accept radio orders are other important factors that affect availability, but not the overall supply of licensed taxis.

Structural problems within the taxi industry, such as poor enforcement of regulations and the lack of incentives for firms to carry more passengers, contribute to poor availability. The extent to which availability problems are caused by too few licensed taxis is difficult to say, in the absence of incentives for firms to maximize the efficiency of their fleet and improve distribution.

The availability problem is one of achievement rather than standards. The Taxi Commission has set the following goals for response times:

- 70% of the time, taxicabs will arrive within ten minutes of the service call
- 80% of the time, taxicabs will arrive within 15 minutes of the service call
- 99% of the time, taxicabs will arrive within 30 minutes of the service call
- All firms operating ramped (wheelchair accessible) taxis must provide an average response time of 20 minutes

Currently there is no enforcement mechanism for these standards at either the driver, permit holder, firm or industry level. Therefore, it is not surprising that the industry does not meet them.

The regulatory framework for the current San Francisco taxi system is specified by the 1978 Proposition K. In a system thought to be unique in the United States, medallions issued since 1978 are held by individuals, not cab firms, and may not be sold or transferred. Medallion holders are required to be active, full-time drivers (the 'driving requirement'). The implications of Proposition K are discussed in more detail in Appendix C, and the full text is reproduced in Appendix F.

Prop. K has helped San Francisco avoid many of the problems experienced by cities such as New York, Boston and Toronto. In New York, for example, drivers who wish to become

medallion holders must purchase them for prices upwards of \$200,000. Capital gains from the rising value of the medallion are realized by the medallion holder when he/she sells the medallion, rather than being retained within the industry. A significant portion of fare revenue thus goes to amortize the cost incurred by the new owner of the medallion.

In contrast, San Francisco medallions issued after 1978 (post-K medallions) are not transferable, and hence their cost is fixed by the City government. The permit holder does

The basic flaw in the current structure of the industry under Proposition K is that none of the industry participants have an incentive to expand the market for taxis.

not need to purchase a medallion, but is granted one by the City after reaching the head of the waiting list. The only costs to him or her are the fees levied by the City, which currently amount to \$550 per year plus a one-time filing fee of \$450. The industry structure under Proposition K has helped to retain experienced drivers, due to the requirement that medallion holders be full-time drivers. It also has ensured that medallion holders as well as firms share in industry profits.

The situation is different, however, for non-permit holding drivers. These drivers are required to lease a medallion from the permit holder, generally through a taxi firm. Lease fees of about \$60 a day are paid to permit holders for the privilege of using a permit at times when the permit holder is not driving. Assuming the whole lease fee is ultimately recovered from passengers, at 50 trips per day these fees add more than \$1 to the cost of each taxi ride.¹ In turn, the higher fares depress the demand for taxis, and reduce ridership.

Even though these revenues remain inside the industry², they represent a profit to the permit holder that is not earned through driving a taxi, but is artificially created by the scarcity of medallions. This creates a significant income disparity between permit holders and other drivers, in effect creating a 'caste system'. Non-permit holding drivers and passengers ultimately bear the cost of the lease fees, as firms recapture the cost of lease payments to permit holders through the fees charged to drivers, and through the upward pressure on fares.

Another shortcoming of Proposition K is the absence of a link between medallion distribution and performance. Even though medallions are one of the key tools that the City could use to improve service quality and availability, at present they are allocated simply according to a waiting list.

The basic flaw in the current structure of the industry under Proposition K, however, is that none of the industry participants have an incentive to expand the market for taxis.

- **Drivers** are more concerned about competing for a finite pool of passengers in the short-run than increasing the long-run size of the pool of business. Any increase in

¹ While fares are determined by the Board of Supervisors, one of the key factors considered when setting fares is industry costs, including lease fees.

² More correctly, they would remain inside the industry if the requirement for medallion holders to be an active, full-time driver were enforced.

taxi numbers is seen as reducing the amount of business for existing taxis, even if this increase is required to develop growth in ridership. Not surprisingly, drivers focus on the short-term, seeking to maximize the profit from each individual trip, rather than helping to create a reliable service that would expand the market share of the taxi industry.

- **Permit holders** have the same incentives as other drivers to compete for a finite pool of passengers, rather than increasing the size of the pool of business. In addition, they are reluctant to see more permits issued, as this would reduce the scarcity value of their permit, and thus lease fees.
- **Taxi firms** make profits from leasing vehicles and permits. They generally have an interest in seeing more medallions issued, although even this may be questionable if the firm is owned by permit holders, as in the DeSoto co-operative. Firms have no direct incentive to carry more passengers. A firm's revenue is derived through the 'gate fee' paid by drivers, and is the same regardless of how many passengers a driver carries on his or her shift.

According to dispatch surveys conducted by the Police Department's Taxi Detail, the chance of successfully telephoning for a cab declined from 51% in 1997 to 40% in 2000.

Other concerns with the current state of affairs include inadequate driver training, high driver turnover, and the functioning of the Taxi Commission. These are considered in more detail below. The key issue, however, remains one of availability, and the structure of the industry that provides few incentives to improve availability.

Since 1978, there have been two major initiatives to improve taxi service in the city: Mayor Agnos' Committee on Taxis, and Mayor Brown's Taxi Task Force. Both are discussed in more detail in Appendix C.

- Few of the recommendations of the Agnos Committee on Taxis were implemented, because Art Agnos was not re-elected as mayor.
- The Taxi Task Force was extremely successful in generating a broad consensus among industry and other stakeholders, including the hospitality industry and paratransit users, and the bulk of its recommendations were implemented. Many of these, such as increased driver training, have helped to improve service quality and working conditions. However, the Task Force's recommendations appear to have had little impact on improving service. According to dispatch surveys conducted by the Police Department's Taxi Detail, the chance of successfully telephoning for a cab declined from 51% in 1997 to 40% in 2000. Partly due to the need to maintain consensus among its diverse members, many of whom had a strong interest in maintaining the status quo, the Task Force recommended few structural reforms to the taxi system in San Francisco.

Availability

The most reliable information on the availability of taxis comes from the dispatch survey conducted by the Taxi Detail. The most recent results, from October 2000, paint a dismal picture of taxi service in San Francisco. As discussed in Appendix C, of 588 calls made by Detail members, 170 were not even answered, and 20 were told that there were no available cabs. Of the remainder, 237 cabs arrived (40% of the total calls), with an average response time of ten minutes, and there were 161 'no shows'.

Results varied by time of day and day of week, but in virtually no instance were they satisfactory. The poorest results were on Thursday and Friday, when just 29% of the calls resulted in a taxi arriving.

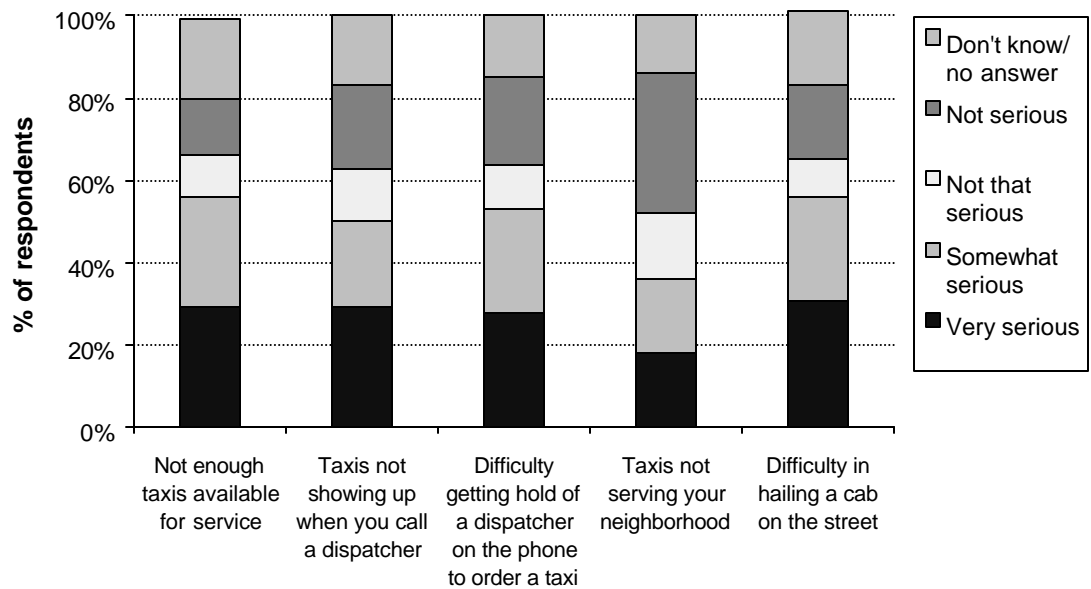
The results of the dispatch survey were corroborated by a survey of 384 registered voters conducted for the San Francisco Chamber of Commerce in Spring 2001. This included several questions concerning taxi availability. As shown in Figure 3 below, more than half of respondents thought that difficulty in hailing a cab on the street was a "very serious" or "somewhat serious problem". Similar proportions complained about not enough taxis available for service, taxis not showing up when calling a dispatcher, and difficulty in getting hold of a dispatcher on the telephone.

This perceived poor availability is as important as actual dispatch performance. If people are to rely on taxis as a viable alternative to the private automobile, they must feel confident that they will be able to obtain a cab. It will be difficult to increase taxi mode share if perceived availability remains poor.

When asked what time of day it is most difficult to get a taxi, 49% of respondents answered rush hours, 26% late at night and ten percent other times, with the remainder answering "don't know" or not responding. Both these results and comments made during stakeholder interviews suggest that availability is primarily a concern at peak times, and to a lesser extent during the evening. However, this is not to say that taxi service is reliable at other times, as the Taxi Detail's dispatch survey suggests.

A common complaint of taxi drivers about illegal pickups by limousines, out-of-town taxis and other vehicles constitutes further evidence of poor availability of taxis in San Francisco.

Figure 3 Perceptions of Taxi Availability



Source: San Francisco Chamber of Commerce, 2001.

Major issues related to availability include:

- Reliability.** Even if a passenger gets through to the dispatch firm, and is promised a taxi, there is a 60% chance that no cab will arrive, according to the Taxi Detail's dispatch survey. Partly, this is due to broader issues of availability, such as numbers of medallions and distribution. However, reliability problems are exacerbated by a "vicious circle" that is operating at present. Passengers know there is a strong likelihood that no taxi will show up, and therefore call multiple firms. In turn, drivers know that many passengers call multiple firms, and thus do not show up on the basis that the passenger will already have taken another cab. In addition, dispatchers have no way of requiring taxi drivers to accept calls, due to their independent contractor status. Since most drivers are not employees, they are free to accept or reject calls as they wish. Rather than maximizing availability and the efficiency of the fleet, dispatchers are reduced to an 'information board' service, which drivers can ignore at will.
- Response times.** Currently, dispatch service is less fragmented than the industry as a whole. There are nine dispatch firms compared to 33 taxi firms. However, there are still sufficient competing dispatch operations that there is a strong likelihood that the closest available cab affiliated to a certain dispatch service is not the closest available cab. If a passenger calls a dispatch service at random, there is only a one

in nine chance that the closest available taxi will be affiliated to the dispatch service called.³

- **Neighborhood service and distribution.** Responding to the same incentives that drive the rest of the economy, drivers tend to congregate where the most profitable fares are, particularly downtown, at hotels and at the airport. This results in a deficit of cabs in some locations, and poor service in outer neighborhoods, particularly where densities and/or incomes are low.
- **Availability to seniors and people with disabilities.** While 70 ramp (wheelchair accessible) taxi permits have been issued, there is no requirement for drivers of these vehicles to substantially dedicate their time to people with disabilities. The current regulation requiring them to transport three wheelchair-bound passengers per shift, if available, is unenforced. There are major reliability problems with ramp cabs at present, meaning many are out of service at any one time, and firms are increasingly refusing to maintain them, passing the responsibility to permit holders. Anecdotal evidence suggests that some drivers are reluctant to service locations frequented by seniors and other paratransit users such as grocery stores and clinics, due to a perception that these people will tip poorly, take short trips, and require assistance with luggage and getting in and out of the vehicle.
- **Refusals on grounds of racial discrimination.** According to the survey by the Chamber of Commerce, 36% of respondents considered this a “very serious” problem. People of color interviewed during this project agreed this is a major problem.
- **Overly politicized process for putting taxis on the street.** Numbers of medallions at present are determined by the Taxi Commission through Public Convenience and Necessity (PC&N) hearings. In theory, the onus is on applicants for new medallions to show that the public convenience and necessity requires the issuance of additional permits. The decision, however, is essentially a political one. The most recent approval of 500 medallions in Fall 2000, for example, can be seen as a direct response to a recent unsuccessful ballot initiative that drew attention to poor availability. Some input to the PC&N process is provided by the Taxi Detail’s dispatch survey, but it is highly doubtful this has a major influence on the Commission’s decision. In theory, the current system means the determination of medallion numbers is a public process. In practice, it means that the industry itself, through its power on the Commission, is the overriding influence.
- **Data.** The only available data on industry performance come from the Taxi Detail’s dispatch survey. Currently, there are no comprehensive data on driver incomes, passenger numbers or availability at different times and in different neighborhoods, let alone more complex issues such as elasticity of demand with respect to availability and fares. Such information is essential to make objective decisions on permit numbers and fares.

³ Since the numbers of taxis and quality of dispatch operations varies considerably between firms, this probability will vary depending on the dispatch service called. However, on aggregate, the probability is one in nine.

Customer service

The stakeholder interviews conducted by the study team suggested that service quality generally is considered satisfactory, or at worst a far lesser problem than availability. For example, the Chamber of Commerce survey found that just 26% of respondents considered dirty or poorly maintained taxis a “very serious” or “somewhat serious” problem.

Taxi firms are not in the business of carrying passengers. They are in the vehicle leasing business. They derive no direct financial benefit from carrying more passengers.

There are, however, two key issues that need to be addressed:

- **Many drivers lack sufficient geographical knowledge.** This was a common complaint in stakeholder interviews and, to a lesser extent, in the Chamber of Commerce survey.
- **Driver turnover is high.** Although evidence here is largely anecdotal, some estimates⁴ put annual driver turnover as high as one-third. Driver retention is important to maintain a high level of customer service, because there appears to be a strong correlation between driver experience and service quality. Reduced turnover also can be expected to contribute to availability and efficiency, because experienced drivers are more likely to know where to find fares at places other than

downtown hotels and the airport. Key issues influencing turnover are income levels (which are affected by, but not equivalent to fare levels), benefits such as health insurance and retirement provision, and safety.

Information

At present, the information available to passengers, and more importantly *potential* passengers, is virtually nil. Advertising undertaken by taxi firms is minimal, and for passengers using the Yellow Pages, there is no way to determine which firms have the largest fleets or best response times. The dispatch performance figures compiled by the Taxi Detail are not publicized, even on the Taxi Commission’s web site.

Structural problems

While structural problems are largely invisible to passengers, they are critical to improving industry performance. They affect the incentives to drivers and firms to carry more passengers, enforcement, and the overall strategic lead given to the industry. These issues are difficult to prioritize, and are not presented in any particular order.

- **Taxi firms are not in the business of carrying passengers.** They are in the vehicle leasing business. Firms derive their revenue from leasing vehicles and permits to drivers. They derive no direct financial benefit from carrying more passengers, and compete with each other for permit holders and to a lesser extent drivers, not passengers. Even though much of the investment in dispatch systems, for example,

⁴ These estimates were made by taxi drivers in the course of stakeholder interviews.

- **Taxi firms have problems raising capital.** Since few firms are in possession of pre-K corporate permits, most are dependent on retaining their permit holders to continue their existence. This lack of security makes financial institutions reluctant to lend to taxi firms. Companies started in recent years, such as Service Taxi, have been financed with the assets of their shareholders.
- **No industry actor has a direct incentive to expand the market.** This means that marketing of taxi services, and the incentives to improve performance, are virtually non-existent.
- **Regulations focus on drivers, not firms.** Many of the current regulations that seek to improve service are focused on drivers. For example, drivers are required to respond to a certain number of radio calls per shift. This significantly hampers enforcement, because regulators have to deal with 6,000 drivers, rather than 33 firms. It also makes it more difficult to justify stringent performance standards. Due simply to the numbers of trips involved, indicators such as the percentage of trips made to and from underserved neighborhoods will be more statistically significant at the level of the firms than the individual driver. Moreover, what is important from the passenger's point of view is whether a taxi arrives, not whether each driver is responding to a specified number of calls.
- **Many regulations are not effectively enforced.** Regulations that are largely unenforced include the requirement for medallion holders to be full-time drivers (where the lack of enforcement is largely due to backlogs at the Taxi Commission and undue lenience shown by the Board of Permit Appeals), and dispatch requirements such as for telephones to be answered within six rings, for two-way radios to be turned on at all times, and for drivers to accept at least one radio call per hour if available. A related issue is fraud; compelling anecdotal evidence suggests that falsification of waybills is widespread.
- **There is an artificial distinction between permit holders and drivers.** The benefits of the scarcity of medallions accrue to permit holders, who are able to lease their medallions when they are not driving for around \$60 per day. Other drivers and passengers are forced to bear the cost of these lease fees. The distinction between permit holders and other drivers bears little relation to experience or skill, but merely the length of time spent on the waiting list for a medallion. Apart from a recently introduced requirement to have driven 156 shifts in the year before a medallion is issued, those on the waiting list are not even required to be taxi drivers while they wait to receive their medallion.
- **The Taxi Commission has failed to take a strategic perspective.** The Commission appears to be preoccupied with detailed issues that are largely internal to the industry. The Commission's priorities are those of the industry, not passengers. Much of its work consists of disciplinary hearings for individual drivers, which might be considered the proper responsibility of taxi firms. The Commission also has been hampered by a lack of staff; until Summer 2001, for no apparent reason it had not filled either of the two vacancies that had existed since its creation.

At present, the public comment component of Commission meetings is not used for public comment. It provides a useful platform for drivers and permit holders not represented on the Commission, but this is not a substitute for public comment, and focuses the Commission even more towards the internal workings of the industry, rather than outwards towards service to passengers. As with most Commissions, the same individuals tend to address each Commission meeting, and the public comment procedures have been abused by lobbying firms, which have brought literally hundreds of 'individuals' to address Commission meetings to support the viewpoint of their clients.

Many of the recommendations of this study will fall to the Commission to implement. An effective Commission is thus essential to ensure that this takes place.

5. SPUR'S RECOMMENDED REFORMS

Core principles

The package of reforms which SPUR recommends for San Francisco's taxi system in this section is based on the following core principles:

- **The reforms should give taxi firms a direct incentive to carry more passengers.** This would be achieved primarily by mandating a split-meter system. Instead of the present flat 'gate fee' charged by firms to drivers to lease the car, firms would receive a percentage of the fares collected by drivers.
- **The City should use effective means to promote prompt response to passenger calls for taxis from all parts of the city.** The permits of taxi firms, and their right to accept more medallion holders, should be made conditional on achieving performance targets.
- **The process of determining medallion numbers should be depoliticized.** The number of medallions should be set according to a specific formula based on availability, rather than subject to the political vagaries of the Public Convenience and Necessity process. Poor availability would automatically lead to the issue of more medallions.
- **Medallions should remain the property of the people of San Francisco.** Any new medallions should be strictly non-transferable, as under Proposition K.
- **Regulations intended to improve taxi availability should be focused on taxi firms and dispatch services, not on individual drivers.** The task of ensuring that sufficient taxis are available is most effectively monitored, managed and enforced at this level. In addition, it gives individual drivers the flexibility to focus on their preferred type of work. Provided that performance is maintained at the firm level, which is a management task for firms and dispatch services, drivers should be free to concentrate on street hails, radio calls or airport work as they wish.

The task of increasing taxi use and improving performance is one for firms. The task for regulators is to give firms the incentives to increase ridership and improve performance that they do not have at present. A wide variety of strategies are available to firms to improve availability, such as better dispatch equipment, rewards to drivers that accept hard-to-fill orders (for example with airport runs), staggering shift changes, making some drivers employees, and order sharing between firms. Firms should be free to develop their own preferred package of options, and to pursue innovative strategies to improve performance.

By giving firms incentives to carry more passengers, they are likely to seek innovative means to expand the total taxi market. This might involve industry-wide marketing campaigns, educational initiatives highlighting the best places for passengers to hail a cab, discounted fares and service guarantees. The recommendations here will turn taxi companies from vehicle leasing companies, who derive revenue from the flat gate fee

charged to drivers, into true passenger service firms, with every incentive to expand the market.

Another problem identified in this study that is not addressed by these recommendations is the lease fees paid to permit holders by non-permit holding drivers (and ultimately passengers). As discussed above, these create a 'caste system' of two artificial classes of driver. Lease fees are not earned by permit holders through driving a taxi, but are collected simply by virtue of the scarcity of medallions. However, SPUR has not been able to identify a solution that eliminates lease fees while preserving the service quality benefits of individual ownership of medallions. These benefits include:

- Retention of an experienced core of drivers in what is otherwise a high-turnover occupation.
- Better vehicle quality, as the person responsible for the vehicle actually drives it.
- Provision for meaningful profit-sharing between permit-holding drivers and cab firms, and a stake in the industry for permit-holding drivers.

Two potential options that were considered and rejected in the course of the study, 'good-service medallions' owned by firms and non-leasable driver-only medallions, are discussed in the 'Rejected Options' section below. Instead, a renewed cap on lease fees which is actively enforced will limit the extent to which lease fees drain revenue from firms and non-permit holding drivers, and put upward pressure on fares. In addition, the competitive pressure on firms to provide good service and carry more passengers will reduce the amount of lease fees that they are willing and able to pay. Rather than simply competing for permit holders, firms will be competing for passengers as well. Finally, if permit fees need to be raised to provide more revenue to the Taxi Commission, the largest share should come from permit holders, rather than drivers or firms.

Figure 4 summarizes the 26 recommended policy options. They are considered in more detail below, under broad themes as follows:

- Key structural changes to the taxi industry
- Other recommendations to improve availability, reliability and response times
- Fares
- Service quality
- Driver retention
- Information available to passengers
- Coordination with transit services
- Data on taxi availability
- Clean-fuel vehicles

Recommendations are frequently framed in general terms to permit the Taxi Commission, Mayor and Board of Supervisors to refine them in light of experience.

Figure 4 Summary of SPUR’s Recommendations

Recommendation	Impact	Implementation
Key structural changes		
A. Depoliticize the process of setting numbers of medallions, by basing them on taxi availability	Ensure that sufficient taxis are available to meet peak passenger demand Remove the political uncertainty in determining numbers Give firms and drivers an incentive to improve availability Allow firms to do long-term business planning	Ballot measure required
B. Mandate a split-meter system	Give firms a direct incentive to carry more passengers Give firms an incentive to meet availability targets, to avoid the automatic release of more medallions Share risk of slow business between drivers and firms	Board of Supervisors or ballot measure
C. Allow firms to grow based on performance	Provide incentives for firms to improve availability Reward the best performing firms	Board of Supervisors or ballot measure
Improve Availability, Reliability, and Response Times		
D. Issue peak-time medallions	Ensure availability at peak times, without jeopardizing driver incomes Improve match between supply and demand	Taxi Commission or ballot measure
E. Abolish requirements for drivers to take a minimum number of calls per shift	Shift responsibility for ensuring availability from drivers to firms and dispatch services	Taxi Commission or ballot measure
F. Mandate minimum capabilities for dispatch services	Improve customer service Encourage consolidation of dispatch services Provide availability data to regulators	Taxi Commission or ballot measure
G. Provide incentives to drivers and passengers for taxi sharing	Increase efficiency Reduce cost to passengers Increase availability at peak times Boost driver incomes	Taxi Commission, Department of Parking and Traffic, Muni
H. Designate taxi stands where required	Make it easier for passengers to find taxis Improve traffic flow and reduce congestion Improve integration with transit	Department of Parking and Traffic, Taxi Commission
I. Muni should specify contractual performance standards for ramp (wheelchair-accessible) taxis	Improve availability of ramp taxis	Muni
J. Allow tips to be included in paratransit scrips	Improve availability to paratransit users, through reducing driver perceptions that they will not tip	Muni
Fares		
K. Collect data to support fare-setting decisions	Aid the Controller’s recommendation to the Board of Supervisors on maximum fare levels.	Controller
L. Require credit cards to be accepted in all taxis	Improve customer convenience Improve driver safety	Taxi Commission or ballot measure
Service Quality		
M. Issue medallions according to experience and merit	Improve service quality Ensure medallions are issued on merit	Board of Supervisors
N. Introduce a stringent final driver examination	Improve service quality	Taxi Commission or ballot measure

Recommendation	Impact	Implementation
Driver Retention		
O. Mandate safety features	Improve driver safety Improve customer service through better driver retention	Board of Supervisors or ballot measure
P. Facilitate the provision of health insurance	Improve customer service through better driver retention	Department of Public Health, Taxi Commission
Information		
Q. Publicize dispatch performance	Incentive for firms to improve performance Improve information to passengers	Taxi Commission
R. Mark taxi stands on Muni maps	Ensure visitors know the most likely places to hail a cab	Muni
Taxi Commission		
S. Merge the Taxi Commission and Municipal Transportation Agency	Improve integration of taxis and transit services Ensure adequate expertise is available to Taxi Commission	Taxi Commission, MTA, Board of Supervisors
T. Enforce the driving requirement for medallion holders	Allow Taxi Commission to take a strategic perspective Ensure medallion holders are full-time drivers	Board of Supervisors, Mayor
Coordination with Transit Services		
U. Introduce joint taxi-transit tickets	Encourage transit and taxi use, reducing automobile mode share	Muni
V. Provide taxi reservations on-board transit vehicles	Encourage transit and taxi use, reducing automobile mode share	Muni
W. Provide local transit service using shared taxis	Improve efficiency of the transit system	Muni
Data on Taxi Availability		
X. Expand and contract out the Taxi Detail dispatch survey	Improve data on which to base decisions on medallion numbers Ensure data collection methodology is seen to be fair	Taxi Detail staff, Taxi Commission
Y. Require electronic reporting by taxi firms	Improve data on which to base decisions on medallion numbers	Taxi Commission
Clean-fuel vehicles		
Z. Require clean-fuel vehicles	Reduce environmental impact of taxis Strengthen the environmental case for increasing taxi use	Taxi Commission

Effects on passengers and industry profitability

This package of reforms will benefit most stakeholders in the taxi industry, including passengers. They would provide direct financial incentives to firms to grow the market and improve availability, and performance-based standards that will reward firms that provide the best service.

- **Firms will benefit**, provided they rise to the challenge of improving availability and carrying more passengers. The ability of a firm to grow and accept new medallion holders will be made conditional on meeting performance standards. Rather than capped under a gate fee, as at present, revenue under the split-meter system will depend on the number of passengers carried. This will give firms enormous potential to increase profits by increasing market share and efficiency. These profits will help fund the required investment in dispatch technology.
- **Drivers and permit holders will benefit**, as the split-meter system will mean that they no longer bear the sole risk of slow business and traffic congestion. Strict caps on the proportion of the meter take that may go to a firm would safeguard driver incomes.

Most importantly, increasing taxi efficiency and market share will benefit both drivers and consumers. The incentives of firms and drivers will be aligned to strive for greater efficiency and maximize revenue per cab. The larger the market share, the greater the efficiency (in terms of the proportion of time a taxi is occupied and thus earning revenue) that can be achieved while maintaining the same availability.

For example:

- In a fleet of 1,000 taxis, 500 occupied taxis and 500 available taxis corresponds to an efficiency rate of 50%.
- In a fleet of 1,500 taxis, 1,000 occupied taxis and 500 available taxis correspond to an efficiency rate of 67%.

The same number of cars (500) is available to accept passengers in both of the examples above, but efficiency and driver earnings are dramatically higher in the second example. In other words, the larger the market share of taxis, the higher driver incomes can be, even if an increase in fleet size is needed to achieve this.

None of the proposals presented here automatically means that drivers would become employees, rather than independent contractors as at present. However, some firms may decide to make their drivers employees, in order to be able to direct them to accept specific orders, to ensure the firm can meet its performance targets.

- **Passengers will benefit**, through the incentives given to firms to carry more passengers and improve service; the automatic release of more medallions if

availability targets fail to be met; and through the introduction of advanced dispatch technology.

Detailed recommendations

Key structural changes

Recommendation A: Depoliticize the process of setting numbers of medallions, by basing them on availability

Goals for availability already are established in Taxi Commission rules, as follows:

- 70% of the time, taxicabs will arrive within ten minutes of the service call
- 80% of the time, taxicabs will arrive within 15 minutes of the service call
- 99% of the time, taxicabs will arrive within 30 minutes of the service call
- All firms operating ramped taxis must provide an average response time of 20 minutes

Since a key determinant of availability is numbers of cabs, failure to meet these availability targets, as determined by dispatch surveys, would trigger an automatic increase in the number of medallions. This would be a Taxi Detail or Taxi Commission staff responsibility, and not require Taxi Commission involvement. The Public Convenience and Necessity process would be abolished, thereby depoliticizing the process of setting taxi numbers.

The dispatch survey currently undertaken by the Taxi Detail would be expanded. To ensure that it is seen to be fair and objective, it should be contracted out to an independent firm with expertise in data collection, as detailed in Recommendation X below.

Supply, in terms of the number of medallions, is only one determinant of availability, but is the key determinant that lies within the control of regulators. Distribution, determined by factors such as the efficiency of the dispatch operation, is controlled by taxi firms and drivers. However, the split-meter system recommended by SPUR (see Recommendation B below), would give firms a strong financial incentive to improve efficiency and availability, in turn limiting the total number of medallions. With a split-meter system, firms would derive revenue from fares, rather than leasing vehicles, and would maximize profit by carrying the maximum number of passengers with the minimum number of vehicles. They would therefore strive to improve availability as much as possible, to avoid the automatic release of new medallions. Without gate fees, firms would have an interest in keeping the total number of medallions as low as possible, for the same reasons that drivers do at present. Within that total, of course, they would want to secure the largest share of medallions for their business.

The present availability targets cover only telephone orders. They should be extended to include street hails and taxi stands, which already are monitored in the Taxi Detail's dispatch survey. For the street hail survey, the Taxi Commission should establish a large number of potential sampling points, at which passengers should reasonably expect to be able to hail a taxi. As well as the urban core of the downtown, the Financial District and North Beach, these points should include locations such as Castro Street Station, Stonestown Galleria, the Caltrain station and South of Market venues late at night.

A combined performance index should be derived by weighting the telephone dispatch survey (50%) and street hail survey (50%). The 50% weighting given to telephone orders would ensure that firms could not neglect neighborhood service. As detailed in Recommendation X below, the dispatch survey would be contracted out to a specialist firm, and include all neighborhoods.

New medallions should be issued in blocks of 25 for each five percent shortfall in performance. A shortfall of up to five percent would result in the issuance of 25 new medallions. A shortfall of five to ten percent would result in the issuance of 50 new medallions, and so on.

If the availability targets were exceeded by more than ten percent, there should be a moratorium on the issuance of new permits to replace those revoked or turned in. This would help bring supply back into line with demand in the event of an economic downturn or other events which reduced demand for taxis (such as the BART extension to San Francisco International Airport).

Implementation

The Taxi Commission could use a formula to determine medallion numbers within the existing Public Convenience and Necessity process, but the Commission would not be bound by the formula under current law. A ballot measure would be required to abolish the current Public Convenience and Necessity process adopted with Proposition K, and to make the determination of medallion numbers a formula-based staff responsibility.

Recommendation B: Mandate a split-meter system

Sharing fare revenue between the firm and the driver (the split meter) is SPUR's primary recommendation to give firms a direct financial incentive to carry more passengers, an incentive which is currently absent. This would give firms incentives to market their services effectively, grow the total market by providing a more reliable service, and compete with each other for passengers, rather than just for permit holders. Since the marginal cost of each additional trip would be virtually zero, these incentives would be extremely powerful. The split meter would also be likely to stimulate investment in dispatch systems, in order to improve the efficiency of the fleet.

The split meter would also provide a strong incentive for firms to improve efficiency and meet availability targets, in order to avoid the automatic release of more medallions that

could reduce their profits under a split-meter system. In contrast to the current flat-rate gate system, the interests of drivers and firms would be aligned in maximizing the efficiency of the fleet, i.e. the amount of revenue per cab. Although they would seek the largest possible market share, firms would desire the overall industry fleet size to be as low as possible, for the same reasons that drivers oppose the issuance of more medallions at present. Firms would make their money from carrying passengers, not from leasing vehicles.

For the industry as a whole, therefore, an additional cab would only be economic if total industry revenue grew by more than the marginal cost of adding the cab. This would ensure that there were no perverse incentives for firms to act as a cartel in providing poor service, to secure the automatic release of more medallions.

The increased potential for driver fraud under a split meter, through carrying passengers without turning the meter on, can be countered by the introduction of GPS-based dispatch technology, which will improve the ability of dispatchers to monitor drivers.

The proportion of the meter a firm may take should be capped, but firms should be free to compete for drivers by demanding less than the cap. A cap is essential to prevent drivers being squeezed between regulated fares and an unregulated meter take by firms.

We recommend a meter split of 45% to the firm, and 55% to the driver. For a ten-hour shift grossing \$185, approximately equivalent to five or six airport runs, this would yield approximately \$83.50 to the firm and \$129.50 (including tips of 15%) to the driver. At this level, the firm's income would be equivalent to the current gate fee, and driver income would be slightly above the 'living wage' plus gas.

The incentives to firms to improve efficiency and increase market share would mean revenue would almost certainly rise above this level of \$185 per shift. For a shift grossing \$250, the revenue would be \$112.50 to the firm, and \$175 (including tips of 15%) to the driver.

This would ensure that in the long run, firms would have no interest in keeping a cab on the road if revenues dropped below the 'living wage' level for drivers. Due to the fixed costs of vehicle purchase, firms would be willing to see revenues fall below this level in the short term, if the amount of business were to fall. However, drivers would still be less affected by any slow business than at present, due to the sharing of risk. The split meter would ensure that both firms and drivers share in the profits when business is healthy, and share the risks of slow business with a downturn.

A split meter system is utilized by various firms in Hawaii, Las Vegas, Madison (WI) and Australia. It was also employed in San Francisco prior to Proposition K.

Implementation

The current cap on gate fees is specified in Article 16 of the San Francisco Police Code. This could be revised by the Board of Supervisors to take the form of a proportion of meter revenue, rather than a flat sum.

Recommendation C: Allow firms to grow based on performance

In order to preserve the benefits of individual ownership, while using the City's powers over the distribution of medallions to improve service, firms should be allowed to grow based on performance. Poorly performing firms should have a cap on the number of medallions that they hold or are otherwise affiliated to them.

This cap should be related to the firm's performance, as determined each quarter by the dispatch survey (see Recommendation X), according to four tiers of rewards and sanctions:

- Firms that meet their performance targets each quarter should be allowed to grow without limits, provided that they can attract permit holders from the limited pool.
- Firms that do not meet their performance targets for the past quarter should be capped at their current size, but would be allowed to take in new permit holders to replace any that had left.
- After four consecutive quarters of failing to meet the targets, a firm should forfeit this right to take in replacement permit holders.
- After twelve consecutive quarters of failing to meet the targets, a firm should lose its color scheme permit, and thus be forced to close down.

Permit holders would have incentives to affiliate with the best-performing firms, as these would likely provide more revenue.

There is a distinction between industry-wide performance targets and the targets for individual firms, although both would be based on the same data from the dispatch survey. Industry-wide performance targets would include availability through street hails and at taxi stands, as well as the prompt fulfillment of telephone orders. Targets for individual firms would be based solely on their performance in fulfilling telephone orders.

If firms representing more than 80% of medallions failed to meet their performance targets, it would be deemed that the poor performance was due to the overall lack of supply of taxis, rather than just poor fleet management. In such circumstances, more medallions would be automatically released, as in Recommendation A, and no new caps would be imposed. Any cap from the previous quarter would be carried over. The 80% figure is needed to ensure that a large number of new medallions do not go to a single small firm, which may be ill-equipped to cope with such an expansion and may have achieved good performance with an extremely low volume of calls.

Various potential performance scenarios, together with the action that would be taken, are detailed in Figure 5.

Figure 5 Performance Scenarios

Scenario	Outcome
All firms meet performance targets.	No medallion caps for any firm. No new medallions issued.
Some firms fail to meet performance targets. Industry-wide performance targets met.	Medallion caps for firms that fail to meet targets. No new medallions issued.
Industry-wide performance targets not met. Some firms, accounting for at least 20% of medallions, meet performance targets.	Medallion caps for firms that fail to meet targets. New medallions issued, directed to firms that meet their targets.
Industry-wide performance targets not met (peak-period only). Some firms, accounting for at least 20% of medallions, meet performance targets.	Medallion caps for firms that fail to meet targets. New peak-period medallions issued, directed to firms that meet their targets.
Industry-wide performance targets not met. No firm meets performance targets, or firms that meet targets account for less than 20% of medallions.	No medallion caps, other than those 'carried over' from last quarter. New medallions issued.
Industry-wide performance targets not met (peak-period only). No firm meets performance targets, or firms that meet targets account for less than 20% of medallions.	No medallion caps, other than those 'carried over' from last quarter. New peak-period medallions issued.

To avoid the creation of a monopoly, there should be a limit of 60% on the proportion of medallions held by firms belonging to the same dispatch service.

To avoid penalizing firms that perform poorly due to their success in attracting business, for example through attracting more calls than they can handle following a successful marketing campaign, cab firms should have the opportunity to pass calls to another dispatch service. The success or failure of the second firm in fulfilling the order would be counted when determining performance figures for both firms. This system would create powerful incentives for order sharing, and creation of automatic systems to achieve this. It might even lead to some form of centralized dispatch operating alongside regular dispatch systems, while avoiding the pitfalls of mandating centralized dispatch, discussed in the 'Rejected Options' section below.

If, on a consistent basis, firms could neither fulfill orders nor find another firm to accept them, more medallions automatically would be released to cater to demand, as described in Recommendation A above.

Some small firms might wish to specialize in niche markets. Particularly where this involves under-served areas such as Bayview-Hunters Point, this should be encouraged. The proposed performance targets would not hurt these specialist firms, for the following reasons:

- Firms generally would ensure that their Yellow Pages listing and any advertising made it clear to customers that they served a niche market. They would not be deluged by other orders that they could not fulfill.
- Firms could pass any orders they could not handle themselves to another firm.

The level at which performance was measured would depend on the dispatch model adopted by the firm.

- If the firm ran its own independent dispatch service, it would be assessed on its own performance.
- If the firm subscribed to a joint dispatch service (a 'multi-badged call center'), but calls were answered and cabs dispatched in the name of each individual firm, it would be assessed on its own performance.
- If the firm subscribed to a joint dispatch service, which dispatched an available cab to a call regardless of firm, performance would be measured at the level of the dispatch service. Any medallion cap would be imposed on the dispatch service as a whole. How this cap affected distribution of medallions between individual firms within the dispatch service would be a contractual issue for the firms themselves to resolve.

Implementation

This recommendation could be implemented by the Board of Supervisors, through amendments to the San Francisco Police Code.

Improving availability, reliability and response times

Recommendation D: Issue peak-time medallions

Demand for taxi service varies throughout the day. Even without hard data, it is apparent that peak demand occurs in the late afternoon, early evening, and late Friday and Saturday nights. The combination of high demand and congestion at peak commute hours reduces availability. Demand generally remains high into the evening and late evening. People take taxis to and from restaurants and bars to avoid driving under the influence of alcohol. Late evening taxi demand also reflects transit's reduced frequency and perceived safety problems.

Issuing peak-time medallions would bring supply into a better balance with demand at different times of day. More medallions would be issued to address the shortage of taxis at peak times, without flooding the market and adversely affecting driver incomes at other times.

The number of peak-time medallions should be determined through the same process as the overall number of medallions. If availability targets were not being met at any time,

this would trigger an increase in the number of *full-time* medallions. If the targets were not being met at particular times of day only, this would trigger an increase in the number of *peak-time* medallions, using the same formula.

Current Taxi Commission rules that relax vehicle age requirements for peak-time taxis from three to four years should be retained to ensure that peak-time medallions are economically viable.

To aid enforcement and maximize flexibility in meeting demand, peak-period medallions should be valid at any time. However, they should be non-leasable, with only the holder permitted to drive a taxi using a peak-period medallion. The permit holder would be likely to elect to drive at the busiest times.

Implementation

The Taxi Commission is able to issue peak-time medallions under current law. However, as discussed in Recommendation A above, a ballot measure would be required to establish a formula-driven automatic process for determining medallion numbers.

Recommendation E: Abolish requirements for drivers to take a minimum number of calls per shift

Reforms proposed in this report would shift the focus of regulations aimed at improving availability from the driver to the firm level. Regulations such as requiring drivers to take at least one radio call per hour (if available) have proved ineffective and should be abolished in the shift to performance standards for firms.

Implementation

The Taxi Commission could repeal the regulation requiring drivers to take radio calls. However, this change should occur in conjunction with the shift to performance standards for firms.

Recommendation F: Mandate minimum capabilities for dispatch services

At present, there is considerable variation in the size and sophistication of the nine San Francisco dispatch services. The largest fleet size (475 taxis) is handled by Yellow Cab dispatchers, while Luxor, with 155 taxis, probably has the most advanced GPS-based computerized dispatch system.⁵

Mandating minimum capabilities for dispatch services would considerably improve the service to the customer, and provide reliable data to regulatory authorities on response times, numbers of calls handled, and other indicators of availability. These data could be

⁵ Fleet sizes and other figures related to the number of medallions are current as of April 2001.

downloaded by regulators directly from dispatch services' computers, and eventually would replace the dispatch survey presently conducted by the Taxi Detail.

The minimum requirements should include:

- All cabs fitted with GPS transponders (already mandated through the Muni paratransit program) and mobile data terminals
- Calls dispatched to a nearby available cab while the customer is on the line
- Estimated response time and confirmation code given to passengers
- Real-time Web-based information on available cabs and current response times
- Ability to produce reports for regulators on percentage of calls answered, percentage of calls dispatched, response times, average fare, and proportion of time available/ occupied, all tabulated by time of day and neighborhood
- Waybills (trip log sheets) automatically generated, to aid enforcement of the driving requirement for medallion holders and reduce the potential for fraud.

These requirements should spur further consolidation in the dispatch market, due to the investment required. Consolidation would improve response times, because the larger the fleet handled by a given dispatch service, the greater the likelihood the closest available taxi will be dispatched to a call. Most of the benefits of centralized dispatch in improving efficiency would be achieved, without the drawbacks of imposing centralized dispatch, and limiting the potential for competition to improve service. These drawbacks are considered in more detail in the "Rejected Options" section below.

Consolidation of dispatch services would not necessarily mean that firms lose their individual identity, and cease to compete. The 'multi-badged call center' concept, in widespread use in Australia, allows firms to use the same dispatch service, while telephones continue to be answered and cabs dispatched in the name of the individual firm. If a taxi from the requested firm is not available, the passenger can be given the option of a taxi from another firm handled by the same dispatch service.

Consolidation of dispatch services, or a system of sharing unfulfilled orders among firms, also would be encouraged by the system of performance standards in Recommendation C. A firm could improve its performance rating by passing on its unfulfilled orders to other firms, or by joining a larger dispatch service.

Consolidation of dispatch operations would reduce the capital investment required by taxi firms. Small firms in particular would be likely to pay lease fees to the dispatch service, which would fund the up-front capital investment. These dispatch services need not even be taxi firms themselves, but could instead be completely separate entities.

Implementation

Rules and requirements for dispatch services, such as for 24-hour operation, already have been established by the Taxi Commission. These rules could be extended to include detailed technological specifications.

Recommendation G: Provide incentives to drivers and passengers for taxi sharing

If ten percent of taxi trips were undertaken on a shared-ride basis, with two passengers or groups of passengers sharing, demand for taxis would fall by five percent. This option has four significant advantages.

- It reduces the demand for vehicles while satisfying passenger demand.
- It reduces demand for vehicles at peak periods, when availability is most limited, since sharing is likely to be most prevalent in busy areas and at busy times.
- It strengthens the environmental case for taxis by improving the efficiency of the taxi system.
- It can increase driver income and reduce the cost of taxi service for passengers, with adoption of an appropriate fare structure.

Regulations permitting taxi sharing already have been adopted, but taxi sharing is not occurring. To achieve this, the following steps should be taken:

- The Taxi Commission and Department of Parking and Traffic could provide signage at key cab stands to inform passengers of the rules and etiquette of taxi sharing. They should set up special stands in the Marina for peak service to the Financial District, as a pilot initiative. The Taxi Commission should also oversee a publicity campaign, directed at both the public and drivers.
- Set a flat fare for shared taxis between popular destinations, such as the Financial District and the Marina. This might be approximately 75% of the normal metered fare for passengers (giving drivers 150% of the normal fare), to give incentives to both drivers and passengers to share.
- Employ staff ('starters') to group passengers by destination at busy locations at certain times such as the Moscone Center, key Financial District intersections, and the Opera House and Symphony Hall. Starters might be funded by the relevant institutions, or taxi firms might be required to fund them based on fleet size. Hotel doormen should perform the same function at hotel stands.

Implementation

The required regulations already have been adopted. The Taxi Commission should give higher priority to implementing them.

Recommendation H: Designate taxi stands where required

By aggregating supply and demand at specific locations, taxi stands serve four key purposes:

- They make it easier for passengers to find an available taxi, as taxi supply is concentrated at key points.
- They reduce the need for drivers to 'cruise' in search of passengers, a practice which increases 'dead' (unpaid) mileage, contributes to traffic congestion, and can pose safety hazards if drivers make sudden swerves to pick up passengers.
- If located at transit centers such as Muni Metro and BART stations, they can extend the reach of fixed-route transit services.
- If properly located, they can reinforce neighborhood commercial centers.

The Department of Parking and Traffic should designate taxi stands at locations where taxis naturally congregate, in consultation with Taxi Commission staff and the Planning Department. Sufficient curbside space should be made available so that double parking rarely occurs at peak periods. The stands should be clearly marked, and telephones with numbers to dispatch services should be provided.

The implementation procedure should be similar to procedures for establishing loading zones. A request can originate from an adjacent property owner, a neighborhood group, staff, or other organization. Staff determines that in order to best manage traffic flows, parking spaces should be removed and replaced with commercial loading, passenger loading or taxi zones. Commissioners – either Taxi, Parking and Traffic or the Municipal Transportation Agency – need not be involved. To promote integration of taxis with transit services, there should be a presumption in favor of taxi stands at transit stations.

Implementation

This is a responsibility for the Department of Parking and Traffic.

Recommendation I: Muni should specify contractual performance standards for ramped (wheelchair-accessible) taxis

Taxi availability for seniors and people with disabilities will be improved significantly by measures to increase general availability. They will benefit from the same performance standards as other passengers. In order to specifically improve the availability of ramped (wheelchair-accessible) taxis, however, Muni should take responsibility for setting performance standards for availability for them.

Muni is San Francisco's designated paratransit provider, and subsidizes the purchase of many ramped cabs. Muni should determine its desired service level for ramped cabs, and provide sufficient financial incentives to induce firms to purchase enough ramped taxis to meet this level of service. Firms that accept these subsidies would be contractually obliged

to provide the level of service required to meet Muni's availability targets. Other conditions could be imposed by Muni, such as a centralized dispatch service for ramped cabs and perhaps other paratransit modes, if it determined that this was necessary to improve service.

While at present only about 40% of the city-wide ramped taxi fleet would fall under Muni control, Muni would have the full power to increase this proportion, by funding more ramped taxis, if it deemed this necessary to improve service.

Data for enforcement would come through the dispatch survey (see Recommendation X). This would provide the basis for Muni to impose contractual penalties on firms that failed to meet its targets.

Implementation

This recommendation is for Muni to implement.

Recommendation J: Allow tips to be included in paratransit scrips

To combat perceptions among drivers that paratransit users often fail to tip, the Paratransit Co-ordinating Council proposal to allow the new paratransit debit card to be used for tips should be adopted. Passengers would be able to add a tip of up to \$1 to their fare, as part of a closely monitored one-year pilot program. They would be free to add to this tip on a cash basis.

Implementation

Muni should be responsible for implementing this change to the paratransit program.

Fares

Recommendation K: Collect data to support fare-setting decisions

SPUR recommends that maximum fare levels continue to be set by the Board of Supervisors, based on a recommendation from the Controller. The Controller's recommendation should aim to keep fares as low as possible to maximize ridership, while maintaining quality of service. Driver incomes are one important factor influencing quality of service.

More data should be collected to support the Controller's recommendation, particularly on the price elasticity of demand, driver incomes, lease fees and firm costs. Data on average driver incomes should be made the subject of reporting requirements by firms. This would place little burden on firms given that they will already have these data with the move to a split-meter system.

Firms and permit holders are already required to file accounting data with the Controller under the Police Code. This regulation should be enforced.

Implementation

This recommendation is for the Controller to implement. The Taxi Detail or Commission may collect the data.

Recommendation L: Require credit cards to be accepted in all taxis

If passengers are to be able to rely on taxis as a mode of travel, particularly when hailing one on the street, they need to be certain that they can pay by credit card in those instances when they do not have sufficient cash. Mandating that all taxis must accept credit cards would improve payment options for the passenger, and greatly contribute to driver safety through reduced cash handling.

While magnetic card readers and GPS (Global Positioning System) transponders are to be fitted in all cabs through the Muni paratransit program, taxis from smaller firms may still not be able to accept credit cards under the arrangements currently envisaged. While the larger firms will process paratransit debit card transactions themselves, and thus be able to process credit card payment using the same system, paratransit transactions for smaller firms will be handled through the paratransit broker. These firms should be required to make alternative arrangements. A wide variety of mobile credit card authorization devices exist.

Implementation

This recommendation could be implemented by the Taxi Commission.

Service quality

Recommendation M: Issue medallions according to experience and merit

Medallions are currently issued to individuals according to a waiting list. Although a driving requirement applies once the medallion is issued, those on the waiting list do not need to drive, apart from a recently introduced requirement to have driven 156 shifts in the year before a medallion is issued. This means that the issuance of medallions bears little relationship to skill or experience.

Issuance of medallions is one of the most powerful tools that the City has at its disposal to improve service. They should therefore be issued according to a points-based system, with each new medallion issued to the driver with the most points at that time. Points would be awarded for:

- **Hours driven.** In general, medallions should be issued to the most experienced drivers. In order to allow drivers flexibility in their work patterns, while rewarding the most experienced drivers, points should be awarded for total hours driven, rather than years since becoming a driver.

- **Examination performance.** Drivers should receive points based on their performance in the entry examination. All drivers would still be required to pass, but extra credit would be achieved for high marks.
- **Advanced courses.** Points should be awarded for drivers who pass advanced courses, covering knowledge of tourist attractions and carrying passengers with disabilities, for example.
- **Service ratings.** Additional points should be awarded for exceptional service, based on the experience of surveyors posing as regular passengers. This could simply and cheaply be linked to the dispatch survey; rather than simply sending away a taxi when it arrives, surveyors could actually take a taxi trip. Service would be evaluated against tightly defined criteria, covering directness of route, accuracy of fare, safety, assistance with loading and unloading luggage, and so on.

Points should be deducted from drivers who have complaints against them upheld.

Implementation

The current waiting list system for issuing medallions is specified in the Police Code. The Board of Supervisors could pass legislation changing this to a points-based system.

Recommendation N: Introduce a stringent final driver examination

Present taxi driver training requirements set by the Taxi Commission focus on hours of instruction for each course component. The final test is seen by most as a formality. The Taxi Commission should adopt a stringent final examination, including an on-the-road test of drivers' ability to find various popular destinations throughout the city.

The length and depth of training would then be related to the capability of the individual driver. For example, drivers who already have a good geographic knowledge of the city would need little training in city geography.

Minimum hours for some course components should however be retained, particularly in the areas of safety and transporting persons covered by the Americans with Disabilities Act. This would ensure that drivers covered essential areas face-to-face with an instructor.

Implementation

Training requirements are set by the Taxi Commission.

Improve driver retention

Driver experience and an adequate disciplinary mechanism for weeding out errant drivers are key factors determining customer service. Retention of experienced drivers, in turn, is closely related to income, safety and the prospect of obtaining a medallion.

Increased efficiency (in terms of the proportion of time a taxi is occupied) is by far the most effective way to improve driver incomes and hence driver retention. Because the recommendations to improve availability outlined above will increase the efficiency of the fleet, they will also have a major beneficial impact on driver retention. Both firms and drivers will strive to maximize revenue per cab.

Recommendation B, to mandate a split meter system, would ensure the risks of slow business and congestion were shared more equitably between driver and firm. At present, the driver pays a flat gate fee to the taxi firm and assumes the entire risk of slow business.

Recommendation O: Mandate safety features

'Panic buttons' would be a feasible, non-intrusive and relatively cheap safety measure to implement in conjunction with improved GPS-based dispatch technology. However, the exact safety measures mandated should be specified in close consultation with drivers. The Taxi Commission should work with drivers to establish a preferred package of safety measures, which should then be mandated for all taxis.

Implementation

Safety requirements are detailed in the Municipal Police Code. This recommendation could therefore be implemented by the Board of Supervisors.

Recommendation P: Facilitate the provision of health insurance

Health insurance, or the absence thereof, is likely to be a significant factor in driver retention. The City should facilitate the provision of health insurance for drivers by allowing firms to arrange for health insurance through one of the City-sponsored insurance pools established for firms that do business with the City. Firms could decide themselves how much, if any, of the cost of such insurance they would pay.

Implementation

This is a responsibility for the Department of Public Health. The Taxi Commission should follow up to ensure that it is implemented.

Information

The information available to passengers will be significantly improved by adopting minimum dispatch service requirements. In addition, two further options are recommended.

Recommendation Q: Publicize dispatch performance

The results of the dispatch survey, detailing the relative performance of each taxi firm, should be widely publicized. This would allow passengers to make a more informed

decision on which firm to call, and provide further incentives to cab firms to improve dispatch performance.

At a minimum, the results should be prominently featured on the Taxi Commission's web site, and publicized to the media. It would also be desirable for the results to be included in the public service section of the White Pages, and the Yellow Pages. In the latter case, this recommendation could be implemented by requiring taxi firms to include the information in their own advertisements, or by the Taxi Commission purchasing advertising space, detailing the absolute and relative performance of firms.

Implementation

This recommendation can be implemented by the Taxi Commission.

Recommendation R: Mark taxi stands on Muni maps

A particular problem for visitors to the city is knowing the most likely places to obtain a cab. Since one of the most common maps found in San Francisco is the Muni map, cab stands should be marked there.

Implementation

This recommendation is for Muni to implement, in conjunction with the Department of Parking and Traffic.

Taxi Commission

Recommendation S: Merge the Taxi Commission and MTA

The Municipal Transportation Agency would be able to take a more objective and strategic view of taxi regulation than the Taxi Commission has so far achieved, as it would have fewer ties to the industry. It would also help improve coordination with transit services and street management issues such as taxi stands, particularly when the MTA assumes the Department of Parking and Traffic responsibilities from 2002.

However, absorbing the Taxi Commission's responsibilities would be likely to stretch the MTA's resources at present, particularly at a time when the MTA is merging with the Department of Parking and Traffic. We therefore recommend that no immediate merger take place, but consider that this should take place in the short- to medium-term future.

In the meantime, the Taxi Commission should take full advantage of its ability to draw on outside expertise, through contracting with both external consultants and other City departments, particularly the MTA. Permit fees may need to be raised to ensure that the Taxi Commission has sufficient budget to achieve this.

At the same time, the MTA, Transportation Authority, Muni and Department of Parking and Traffic should actively plan for taxis, taking particular account of their potential to reduce the number of trips made by the private automobile.

Implementation

Proposition E from 1999 provides for the Board of Supervisors to abolish the Taxi Commission and pass its responsibilities to the MTA.

Recommendation T: Enforce the driving requirement for medallion holders

The current mechanism for enforcing the driving requirement for medallion holders has three serious drawbacks:

- Due to constraints on Taxi Commission time, it places a severe limit on the number of cases that can be heard by the Taxi Commission.
- The requirement for cases to be heard by the Taxi Commission detracts from the ability of the Taxi Commission to focus on other, more strategic issues.
- The complete discretion granted to the Board of Permit Appeals, and its propensity to reverse Taxi Commission revocations, makes a mockery of any attempt to enforce the driving requirement. Furthermore, while the role of the Board is clear regarding issues where a significant amount of judgment is involved, such as planning decisions, it is less clear in issues of fact such as whether the driving requirement has been fulfilled.

To address these problems, medallion revocations on grounds of failure to fulfill the driving requirement should be an automatic process handled by Taxi Detail or Taxi Commission staff. There should be the right of appeal to the Taxi Commission, but only on grounds of substantive factual disputes, and the driver should not be permitted to retain his or her medallion pending appeal. There should be no further right of appeal to the Board of Permit Appeals, although permit holders would be free to take legal action.

This change would allow the Commission to focus on strategic issues affecting the industry, rather than the detail of individual cases.

The Taxi Commission and Taxi Detail should explore the potential for technology to aid enforcement of the driving requirement. This might include a requirement for drivers to swipe their license through the cab's debit card reader at the start and end of each shift. The requirement for automatic generation of waybills by dispatch systems (Recommendation F) will also aid enforcement.

Any additional funding that may be needed for increased enforcement should come through increased permit fees.

In addition, the Taxi Commission may wish to consider whether enforcement is most effectively and efficiently handled through the Taxi Detail, or whether it should employ its own civilian staff to undertake these functions.

Implementation

The San Francisco Police Code specifies that permits may be revoked for good cause by the Taxi Commission. The Board of Supervisors should amend the Police Code to allow permits to be revoked by Police Department staff, without Commission involvement, and to provide for appeals to be heard by the Taxi Commission rather than Board of Permit Appeals.

Coordination with transit services

In order to maximize the potential of taxi services in the overall transportation system, and encourage increased taxi ridership to replace single-occupancy vehicle rather than transit use, greater coordination with Muni and other transit services is desirable. Most of the initiatives to achieve this result should be undertaken by Muni and other transit operators. Many will become more feasible with the advent of Translink, a Bay Area-wide transit smartcard, and improved fleet monitoring by transit agencies.

The potential also exists to integrate taxis with other transportation initiatives. For example, new City Car Share members, or people who give up their residential parking permits, might qualify for a booklet of discount taxi vouchers.

Recommendation U: Introduce joint taxi-transit tickets

In many European cities, a transit ticket gives a discount on the return journey by taxi. This is particularly effective in encouraging people to take transit on the outward leg early in the evening, and return home by taxi late at night. It promotes taxi use, while minimizing any reduction in ridership on public transit. It is an effective way to extend the reach of fixed-line transit.

Implementation

This recommendation is for Muni to implement, in conjunction with the Taxi Commission. Metropolitan Transportation Commission cooperation would be necessary if Translink smartcards were to be used.

Recommendation V: Provide on-board taxi reservations

Passengers should be able to order a taxi from on board a transit vehicle, perhaps through the driver after a certain time at night, and from staff at their origin station. The taxi would then be waiting at the transit stop to take the passenger to their final destination. Again, this practice is prevalent in many European cities, and is primarily useful for evening and late-night journeys.

Implementation

This recommendation is for Muni to implement.

Recommendation W: Provide local transit service using shared taxis

Several of Muni's neighborhood services are sparsely patronized outside of peak periods. Using contract shared taxi services, at regular Muni fares, could enable both improved service headways and cost savings for Muni. There also would be environmental benefits from reduced noise and pollution. The same principle could be used for evening and night services.

A number of models could be used to introduce this service. The shared taxis could be demand-responsive, with passengers required to call for a reservation, and offer door-to-door service within a specified zone. Alternatively, taxis could act more like buses and follow a fixed route at scheduled times.

Portland transit operator Tri-Met successfully has introduced shared taxis in recent years. Ridership has leveled off at an average of 130 rides per day. The same principle has been used in many European cities, such as Rouen, France and Muenster, Germany, for many years.

Muni's draft Short Range Transit Plan for FY2002-2021 notes numerous requests for small vans to replace standard buses in the evening on lightly traveled lines to reduce noise and operating costs. Muni's Plan rejects this option, largely due to the increase in operating and maintenance costs associated with maintaining a separate fleet of vans. Deadheading costs would also increase under such a system, while driver costs would not be reduced. Shared taxis would address all of these concerns, as a separate fleet would not be needed. Capacity concerns could be addressed simply by increasing headways.

Implementation

This recommendation is for Muni to implement.

Data on taxi availability

Adequate data on availability are essential to be able to make decisions on medallion numbers – including the balance between regular permits and peak-period only permits – and to measure the performance of each firm against targets.

Recommendation X: Expand and contract out the Taxi Detail dispatch survey

The Taxi Detail survey currently is conducted annually, in conjunction with Public Convenience and Necessity hearings. The current sample size of 588 is adequate to monitor industry performance citywide, but does not provide statistically significant results for individual neighborhoods, times of day and individual firms. The survey should be

expanded for these purposes, and also be conducted continually throughout the year, with quarterly reports, to ensure that medallion numbers closely reflect current availability.

Key decisions on medallion numbers and distribution will be based on this survey. In order to ensure that it is fair and perceived as fair to all firms, the survey should be contracted to a firm with expertise in data collection, through a competitive tender process according to regular City procurement rules.

Use of a contractor instead of Taxi Detail staff is likely to realize cost savings. Any additional revenue needed should come through increased permit fees.

Implementation

This recommendation is for Taxi Commission staff to implement.

Recommendation Y: Require electronic reporting by all taxi firms

Once firms have acquired the necessary dispatch technology, they should be required to provide data on the percentage of orders dispatched, response times and so on to the Taxi Commission. These comprehensive data would replace the Taxi Detail survey, although sample surveys still would be needed to monitor availability for street hails and at taxi stands.

Implementation

This regulation could be adopted by the Taxi Commission.

Clean-fuel vehicles

Recommendation Z: Require clean-fuel vehicles

Increased taxi use brings environmental benefits in the form of lower emissions and congestion, and less land that needs to be devoted to parking, insofar as it reduces the use of private automobiles and the need to own a vehicle in the first place. To realize the maximum environmental benefits, however, all taxicabs should be clean-fuel vehicles. As well as strengthening the environmental case for taxis, particularly if more medallions were to be issued, clean-fuel cabs would be likely to improve the image of the industry, and encourage more people to take taxis.

Given a long lead-time of five years, taxi firms would be able to introduce clean-fuel vehicles as part of their normal fleet renewal process. This would also give time for firms to plan for the necessary investment.

The regulations should specify the permitted level of emissions, rather than the precise technology or fuel that should be used. This 'tailpipe' approach allows for maximum flexibility in meeting the requirements and encourages innovation.

Implementation

This recommendation could be implemented by the Taxi Commission.

6. PHASING

Many of the recommendations of this report can be introduced quickly, either under current law or by the Taxi Commission. Others, such as the abolition of the Public Convenience and Necessity process and advanced dispatch technology, require voter approval or longer lead times. Phased implementation is therefore recommended.

Quick wins

These 'quick wins' can be introduced immediately without voter approval, or major investment. They are not contingent on the introduction of other parts of the reform package.

- G. Provide incentives to drivers and passengers for taxi sharing
- H. Designate taxi stands where required
- J. Allow tips to be included in paratransit scrips
- M. Issue medallions according to experience and merit
- M. Introduce a stringent final driver examination
- O. Mandate safety features
- P. Facilitate the provision of health insurance
- Q. Publicize dispatch performance
- R. Mark taxi stands on Muni maps
- S. Integrate the Taxi Commission and Municipal Transportation Agency
- T. Enforce the driving requirement for medallion holders
- X. Expand and contract out Taxi Detail dispatch survey

Structural reforms

The new system for setting medallion numbers requires voter approval. Several other recommendations form an integral part of the same package of key structural reforms, and it makes sense to wait until this is in place.

- A. Depoliticize the process of setting medallion numbers, through basing them on availability
- B. Mandate a split-meter system
- C. Allow firms to grow based on performance
- D. Issue peak-time medallions
- E. Abolish requirements for drivers to take a minimum number of calls per shift

- I. Muni should specify contractual performance standards for ramped (wheelchair-accessible) taxis

Longer term

Phase Three recommendations are largely independent of the other options, and can be introduced at any time. However, they either require the additional revenue that will be derived from the increased efficiency that will result from the split meter, or fall to outside agencies such as Muni to implement. Thus, they are likely to take longer to introduce.

- F. Mandate minimum capabilities for dispatch services
- K. Collect data to support fare-setting decisions
- L. Require credit cards to be accepted in all taxis
- U. Introduce joint taxi-transit tickets
- V. Provide taxi reservations on-board transit vehicles
- W. Provide local transit service using shared taxis
- Y. Require electronic reporting by taxi firms
- Z. Require clean-fuel vehicles

7. REJECTED OPTIONS

This section provides a brief description of the main options considered and rejected during the course of this study.

- **Rejected – Remove limits on medallion numbers.** One option is to remove the limits on medallion numbers, while preserving standards for vehicle and driver quality. The experience of most US cities that have followed this path has not been promising, however, to the extent that most have reintroduced some form of entry control. In cities that deregulated entry such as Seattle and San Diego, while the number of taxis increased, this was accompanied by an eight to ten percent increase in fares as drivers sought to maintain their incomes while carrying fewer passengers. Service quality, meanwhile, declined to unacceptable levels.

Deregulation has not been a success, due to unavoidable market failure in the taxi market.

There is a general consensus in the literature that deregulation has not been a success, due to unavoidable market failure in the taxi market. This assertion is backed by both theoretical reasoning and empirical evidence. The problem appears to be that, without any restrictions on entry, there is a pool of unemployed or low-income people ready to 'try their hand' at taxi driving. "Ignorance of true market conditions, and the belief that they will succeed where others have failed, continually bring new entrepreneurs into this market," writes Teal (1992).

- **Rejected – Retain the Public Convenience and Necessity process, but base this on an external study of the need for more taxis.** This would give the PC&N process a more objective starting point. However, the final decision would still be subject to the political vagaries of the Taxi Commission.
- **Rejected – Set medallion numbers according to a population-based formula.** As well as population, the formula could take into account commuter numbers and visitor numbers. However, a range of other factors such as transit ridership, density, car ownership and the age structure of the population also affect taxi use. It is difficult to see how all these could be incorporated accurately. In addition, the formula would quickly become outdated if the measures outlined in this report to increase taxi mode share were successful. In effect, the formula would assume that the historic level of taxi use is somehow 'correct', and perpetuate this for the future.
- **Rejected – Set medallion numbers according to taxi use.** In Clark County Nevada, Taxicab Authority staff recommend the issuance of a new medallion when taxi ridership increases by 21,800 taxi trips per year. This option presupposes the availability of basic data on trip numbers, in contrast to the situation in San Francisco at present. It also presupposes that the current ratio of supply to demand is somehow 'correct'.
- **Rejected – Set medallion numbers according to lease fees.** The lease fees paid to permit holders constitute unearned income, and are a clear sign of the scarcity of medallions. One option would be to automatically release more medallions once

lease fees reached a certain level. This would presuppose the availability of reliable data on lease fees, which would be difficult to monitor.

- **Rejected – Introduce a two-tier system**, with for-hire vehicles as well as medallion cabs. Such a system exists in cities such as London and New York, and on a limited basis in San Francisco ('town cars' and limousines). Medallion cabs have a legal monopoly on street hails, and are subject to much tighter regulation in terms of driver and vehicle standards, and fares. Entry to this market is tightly controlled, whether through stringent driver training requirements (as in London), or a cap on the number of medallions (New York). For-hire vehicles, in contrast, may legally only serve pre-arranged trips. This has the advantage of maintaining strict standards in the market where passengers need most protection – hailing a cab on the street. In turn, for-hire firms are restricted to the telephone dispatch market, and thus have an incentive to serve this well. Problems with this system include enforcement, with for-hire vehicles often taking street hails, and safety, depending on the extent of regulation in the for-hire market. The overall system will also be far less efficient, since an artificially segmented fleet will be much less able to respond to peaks in demand in one sector or another. Many British cities view the two-tier system as a historical anachronism, and are seeking to abolish it. We therefore do not recommend expanding the role of town cars and limousines.
- **Rejected – Introduce neighborhood medallions.** These are used in Chicago, IL, and Perth, Australia. However, there are no definitive data on their success or otherwise. There are several variants on this concept: medallions that can only be used for pick-ups in underserved neighborhoods; medallions that require a minimum percentage of trips to or from underserved neighborhoods; or total removal of entry controls (with the exception of safety requirements) for cabs serving only these neighborhoods. However, all these face considerable problems of enforcement. They would also reduce the efficiency of the taxi system, as drivers would be forced to deadhead (travel empty) back to the neighborhoods. Some deadheading would almost certainly occur even if neighborhood service requirements were set as a proportion of total trips.
- **Rejected – Limit cab numbers at the airport or introduce a flat airport fare.** These options would help improve service in the city, by reducing the numbers of taxis waiting at the airport. However, they are a heavy-handed solution that should be used as a last resort. In addition, a flat fare would either penalize those living in the south of the city, or if introduced on a zonal basis, would be complex for passengers to understand.
- **Rejected – Regulate shift change times.** At present, most firms change shifts at peak hours. Regulating shift change times might help improve availability at these hours, but would represent excessive micromanagement of the industry by regulators. Under the system of performance targets recommended here, firms would have strong incentives to improve availability, for example through staggering shift change times.

- **Rejected – Mandate centralized dispatch.** This would improve the efficiency of the taxi system, as the fleet would operate as a whole, rather than being segmented by dispatch service. It would ensure that the closest available cab, rather than the closest available cab affiliated to a certain dispatch firm, responded to a call. However, most of the benefits of centralized dispatch would be achieved through other means. Consolidation of dispatch services (Recommendation F) would increase the likelihood of the closest available cab being dispatched to a call. Firms would have an incentive to pass orders that they could not handle themselves to other firms, so that the order would count as 'successfully fulfilled' under their performance targets. This might well lead to some form of centralized dispatch being established under a voluntary basis, in parallel to existing dispatch systems. This would be in keeping with the approach of this report, of providing powerful incentives for firms to meet performance targets, while leaving firms free to determine themselves the best way to meet these targets.

Mandating centralized dispatch could have serious drawbacks that could undermine many of the recommendations of this report. In particular, the recommendation to allow firms to grow based on performance will see firms competing with each other to provide the best service. Under centralized dispatch, the performance of firms could not be differentiated from each other, and thus these incentives for better performance could not be employed.

Centralized dispatch would also have the potential to limit innovation. Although the contract could be awarded by competitive tender, the firm that won the initial contract would be in a dominant position for subsequent bidding competitions. Even if its performance were poor, it would be difficult for competing firms to dislodge the incumbent, due to the scale of investment required.

It should also be noted that, to the knowledge of the study team, centralized dispatch for an entire city fleet does not exist anywhere in the world.

- **Rejected – Make drivers employees.** At present, most drivers lease cabs from firms on an independent contractor basis. This means that firms cannot direct a driver to accept a particular radio call. This problem could be avoided if drivers were required to be employees of the cab firm. However, it appears that neither cab firms nor a majority of drivers would welcome this change. The option remains for firms to make their drivers employees if they determine that this is necessary to improve performance. Employee status is not something, however, that should be mandated.
- **Rejected – Increase fares to improve availability.** An increase in fares would increase the availability of taxis, through suppressing demand. However, this option simply represents an artificial way to limit the role of taxis in the San Francisco transportation system. It is not compatible with this study's goal of increasing taxi mode share.
- **Rejected – Relate fares to demand at different times.** Fares could be increased at peak times or reduced at off-peak times, or a combination of these two options introduced. This policy is used in many European cities, such as London where a

surcharge for evening and night-time fares aims to both increase supply and constrain demand at these peak hours. This option presupposes the availability of data; in London, an elaborate modeling study was recently conducted to form the basis of peak-period fare changes (MVA, 2000). This study showed that the policy would largely succeed by increasing supply, which in London is largely constrained at these times by driver willingness to work. Under San Francisco's medallion system, there would be no supply-side effect, and the fare increases required to sufficiently constrain demand might be unacceptable.

- **Rejected – Require all taxis to be wheelchair accessible.** The option is unnecessary to meet demand from wheelchair users, and would represent a major cost to the industry, which would be reflected in higher fares in the long run, as higher costs were passed through to passengers, or poorer service.
- **Rejected – Enforce the three wheelchair per shift rule.** The rule that ramp cab drivers must respond to three calls per shift from wheelchair users, if available, goes effectively unenforced by the Taxi Detail. However, regulations focused at the driver level are far less effective and are more difficult to enforce. Instead, regulations should be directed at the level of the firm.
- **Rejected – Deregulate fares.** This would allow firms to compete with each other on grounds of price as well as service quality. It is questionable, however, whether a competitive market can ever exist in the street hail market. Passengers select the first cab to come along, rather than making a decision based on price and quality. To do otherwise would undermine the key advantage of taxi travel, namely speed. Fare deregulation would also put passengers, particularly visitors, at risk of being 'overcharged', and create stress and uncertainty for passengers. In the telephone dispatch market, there is greater potential for competition on price grounds. However, this is already permitted to some extent, as the Board of Supervisors sets maximum, not prescribed, fares.
- **Rejected – Reform the appointments system to the Taxi Commission.** At present, all members of the Taxi Commission are appointed by the Mayor. One option is for some to be appointed by the Board of Supervisors instead. However, it is unclear whether this would result in a substantial improvement in the functioning of the Commission. Removing medallion revocations and decisions on medallion numbers from the Commission's remit should ensure that it is able to take a more strategic perspective.
- **Rejected – Permit surcharges for guaranteed service.** Permitting passengers to choose from two levels of service – regular and guaranteed – would ensure taxis could be used for journeys where reliability is critical. Firms could be permitted (but not required) to impose a surcharge to guarantee a taxi within a specified time. The precise surcharge – or whether a surcharge is levied at all – and the exact guaranteed response times could be the subject of competition between firms. Firms could be permitted to ask for a credit card deposit, to help address the problem of passengers calling multiple taxi firms at once to increase their chances of obtaining a taxi. However, while it would provide benefits in terms of reliability, it

would risk creating a two-tier system with deteriorating service for those who would or could not pay the surcharge, particularly paratransit users. Instead, the performance targets recommended in this report will improve reliability for all users, and the split-meter system will provide incentives for firms to maximize reliability in order to improve market share. This might involve providing service guarantees.

- **Rejected – Introduce good-service medallions.** One option is to issue medallions to the best-performing firms as a reward for good service, rather than to individuals. They could be non-transferable and issued for a fixed three-year term, to prevent them accruing value and ensure that the number of good-service medallions held by a firm was related to current performance, rather than historical data. This option would provide a powerful incentive to firms to improve performance, and eliminate lease fees, which create an artificial distinction between permit holders and other drivers, and siphon off revenue. However, the option would mean the advantages of individual medallion ownership in improving service quality would be lost. It would also unlikely be acceptable to voters, who would have to approve any new class of medallion that would be issued to firms.
- **Rejected – Make all medallions non-leasable.** This option would eliminate lease fees, and the two unequal classes of permit holders and other drivers. Once the system was fully phased in, all drivers would hold medallions. There would be no need for non-permit holding drivers, and ultimately passengers, to finance lease fees of \$1,800 per month. Enforcement of the medallion driving requirement would no longer be necessary, as there would be no advantage in possessing a permit if the holder did not drive. However, this option would simply be the same as an artificial cap on driver numbers. There would be no additional benefit to a driver from holding a medallion, as all drivers would hold one, and thus many of the advantages of individual ownership in improving service quality would be lost. There would be no flexibility to cater for drivers who preferred to work on a casual basis, or to cope with sickness or vacation. There would be no scope to allocate medallions on the basis of experience, as people would not be able to drive at all until they received a medallion. This might be addressed by coupling driver-only medallions with a proportion of good-service medallions, which would be used by ‘apprentice’ drivers waiting for their driver-only medallion. However, this would be extremely complicated and unwieldy.
- **Rejected – Pass fare-setting responsibility to the Controller.** This would remove decisions on maximum fare levels, which are currently taken by the Board of Supervisors, from the political arena. However, there is little to suggest that the current system, whereby the Controller recommends fare levels to the Board, is not working at present. It is also desirable to retain flexibility in setting fare levels, rather than prescribing rigid criteria for the Controller to follow.

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SAN FRANCISCO PLANNING AND URBAN RESEARCH ASSOCIATION

312 Sutter Street, Suite 500
San Francisco, CA 94108
415.781.8726
www.spur.org