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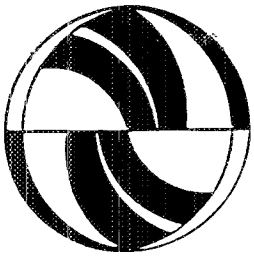
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Authors

Rhoades, Krista
Mehndiratta, Shomik
Hansen, Mark

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**Airlines and Airport Ground Access:
Current Arrangements
and Future Opportunities**

Krista Rhoades
Shomik Mehndiratta
Mark Hansen

Working Paper
UCTC No. 399

**The University of California
Transportation Center**

University of California
Berkeley, CA 94720

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Transportation Center**

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**University of California
Transportation Center**

108 Naval Architecture Building
Berkeley, California 94720
Tel: 510/643-7378
FAX: 510/643-5456

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Krista Rhoades
Shomik Mehndiratta
Mark Hansen

Institute of Transportation Studies
University of California
Berkeley, CA 94720-1720

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University of California at Berkeley

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CHAPTER 1. INTRODUCTION

One of the most critical issues facing the airport system today is ground access. Nearly every airplane trip begins and ends with the use of an automobile. It is estimated that over 90 percent of airline passenger trips to or from the airport are by private automobile or taxi. This estimate is almost 100 percent at the medium or smaller airports since these communities tend not to have comparable alternatives to the automobile. It is recognized that airport ground access is a major issue and in some cases a constraint to airport development or airside capacity. In order to accommodate the future growth of the air transportation industry, innovative approaches to moving passenger to and from airports should be explored.

A partial solution to the airport ground access problem could be through the airline industry itself. For most trips, the airlines' responsibility only includes the air segment of the journey. The surface transportation portion is left for others. This may not, however, be an optimal arrangement. On the one hand, significant opportunities to coordinate the delivery and marketing of ground access and air transport services may be lost. In addition, the current system may not sufficiently encourage airlines to consider the impacts of their service and scheduling decisions on the ground transportation system.

This report examines the possibility of expanding the role of airlines in facilitating ground access for their passengers. The paper is divided into three parts. The first section discusses the historic and current involvement of airlines in providing ground access services as well as scenarios in which the airlines' responsibility can be expanded.

The second part provides an economic perspective on the airline ground access roles. The third part contains an overview of the airline and airport surveys which were conducted to evaluate the role and opinions of the air transportation industry on the issue of airport ground access.

CHAPTER 2. AIRLINE INVOLVEMENT IN GROUND ACCESS: AN OVERVIEW OF CURRENT ACTIVITY

Introduction

The initial research focused on the development of an adequate knowledge base of airline participation in airport ground access. This was accomplished through examination of trade literature (a list of references is contained in Section 5), expert interviews with individuals knowledgeable of airport ground access issues (see Appendix 1), and surveys of both airline and airport representatives (Section 3). Scenarios in which airlines' roles in providing ground access services might be expanded were developed from this research and are discussed under the following three headings:

Routing and Scheduling involves airlines giving greater consideration to the ground access implications of decisions such as what points to serve and when to schedule flights.

Information/Reservations refers to airlines expanding their current flight information and reservations capabilities to encompass ground access services.

Provision of Services involves airlines becoming directly involved in supplying ground access services, whether by operating the services directly, capitalizing them, or developing ties with ground access service providers similar to those they have established with commuter air carriers.

Routing and Scheduling

Offering Services To Places Not Often Provided By Air (Excursion/Seasonal)

To aid in the reduction of congestion pertaining to airport ground transportation, airlines could provide services to ground destinations not often provided by air. Instead of having passengers end their air travel at the major airports, the airlines could take passengers closer to their destinations. This would be particularly useful in resort type areas such as ski resorts, vacation resorts, or any other major activity center. Some examples of these types of services are provided by Pakistan International Airlines (PIA). This airline flies approximately 45 major expeditions per year into Himalayan base camps to accommodate the trekkers and mountain climbers that regularly visit Pakistan. To accommodate passengers during Pakistan's Eid holiday, a family holiday similar to Christmas in the United States, PIA added thirteen domestic flights to distribute their passengers upcountry. The airline also flies two 1981-vintage de Havilland DH-6 Twin Otters to remote destinations within the country. PIA feels an obligation to serve these remote areas, although not this is not profitable, to provide the residents with regular communications and accessibility to adequate health services.

Several United States airlines have attempted services such as these. However the transportation to the outlying destinations were by modes other than aircraft. Continental Airlines is one such example. In the past, Continental offered ski packages to their customers for various resorts in Colorado. The package included air transportation, ground transportation to and from the ski resorts, and often hotel or condominium accommodations. The packages had the advantages of convenience to the customers as well as a reduction in the number of automobiles necessary in the area of the airports. However, Continental Airlines also pointed out the problem with the

service. There was often confusion to both the passengers and the reservation agents in assuming that the transportation to the resort was by airplane. This was due to the numbering method of the Computer Reservations Systems (CRSs) and what appears on the tickets. The CRSs require a digitized number to reserve a seat, both for flights and for other modes such as buses. No matter how hard Continental Airlines attempted to put the word out, even by placing "BUS" on the ticket, some of the passengers still assumed the trip was by airplane and claimed false advertising.

Hubbing/Rehubbing

Airline hubbing has a strong impact on the amount of ground traffic congestion at an airport. Not only are passengers --whose arrival and departure patterns follow a peaked pattern as a result of the banking of flights --adding to the traffic congestion, but also the large amount of airline employees that exist at airline hubs. However, these impacts on landside facilities, including ground access, are of little concern to airlines. One method that airlines could use to help relieve traffic congestion at busy airports would be to redistribute operations to other airports in the region. An advantage is that since there is often little or no service by competing airlines at the less busy airports, the airline could offer a more highly differentiated product.

Scheduling

To help relieve some of the traffic congestion at airports the airlines could schedule flights away from the peak commute times. Airport demand could be managed

so that air carrier activity could be more evenly distributed over the day. The only problem with this scenario is that according to the airlines, flights are scheduled according to market demand. Each individual airline is under strong pressure to keep its competitive.

The industry has also expressed an interest in using larger, wide-bodied aircraft. Larger capacity aircraft could require fewer flights and allow the flights to be spread more evenly over the day. But this would also cause an increase in the volume of passengers on individual flights. The increase in volume could overload passenger waiting areas, ticketing and baggage facilities, parking, curbside movement, and access roads.

Information/Reservations

Computerized Reservation Systems

Although not a ground transportation system itself, the Computerized Reservation Systems (CRS) can have a significant impact on landside transportation services. Since airline passengers wish to reach their destination (which is typically beyond the airport) with a minimum of inconvenience and wasted time, CRSs (which already handle most airline reservations) could also handle provisions for transportation to and from the airport on whichever mode is desired. At minimal or no cost to the airline, the air carriers could provide landside transportation information to their passengers. Through these computer systems, the airlines are capable of providing whatever transportation information is available to the passengers at a specific airport. Even though many of the

airlines currently do not have all of the available information, it could be easily obtained. With the capabilities of CRSs, airlines could have reservation agents routinely offer ground transportation information to help encourage multi-occupant vehicle use. In addition, if an airline is providing some sort of ground transportation service directly, routinely providing information could be a strong marketing strategy. Computer Reservation Systems (CRSs) can handle enormous volumes of business and even non-airline elements of the industry are involved. These include suppliers of ground handling equipment and services, car rental agencies, hotels, and railways.

Information on Ground Access

We found little information about the current practices of airlines in providing ground access information and reservation services through their CRSs. Thus, to determine what types of ground transportation services are available to a typical air passenger, a simple study was conducted for airlines servicing the San Francisco Bay area. Using the *Pacific Bell Smart Yellow Pages* for the City of Oakland (1992-93), several of the airlines under "Airline Companies" were contacted. Of the 37 possible airlines with telephone area codes of 800, 17 were included in the survey. The remaining 20 airlines were not included in the study because either the telephone line was consistently busy, it was off hours (office closed), or there was difficulty with the reservation portion of the telephone conversation.

The procedure for this study involved the following conversation once the airline reservations line was reached. "Yes, I am interested in flying to [city airline possibly flies

to] on Friday, November 13, preferably in the evening and returning anytime Sunday, November 22." Once the reservation process was complete the following question was asked, "I was wondering if you could do anything to get me from my home in Berkeley to the airport since I do not have a car." Nothing more than this was stated to determine what type of services was routinely available or offered to a typical passenger. The results are summarized in the following table and the actual comments are described in more detail in Appendix 2.

**TABLE 2.1 --AIRLINE RESERVATION AGENT RESPONSES
TO GROUND ACCESS QUERY**

AIRLINE	GROUND TRANSPORTATION SERVICE	REFERRED TO SHUTTLE SERVICE	PROVIDES LIMOUSINE FOR 1ST CLASS
AirCanada	NO	NO	YES
Alaska	NO	YES	NOT MENTIONED
Alitalia	NO	NO	NOT MENTIONED
AmericaWest	NO	YES	NOT MENTIONED
American	NO	YES	NOT MENTIONED
BritishAirway	NO	NO	YES
Canadian	NO	YES	NOT MENTIONED
Delta	NO	YES	NOT MENTIONED
Hawaiian	NO	YES	NOT MENTIONED
Japan	NO	NO	NOT MENTIONED
Lufthansa	NO	NO	NOT MENTIONED
Mexicana	NO	YES	NOT MENTIONED
Southwest	NO	NO	NOT MENTIONED
Swissair	NO	NO	YES
TWA	NO	NO	NOT MENTIONED
United	NO	YES	NOT MENTIONED
USAir	NO	NO	NOT MENTIONED

From the results it is apparent that none of the contacted airlines provide ground transportation to or from the airport for coach or economy flight tickets in the San Francisco Bay area. Nearly half of the reservation agents provided information or phone numbers for local transportation or shuttle type services. A few of the airlines do provide limousine services to business, executive, and/or first class passengers. Further study would be required to determine exactly which airlines do provide limousine services since the question was not directly asked. Also, the results could vary according to each airline representative, pertaining to recommendations for private shuttle services or other information on ground access to the airport.

Operation of Services

Convenience, cost, and personal security are the primary factors in determining the mode of travel to or from the airport. This choice is affected by alternative systems available, types of services, origins and destinations, reason for travel, size of the group travelling, and the amount of baggage. The convenience possible with the private automobile such as fast door-to-door service and ease of baggage handling are rarely challenged by other modes of transportation to the airport. Therefore, if any other method of transportation is to be utilized by passengers for airport access, it must be comparable to the private automobile.

Rail Systems

Any form of rail transportation should be taken into consideration as an alternative to the automobile in the attempt to ease traffic congestion at and near the

airport. Rail could be used in many different forms, such as high-speed steel rail service to regional type airports to increase capacity and improve airspace, local light or heavy rail transit services, or using magnetic levitation (maglev) to completely eliminate short-haul air trips. With a rail system in place either relatively near or at an airport, the airlines could play a major role in passenger utilization of rail transportation. The railways and airlines in Germany provide a quality example of the cooperation between rail and air transportation.

In 1982, Lufthansa became the first airline in the world to introduce a special rail service called Airport Express (AE) which is operated like an airline flight. This rail service connects Frankfurt and Dusseldorf airports and a second line between Frankfurt and Stuttgart was inaugurated in 1990. Lufthansa leases the trains from the Deutsche Bundesbahn (DB) and they are equipped according to Lufthansa's colors and standards. The schedules of the trains coincide with the airports' daily traffic peaks to help reduce waiting times and to offer the greatest number of possible connections. The services provided on the train are the same as that on the airplane with beverages, meals, and baggage handling. On the Stuttgart line, passengers can check-in their baggage at the train station through to their final destination. Lufthansa handles the transfer of baggage so that on arrival at Frankfurt Airport, the passenger is only required to clear security and go to the gate. For the Dusseldorf line, baggage is checked in on the train and is from then on handled by Lufthansa. For passengers arriving on flights at Frankfurt and continuing their trip on the AE, baggage is cleared at the Frankfurt train station where the passengers identify their baggage for customs. The baggage is then handled by

Lufthansa to the passengers' destination. Lufthansa is responsible for every aspect of the rail service except the technical operation of the train. Reservations for the trains are made in the same manner as for an airplane flight. The AE trains are listed and tickets reserved through Lufthansa's system "AMADEUS." The AE services are listed and scheduled in the same manner as an actual airplane flight with a three-letter code for the international reservation system. The Airport Express (AE) trains are only available to passengers holding a Lufthansa ticket and Lufthansa employees.

The Deutsche Bundesbahn (DB) railway also has programs which are introduced to discourage passengers from using their automobiles. The DB encourages use of the train by stressing that the service allows passengers to reach an airport without the concern of traffic congestion and the risk that their automobile will be stolen or burglarized at the airport. Two of the services provided by the DB are "Rail and Fly for Airlines" and "Fly and Rail for Airlines." As their names suggest, the services are symmetrical. One is for airplane and train service for flights departing Germany and the other for arriving flights. Airlines are able to offer to their customers a ticket for both the flight and the rail journey. The airline purchases coupons from the DB at a lower, whole-sale price and then Lufthansa has complete control in determining the fare which is charged to the passengers. The coupon can be exchanged for a train ticket on the train or at a DB sales office.

Swiss Air in Switzerland also has strong coordination of air and rail services. In the past, Swiss Air owned buses which provided ground transportation to and from downtown points in Zurich and Geneva to the airports. The bus services ended when

the Swiss railway company, Chemins de Fer Federaux (CFF), opened a rail terminal in the airport. The railway is much faster than buses and having main rail stations in the airport not only links cities but also the entire country. The train stations are contained within the airport terminals and often contain major shopping centers for convenience.

One of the first services Swiss Air offered was called Fly-Rail Baggage where typical check-in procedures performed at the airport were conducted at the Swiss train stations. Baggage is handled and transported by the railway to the airport and is then transferred to the airline. The service had its disadvantages, mainly the safety problem of transferring the luggage from the airport to the train. The airlines and the railways could not afford to have personnel on the trains just to handle the baggage. But since the post office uses the trains to transport mail and requires personnel on board, the airlines and CFF took the opportunity to utilize the mail employee to also watch the luggage. An additional security measure is the use of a seal to coordinate transfers and to protect the baggage from theft. This service is free of charge for First Class and Business Fare passengers. The economy fare passengers are permitted to use the service for a fee. This type of service is particularly useful for skiing travelers. Check-in services are also available at some of the ski resorts in Switzerland. Baggage and equipment can be checked-in and is completely transferred to final destinations. For passengers entering Switzerland, once the baggage is checked-in at the airport, it is completely handled by the airline and railway until the destination in Switzerland is reached. Typically baggage is cleared through customs in person. Negotiations with the government allowed passengers using the rail service to declare in writing. To handle

the possible problem of smuggling, customs conducts occasional spot-checks. Customs is given a list of names containing the people who are using the service and then customs decides on clearance of the luggage.

To encourage use of rail systems for transportation to and from the airports, Swiss Air with the coordination of the government began promoting public transport to the airport. The marketing strategy consisted of public announcements, commercials, and ads. The public was made aware that transportation to the airport was available by rail at least every 30-minutes in heavily populated areas and every hour in less populated areas. To stimulate use of the rail systems to the airport, the government started charging for various airport uses such as curb-side parking and increasing parking fees to about \$30/day. Parking facilities are still reasonably full but public transportation is being used more often. The rail systems with terminals at the airports have reduced traffic and pollution at the airport.

The rail systems connecting at airports have worked well in areas such as Germany, Switzerland, and France but the United States is a different situation. The main problem in the United States is the freedom of movement provided to private automobile use and the continued expansion of the cities with suburbanization. The density and layout of American cities do not allow for efficient public transportation. Public transportation in U.S. is utilized primarily by the economically disadvantaged. People in the U.S. who can afford to own an automobile will avoid using public transportation because it is often dirty, unsafe, and inconvenient.

High-speed rail and magnetic levitation (maglev) transportation are also

possibilities for services which would help relieve ground access at airports. It has been suggested that the only way high-speed rail will work is as part of a larger transportation system. A joint airport-rail link could be the foundation for this transportation system. The airlines' involvement in this type of service could include financing, using the service to replace short-haul flights, or just through transporting their air passengers to outlying locations. The Train Grande Vitesse (TGV) high-speed rail in France is an example of this type of service. It has been determined that high-speed rail in France has relieved commuter air traffic by over sixty-percent, allowing for additional air capacity for long-haul and vacation travelers. The high-speed rail also offers the potential for minimal environmental impacts while still providing mobility. In addition, according to the French National Railroad, a 300-mile TGV line requires less area than a large airport. These services could also be provided through maglev but the main disadvantage to maglev is its inability to connect directly with existing rail systems. With the inability to utilize existing track, maglev would not be able to enter or leave the majority of the city centers due to lack of available land.

Bus/Shuttle Services

Most often, bus and shuttle services are provided by private companies. An example of a bus service provided by an airline directly is United Airlines' Park and Check-in service in the United Kingdom. Parking and check-in services are provided by the airline at the Forte Crest Heathrow Hotel. Transportation to Heathrow Airport is provided on a 43-seat coach (bus). Once at the airport, passengers need only to go to

the boarding gate, avoiding the crowds at the check-in desks. On return to the United Kingdom, the passenger's automobile is available in front of the hotel.

A few airlines have attempted to provide shuttle type services in the past but were not successful. America West Airlines provided a shuttle bus type service called the Careliner between Skyharbor Airport in Phoenix and the suburb of Scottsdale, Arizona. The facilities in Scottsdale were located at the local airport and included check-in, ticketing, and baggage handling services to any person with a reservation on America West. Initially the Careliner was a large Greyhound bus and the transportation to and from the airport was free. In an effort to save on costs, later the buses were scaled down and a fare was charged. The service was never a revenue generator for the airline, it was more of a perk to add services for the passengers. The main reasons the service ended was due to lack of demand and the financial situation of the airline. A more detailed description of this service by America West Airlines is located in Section 3, under Airline Surveys. Due to the land distributions associated with United States' cities, the most likely successful bus or shuttle service would be through a joint effort of the airlines at a specific airport.

Limousine Services

Limousine service is one method airlines can get people away from using their private automobiles but it does not necessarily help in reducing traffic congestion. The real reason why airlines even provide this service is to help attract passengers (especially Business Fare passengers). The only situation where limousine services could help

reduce traffic congestion at an airport is when additional visitors come to greet or send-off passengers. There are some airlines which currently provide limousine services for First Executive, or Business Class passengers. Limousine transfers are becoming more common, especially for the airlines with fewer flights trying to offer more services and perks to maintain their share of passengers. Attention is being focused on improving the speed and efficiency of door-to-door ground transportation services. For example, Air Canada advertises free door-to-door transportation to and from the airports, up to 40 miles from Heathrow, Montreal, Toronto, Vancouver, Los Angeles, and San Francisco for First or Executive Class passengers. The passenger reserves the limousine when the airline ticket is purchased and the reservation is confirmed by Air Canada the day prior to travel. The limousines are typically equipped with a cellular phone and the latest newspapers and magazines.

Water Access

Ferries or other boats could be used to relieve some of the ground access problems for airports with water access. An example is a hovercraft which is proposed for testing this summer at San Francisco International Airport (SFO) in an attempt to help relieve traffic congestion. At the northwest end of the airport, SFO is equipped with a lagoon and a channel which could accommodate a ferry type operation. The hovercraft has a speed of 55 mph and a passenger capacity of 40. At this time it is unknown exactly how the hovercraft will be operated and who will run it since the airport is prohibited from engaging in transportation activities off its premises.

Consultants are going to determine the route, schedules, users, funding and marketing for this project. Since the actual airport authority is unable to engage in transportation activities outside of its premises, the hovercraft market could be operated by the airlines themselves either individually or through some sort of joint venture. Airlines could also be involved with encouraging use of the hovercraft by providing information, schedules, or making reservations for their air travel customers.

Park-&-Ride Services

Park and Ride services would essentially be a combination of shuttle services and remote terminals. Passengers could drive, or find some other mode of transportation, to a park-and-ride lot where they could safely park (providing there is security) and be transported to the airport via bus, shuttle, or other mode. If the airlines were to jointly provide a Park and Ride type service there could possibly be a profit since it could more effectively compete with other modes of transportation to the airport.

Remote Terminals/Off-Airport Terminals

Remote terminals, or off-airport terminals as they are otherwise known, may be considered as an answer to the airport ground access crisis. Remote terminals provide basic functions of a terminal with parking, transit access, and transportation to the airport for travellers and airport associated employees at various locations at some distance from the airport. Therefore, if a passenger entered a remote terminal with all of the services of present air terminals, that passenger would be processed (checked-in),

and transported to the desired terminal. These terminals could be located in residential areas, Central Business Districts or at major activity centers. Passengers would travel from the remote terminal to the airport via bus, rail transit, high-speed rail, or some other mode of transportation. The transportation service from the off-airport terminal to the airport could either be by express bus, rail, or some other means. In addition, these remote terminals could be a waiting facility or lounge for passengers and visitors. Visitors and greeters are a significant portion of the total airport population. A nationwide statistic reports that for every 7,500 arriving and departing passengers on a typical day, there are 3,700 visitors and sightseers, and 3,500 employees. Remote terminals could also act as an intermodal facility with services such as buses, taxis, rail, or any other form of public transit.

Airlines could play a major role in the development, operation, and/or funding of such remote terminals. To encourage utilization by the traveling public and to possibly make a profit in the area of ground access transportation, airlines could not only provide the surface transportation but also services such as passenger ticketing, processing, baggage handling, and sales. There are two examples of this type of service but it is not the airline who is providing the majority of the services. The first is called the Marin Airporter Operation and the other the Van Nuys FlyAway Service. The Marin Airporter Operation will be discussed in this section and the Van Nuys Service is addressed in the Airport Survey section because it was a topic explored with the representative for Los Angeles International Airport (LAX).

The Marin Airporter Operation is a privately owned transportation service for air

passengers or commuters travelling between San Francisco International Airport (SFO) and various locations in Marin County, California. The actual remote terminal is located in Larkspur where buses connect non-stop to SFO but there is also shuttle buses which stop at several locations in Marin County before connecting to the buses at the terminal. At one time United Airlines and American Airlines were providing services such as ticketing, passenger processing, and baggage check-in but the security concerns during the Gulf War of 1991 ended the airline services. But since the Gulf War ended, the airlines have been reluctant to return to the terminal because of the market situation. Airlines are forced to concentrate their operations at a specific location, the airport being served.

The Marin Airporter began in 1975 and each year since 1981, the total yearly ridership has increased. This increase is likely a result of the operation's marketing strategies which include interaction with area travel agencies, advertisements in local newspapers and at events where air passengers are likely to frequent, and through the buses themselves. The buses are marked with the Marin Airporter's logo and are very clean and new. In addition, the route and service information is located in the *Guide to Ground Transportation* distributed by the San Francisco International Airport and in the *California Airport Ground Transportation Directory* published by the State of California Department of Transportation (Caltrans). Since the Marin Airporter operations is a privately owned remote terminal, it represents how this type of service can be profitable and beneficial to airport ground access problems.

Advanced Technologies: Intelligent Vehicle Highway Systems/Personal Rapid Transit

The Transportation Research Board (TRB) has promoted a program of intelligent-vehicle highway systems (IVHS) to help improve safety and relieve traffic congestion. This system could also relieve some of the pressures of ground access in the area of airports. A national program of research, testing, and implementation called *Advanced Vehicle and Highway Technologies* proposes development of technologies for advanced traffic management, traveler information systems, vehicle-control systems, and commercial vehicle operations. The program recommends a private/public partnership led by the Department of Transportation (DOT) and IVHS America. The largest problem is getting private-sector involvement. This is where airlines could get involved since the airlines are private enterprises and there is a potential for profit and additional customer services.

Another type of advanced system which would be used as an alternative to the automobile for accessing various locations, including airports, is being studied by the Chicago Regional Transportation Authority. The Personal Rapid Transit (PRT) system combines the characteristics of a people mover with those of a taxicab. The PRT system involves fully automated, electrically powered individual cars which hold up to five people. The cars move along one-way guideways directly to the destination chosen by the passengers. This type of system could be used to help relieve traffic congestion at and around airports by permitting airports to be along the route of the PRT system. Airlines could be involved with this type of system through funding, operations, or even through providing their customers with information concerning the use of such a system.

CHAPTER 3.

AIRLINE INVOLVEMENT IN GROUND ACCESS: THEORETICAL PERSPECTIVES

Introduction

Expanding airlines' role in ground access is a form of intermodalism, a term that refers to a coordinated transportation service using at least two modes. Encouraging intermodalism of the cornerstones of U.S. transportation policy in the past two decades (USDOT, 1990). Intermodalism attempts to improve the efficiency of the transportation system, by utilizing transportation modes in situations where they are most effective, and using combinations of modes wherever necessary. Essential to the success of intermodalism, is effective intermodal transfer. Effective and efficient transfer between modes is imperative to realize potential efficiency and energy gains of intermodalism. In the marketplace, the extent to which a firm adopts intermodalism, is dictated by the competitive edge it offers, and its consequent ramifications on the firm's profitability. Intermodalism manifests itself in the form of coordinated service and 'seamless' transfer between carriers of different modes offering two different legs of a transportation trip. The carriers could either be jointly owned, or else in alliance, to offer this 'seamless' transportation service.

In this chapter the economic and strategic ramifications of airlines offering ground access services are analyzed. The industrial organization literature is tapped for a understanding of the theoretical issues involved. In particular, the principles of commodity bundling are studied for their relevance. Wherever applicable, a transportation perspective is sought, by drawing parallels from the transportation freight

industry, an industry with technological and operational characteristics similar to that of the air transportation industry. (Appendix 6 gives a brief account of the structure and historical context of intermodalism in the freight transportation industry.)

Commodity bundling refers to the practice of firms marketing more than one product in a package. Products here refer to all possible combinations of goods and services. A policy to sell a selection of products only in a packaged form is called pure bundling. A policy whereby a selection of products is available as a package as well as in separate components is called mixed bundling. Thus, an airline, requiring passengers to use ground access services provided by it when they use its air service would be adopting pure bundling. Airlines providing ground access services in addition to air services, but giving passengers the option to buy some or all of these services would be said to have adopted a mixed bundling strategy. The products being bundled in this case are the different legs of the total trip.

In the freight transportation industry, bundles of intermodal services are becoming increasingly pervasive. Essentially, almost all freight movement not on trucks, is intermodal. Freight needs to be brought to, and moved from rail, air, inland water and maritime terminals (there are some exceptions in the case of movements of bulk commodities like coal which in some cases is moved directly from the mine to its destination (usually a public utility company) directly by rail or on barges). However, intermodalism in this industry is a relatively recent phenomenon that dates back to the evolution of the trucking industry as a competitor of rail on short and medium haul movements. Before that, railroads had a virtual monopoly in the freight transportation

industry (Gerhardt, 1989) and there was little motivation for them to coordinate their services to the pick up and delivery legs of the trip. The emergence of trucking as a significant competitor to rail transportation and the subsequent introduction of containers and trailers on flat cars (TOFC's), started the trend towards intermodalism in freight transport (Booz, Allen, and Hamilton, 1980).

A significant part of the bundling literature deals with the antitrust ramifications of a monopolist or an oligopolist firm exploiting its market position to tie in another (tied) good to sales of the monopolized good. Other studies explore the advantages of bundling in situations where characteristics of the products involved, either consumption or technological, make bundling an attractive proposition for the supplier or the consumer. The literature can be broadly classified into two types on the basis of its style and focus. The first type focusses on the strategic implications of bundling. The primary emphasis of this literature is to identify issues that would influence a firm's decision on whether it offers a particular collection of products as a bundle. This literature is very accessible and general. It is extremely relevant to the study of the possibility of airlines developing ground access services for passengers to and from airports. The second kind of literature is more theoretical and has its origins in the study of organization structure. It focusses on isolating the implications of bundling in different scenarios in a market. This is facilitated by mathematically modelling the structure of the industry involved, in terms of the nature of the relevant products, the market concentration of the suppliers and the nature of the demand.

In the next two sections, both strains of literature will be discussed with an

emphasis on their relevance to the transportation industry. The applicability of the theory to the case of the airline industry vis a vis ground access will be analyzed in light of the experience in the freight industry vis a vis intermodalism.

Strategic Aspects of Bundling

This body of literature develops a series of guidelines to identify bundling possibilities and scenarios where bundling would be attractive. Eppen, Hanson and Martin (1991) suggest viewing a bundled package as an entirely new product for marketing purposes. While a bundle usually takes less investment to create than a 'start from scratch' product, and is associated with less risk in the marketplace (since it is based, presumably, on information on consumer needs and preferences), a bundle has the potential to be marketed as a new product. Their article goes on to develop guidelines to develop competitive bundles and suggestions on how to implement them. Bundles can be used as tools to lower costs, expand demand, or enhance the performance of products. Lawless (1991) provides a descriptive model of the potential advantages of commodity bundling and its subsequent effects on the market if implemented. He argues that bundling can enhance a seller's competitive advantage by offering consumers packages which lower their costs or offer increased benefits. Hanan (1993) outlines the implications of orienting a market about groups of consumer needs rather than the demands of the production process. In this section the strategic implications of commodity bundling are examined in more detail, highlighting issues relevant to the transportation industry in general and ground access in the air

transportation industry in particular.

Factors Encouraging Bundling

Performance Enhancement: Theory

If bundling results in a product which performs better than the sum of its components, Eppen et al (1991) call it **joint performance bundling**. This enhancement can be a result of better compatibility between the component performance or better coordination. Lawless (1991) suggests that a **savings to consumers in transaction and information costs** from a bundle can be capitalized in the form of a price premium.

Performance Enhancement: Transportation Illustrations

An intermodal transfer at a terminal implies dead times. For each intermodal movement, cargo has to be unloaded from one mode, may have to be stored at a terminal for a length of time, and then would need to be loaded into the second mode. In addition, storage strategies on the two modes involved could be different and may need special attention. In the air transportation industry, passengers suffer similar delays at the intermodal transfer point (the airport) if the ground and air side services are not coordinated. Harper and Evers (1993) found that in freight transportation these considerations manifested themselves in the form of higher transit times (when compared to transportation on a single mode with no transfers), higher levels of damage accruing to the cargo, and unclear delineation of responsibility for such damage. In a survey of the transportation preferences of manufacturing companies of Minnesota, they

found that shippers perceived intermodal services as having greater transit times and having a poor record in processing claims.

The integration of carriers of different modes in the freight transportation industry (see appendix I) facilitates schedule coordination and consolidates corporate responsibility and thus is clearly a case of joint performance bundling. Coordination between the schedules of the two modes minimizes dead storage times, and coordinated intermodal transfers minimize cargo damage and pilferage. A bundle of goods with clear corporate responsibility would also result in savings to the shippers (consumers) in transactional and information costs of dealing with multiple authorities (the two modes involved, the authorities in charge of the terminal) in case of damage. The optimal utilization of the capabilities of a system of integrated transportation modes, to achieve an optimal multimodal bundle offering the consumer seamless 'door to door' transportation is exemplified in the small package express freight industry dominated by Federal Express and United Parcel Service (UPS).

These issues translate directly to the air transportation industry. If an airline provides ground access to and from its flights, it is able to coordinate the schedules of the air and land side services to minimize dead waiting times for passengers. A bundle offering 'door to door' (maybe downtown to downtown service with remote terminals) scheduled service would also offer savings in transactional costs to passengers arising out of integration of corporate responsibility, as in the case of freight transportation. Passenger would be relieved of responsibility for their baggage for a greater segment of the trip. Also, they will be relieved to a substantial degree of their responsibilities with

regards to schedule adherence, the responsibility for which (unforeseen traffic incidents on the road) would shift from the passenger to the airline. This could further minimize dead times (before and after the trip) for travellers (specially business travellers) who would otherwise have to design buffer times into their schedules. These factors would enable an airline to provide a higher level of service to the passenger than would be possible in an environment where independent landside and airside services were offered.

Another interesting manifestation of bundling considerations in the freight transport industry can be found in the industry structure in the fifties, before railroads faced competitive pressure from trucks for line haul. In that age, railroads were in a monopoly situation and had no incentive to orient their services around customer needs. However, the emergence of freight forwarders as a coordinating layer in between shippers and transporters (see appendix) suggests that there existed a demand for some sort of transportation service retailer, such that the consumer (shipper) could save on transactional and contractual costs of arranging the different legs of the freight movement himself. Freight forwarders, thus, filled a demand niche already existing in the market. Trucking operators, however, due to the 'door to door' nature of the service provided by them, did not need this layer of middlemen, and consequently, the growth in the truck industry coincided with decline of freight forwarding (Muller, 1989). Since deregulation, the integrated intermodal entities have adopted retail philosophies and attempted to reach out directly to the shippers, while non integrated intermodal carriers rely mostly on middlemen to act as retail agents for them.

The position of travel agents in the passenger air transportation industry, can be considered analogous to that of the facilitators in the freight transportation industry. Though there is an important element of difference between 'smart' human cargo and 'dumb' freight, the importance of middlemen in the freight transportation industry in the role of facilitators of feeder and distribution systems have implications for the potential of such services in the air transportation-ground access context. If sufficient demand for such integrated services existed, it would seem that in the absence of airlines providing them, travel agents would respond to the need in the market and integrate ground access airline coordination into the bundle of services they provide. Thus, the extent to which travel agents handle, or receive requests to handle, ground access services as part of an air transportation trip, is a good indicator of the potential benefits of such a service (at least from the perspective of consumers without a clear understanding of the potential savings they would accrue from such a service).

Customer Loyalty: Theory

Lawless (1991) suggests that a bundle based transaction can help lock in customers in the future specially in cases where information is hard to obtain and contracting costs are high. Eppen et al (1991) also argue that bundling can expand a firm's markets by inspiring brand loyalty.

Customer Loyalty: Practice

In most of the mergers detailed in Appendix 6, the transportation element

responsible for the line haul portion of the trip adopted a multimodal character. This behavior can be explained by the argument of Lawless (1991) that bundling can help to lock in customers where contracting costs are high. Thus, in the intercity domestic freight sector, the railroads acquired truck and barge lines to feed and distribute their traffic. However, in the international freight sector, the shipping lines are primarily responsible for intermodal integration. For example, American President lines, K-Lines and Sea Land (before its merger into CSX in 1986) started land transportation units so that they could offer inland cargo delivery on a single bill of lading (Muller, 1989).

This seems to apply to the air transportation industry as well. Image and visibility, as well as service are increasingly the fronts on which airline competition is based. Ground access is a natural extension of the services provided by airlines that reinforces these themes. If an airline dominates ground access provision to and from a particular airport, it can lock in demand to its airside services by making transfers from its landside to competing airside services costly. In the case of freight, these services were inspired partly by the potential threat of a competitor (trucking in the domestic case) locking in demand into their structure. This has important implications in the air transportation industry. If air travel faces competition that is more accessible than air travel presently is, while offering transit times which are similar to air, then airlines will have strong competitive incentives to provide a higher standard of accessibility to their services than they presently do. One such scenario would be if high speed rail develops to become a viable competitor to air in short and medium haul markets, and proves to be more accessible than air. In the California corridor (linking the San Francisco Bay Area and

the Los Angeles five county region) for example, a high speed connection from Santa Rosa to Irvine may well have a service advantage over a drive to SFO, a flight to LAX, followed by a trip to Irvine, in the absence of ground access integration.

Factors Discouraging Bundling

Economies of Specialization: Theory

Lawless (1991) discusses the supply side limitations to commodity bundling. A bundle oriented around a buyer's needs may require a variety of skills and competencies that are difficult for a single firm to produce efficiently. This trend could be reinforced in mature markets if there are economies of specialization for different components of a bundle. In a dynamic framework, shifting demand characteristics for the different components, may also make a particular bundle look uncompetitive, unattractive.

Economies of Specialization: Transportation Illustrations

This factor is particularly relevant to the air transportation industry. The skills and issues involved in running a shuttle service through downtowns is different, at the least, from those required to run an air service. Integrating the scheduling needs of the ground and air side is a good example. When compared to control for elements of uncertainty in the trip time for an airline trip (factors like the weather, wind speeds etc.), uncertainty for a ground trip (accounting for city specific traffic needs) requires completely different skills: demanding, in particular, much more site specific expertise. Moreover, in the present technological environment, with little viable competition to air travel for long

haul trips, and the existence of a multitude of specialized competition in the ground access sector (from private cars, rental cars, taxi cabs and various forms of public transit), it is not clear that airlines will be able to capture enough demand for their ground access services to generate any scale economies, specially when compared to specialized providers of similar services (private shuttles and limousine services). However, the extent of the costs involved for the airlines and subsequent modifications necessary in their operations, can not be estimated without a more detailed analysis. While in the freight transportation industry, these factors were dominated by the advantages offered by bundling, the differences in the technological environments under which the two industries work do not allow any extensions to be made in this case.

Economic Ramifications of Bundling

This literature is theoretical and evaluates possible motives for commodity bundling which are independent of the nature of the products sold, but rather stem from the characteristics of the industry structure. Most of the models developed in this context are not directly relevant to the situation in the airline-ground access industry. However, they do establish a framework within which the airline industry can be modelled to develop theoretical basis for bundling. The major results of this body of work are described along with suggestions for their potential relevance. Adams and Yellen (1976) study the impact of commodity bundling in monopoly markets. Burnstein (1960a) evaluates the advantages of tying good arrangements of competitive goods to a

monopolistically produced good. Anderson and Leruth (1993) study markets with duopolies in both the tying and tied good markets. Dansby and Conrad (1984) evaluate the impact of commodity bundling in markets where the products are complementary.

Most of these studies found that a mixed bundling strategy was most profitable in most cases, more so as market concentration increased. They also found that bundling helps to sort out consumers by their reservation price for goods and is thus some sort of self selection device for price discrimination.

Adams and Yellen's (1976) study focussed on a two good monopolist offering two independent goods i.e. goods without complementarity in consumption. They found that in such a market, under a variety of demand scenarios mixed bundling was more profitable for the firm than simple monopoly pricing. Dansby and Conrad extended the work to complementary goods, in competitive markets and got similar results. This suggests that airlines could find getting involved in ground access, and selling packages of ground and air trips a profitable enterprise. Anderson and Leruth (1993), though, argue that in a two good duopoly market firms would prefer not to bundle, arguing that this would increase the number of fronts the firms were competing on, and subsequently drive down profits. They found that pure components pricing was the optimal equilibrium in such a market.

The results of these models suggest possible outcomes of a decision of an airline to provide ground access which vary with market structure. However, nothing concrete can be said without analyzing the specific demand and market structure involved. Some interesting market scenarios do present themselves as candidates for further modelling.

Earlier in this chapter, the hypothetical case of an airline dominating ground access at an airport and consequently making transfers to competitors costly was mentioned. A similar structure was modelled as a monopolist tying the sales of an competitive good to the sale of the monopoly good by Burnstein who concluded that such a tie in if enforced could be profitable for the monopolist. This model can be used to develop a model for the airline industry which can yield insight into the possibilities of airside and ground access tie-ins.

CHAPTER 4. SURVEYS

Introduction

The third phase of the research explored the experiences with and attitudes toward increasing airline involvement in airport ground access on the part of airline and airport management personnel. To do this, surveys were conducted. The surveys employed standardized questionnaires, but most of the responses called for were open-ended.

Airline Surveys

During survey design and sample development it was determined that two surveys for the airlines would be necessary, one for station managers at a specific airport, and one for at the corporate headquarters level. The main difference between the two surveys is that the survey at the headquarters level is more detailed and contains questions related to marketing and strategy. The surveys were conducted to determine current airline participation in airport ground access, to ascertain innovative practices of airlines in providing ground access services, and to evaluate the airlines' attitudes towards providing such services. The first survey targeted airline station managers at San Francisco International Airport. The questions utilized for this survey are located in Appendix 3. Of the ten United States carriers queried at San Francisco International Airport (SFO) for the survey, six were actually reached and included. The six airlines are: American Airlines, America West Airlines, Continental Airlines, Northwest

Airlines, Southwest Airlines, And United Airlines. The second survey was administered to airline personnel in various branches to also evaluate which departments are typically involved with airport ground access matters. The questionnaire for this survey is located in Appendix 4. Six people representing five different airlines (America West Airlines, Continental Airlines, Delta Air Lines, Inc., Horizon Air Airlines, and Southwest Airlines) were surveyed. Both of the surveys were conducted by telephone. The actual responses of the Airline Station Manager Survey and the Airline Headquarters Level Survey are located in Appendix 3 and Appendix 4, respectively.

San Francisco Airline Station Managers

Based upon the responses from the airline station managers at San Francisco International Airport, the airlines are doing virtually nothing with respect to providing ground access services for their passengers. The managers tend to feel as though ground transportation to and from the airport is not their responsibility. They believe the responsibility lies with either the city in which the airport is located or with the airport commissions.

Two airlines did, however, mention ground transportation services which have been provided or attempted. Presently, United Airlines works through the airline association, the department of airports, the political channels, and the community to ensure that public transportation to and from the airport exists. The other example, America West, attempted to provide ground transportation to the suburbs. The service was a bus to and from Skyharbor Airport in Phoenix to the suburb of Scottsdale. If one

was flying into Phoenix and wanted to go to Scottsdale, the ticket would reflect that. Once off the plane, the passenger would board the bus and the baggage would be automatically transferred from the airplane to the bus or from the bus to the airplane for the other case. The program was called the Careliner and according to the station manager at SFO, the program failed miserably because participation was low and costs too high. A more detailed discussion of the Careliner service is addressed in the next survey (Airline Headquarters Level).

Limousine services for passengers are not provided by any of the surveyed airlines at San Francisco International Airport. However, at particular airports and for brief periods of time, some of the airlines had promotions where limousine services were provided for first and/or business class passengers.

The airline station managers at San Francisco perceive that airlines should not be involved with providing ground access services directly because it is not profitable for them. Some of the airline station managers believe airline involvement in reducing ground transportation at the airport is a good thing but it could only work if it is profitable and if it is done in an organized manner. For example, the station manager for United Airlines suggested that maybe all of the airlines, through their associations, could work with the community and the airport to come up with a ground access system which is best for everyone.

There were mixed opinions on the question of whether airlines should take landside transportation concerns into account when scheduling their flights. Several of the station managers pointed out scheduling is done at the airline headquarters and

there are too many other factors to take into consideration when scheduling. Some of these factors are: how many planes are available, when passengers want to fly, hub considerations, gate space, runway capacity at the airports, and FAA spacing in the control tower. For those airline station managers believed that with public transportation becoming a key mode of transportation, scheduling must be organized to synchronize the various modes. But they also admitted that it would be a very difficult if not impossible task because of the reasons mentioned above.

Most of the airlines surveyed currently have information services available, which includes ground access information, for their passengers in the CRSs at the airport. Information is provided based on inquiries, it is not voluntarily provided. In general, the station managers believe that ground transportation information for the airports should be coordinated and available in the airlines' computer systems.

The airline station managers were asked who in the airline would determine whether ground transportation services should be provided. Most of the station managers were unsure of who would be involved. Some of the station managers said that for San Francisco in particular, they would have some input but management at the corporate headquarters would make the actual decision.

Airline Corporate/Headquarters

Several different types of airline personnel were questioned for this survey to determine the airlines' involvement in providing ground transportation to its passengers as well as to learn who at an airline would be most informed on this issue. The various

departments represented in this survey include Hub Operations, Customer Service - Budgeting, Airport and Reservation Services, Corporate Marketing, Operations, and Marketing Planning. When asked who at the airline would be most informed on providing ground access services for the passengers, the airline representatives responded Operations, Marketing Passenger Services, and Station Managers at the specific airports, but only one person was willing to provide actual names or phone numbers. This means there is no specific department within the airline framework for providing these types of services, it is handled on a situational basis.

Based upon responses from the airline representatives, currently none of the airlines surveyed are doing anything to facilitate ground access for the passengers. Only two of the airlines provided ground transportation services in the past, America West Airlines and Continental Airlines. In 1987, America West Airlines initiated a remote terminal/shuttle bus operation called the Careliner. The service was initially only between Skyharbor Airport in Phoenix, Arizona and the local airport in the suburb, Scottsdale. Later, the service expanded to a few other Phoenix suburbs including Mesa. The program had two primary objectives. One was to provide ground transportation services to the passengers in the suburban areas and the other was to try and increase ridership at the airport by publicizing this service. The operation was very convenient, not only with the traffic congestion and parking burdens associated with an airport, but also because of the facilities available at the remote terminals. America West personnel were stationed at these remote terminals for check-in services, seat assignments, baggage handling, and ticket sales. Passengers could easily park at the remote terminals, go

through ticketing and baggage check-in, board the shuttle bus, and only have to go to the gate once dropped off. The Careliner service was not heavily marketed. Advertisements were placed in the flight guides, newspapers, in ticket jackets, and in the in-flight magazines. The buses were also a moving billboard containing the Careliner's logo.

Initially the transportation to and from the airport was free. If a passenger appeared at one of the remote terminals with an America West Airlines ticket (with the appropriate date and time), that passenger could utilize the services. Later, when America West ran into financial difficulties, the service was ticketing as an origin/destination and users were charged about five dollars each way. The transportation between Skyharbor and the remote terminals was negotiated with certain vendors such as Greyhound. America West was billed on a per segment basis. During the service's height, there was about five or six buses with departures every hour between 6:00 a.m. and 10:00 or 11:00 p.m., and every 30 to 45 minutes during the peak travel periods. Overall, the service was never a big revenue producer, it was more of a perk, an added service for their passengers.

The representative of Continental Airlines mentioned shuttle services which had been attempted from terminal to terminal and airport to airport but was not willing to discuss the details. Although not aware of any ground transportation services, the representatives from Delta Air Lines, Inc. and Southwest Airlines emphasized that they are constantly optimizing customer service. Delta Air Lines also mentioned the vehicle services provided to non-ambulatory passengers between concourses at the airports.

None of the surveyed airlines have provided limousine services to the high yield

customers. The Continental Airline representative remarked that it had been considered as a competitive match to international services but was not able to comment on which class of services being considered. When posed the question regarding limousines, the America West representative mentioned a few other ground transportation type services which have been attempted, valet parking, garage level check-in, and satellite operations. The valet parking and the garage level check-in services were only considered perk type services and never had any revenue impacts. The satellite operations involved two fast-check parking lots. Passengers would drive to a booth, get seat assignments, process baggage, park, then go directly through security to the gate. The service was very convenient for the passengers but it was also extremely expensive to the airline. This was another service which was ended due to the bankruptcy filing of America West Airlines.

The airline representatives believed that typically the airline planning and decision process for providing ground services at a particular airport is from the top down. The departments involved include Marketing, Planning, Sales, and station managers. The station manager's involvement would be an evaluation of whether or not a particular service could work operationally and whether the specific airport authority would permit the service. Due to the current traffic congestion situation at many of the airports, the airport authorities and the landside operations departments are not allowing additional ground transportation services unless it would provide a significant improvement.

From a business standpoint, all of the airline representatives believe that airlines

should not be involved with providing ground access services because it is perceived as being unprofitable and there is already a sufficient number of vendors at airports providing services. For the case of Horizon Air Airlines, providing ground transportation is unimaginable because of the type of airline it is. Horizon Air is a regional airline with an average of about 30 passengers per flight and a ticket price of \$85. The airline feels as though its impact on traffic at the airports it serves is minimal due to the small amount of passengers, so ground transportation is not an issue of concern. Most of the representatives stressed the fact that they are an "air" carrier, so the focus of operations should remain with the air transportation segment not in diversified services.

The airline representatives unanimously agreed that airlines should not take ground transportation concerns into consideration when scheduling flights. The flight schedules are determined based upon customer demand, competitiveness of the industry, frequencies, and the availability of airplanes. Since the airlines are in a free market economy, schedules must be governed by placing the product where the customers want to be.

Providing information about ground transportation services at a particular airport is not a significant concern of the airlines according to those surveyed. Currently, several of the airlines have a limited amount of landside access information in the Computer Reservation Systems but adding more information would require a lot of programming time to input the data and keep it updated. In addition, the airlines emphasized that the information is readily available elsewhere, so why add an additional burden on the airlines. The information services some airlines provide include names and phone

numbers for ground transportation vendors and endorsements of particular vendors to their passengers. For example, America West Airlines utilizes Dollar Rental Car Agency as an exclusive carrier. Frequent flyer passengers are given a discount on a rental car if a America West Airline ticket is presented. But, based on the responses, the airlines do not want to be involved with providing ground transportation information to passengers unless there is a demand for the service or if it becomes an issue in deciding which airline a passenger will use.

All of the airline representatives surveyed mentioned services which had been attempted or are being provided currently when questioned about considering multimodal services involving surface transportation. This was interesting because only America West Airlines had mentioned such a service prior to this question even though all of the airlines were involved with this aspect of providing ground transportation to the passengers. Continental airlines mentioned two multimodal type services, ferries in Scandinavia and buses in the Colorado ski areas. The details about the ferry services in Scandinavia were very limited. The service involved Scandinavia Airlines having ferries (with flight numbers) which connected to Continental Airline's flights. The representative did not know if the service was even still in existence. The Colorado ski market services were more similar to a vacation package. Passengers were provided with an integrated package including air travel, ground transportation, and in some cases hotel accommodations. The only problem with the service was that for ticketing services, a "flight" number was required by the Computer Reservation System to ticket a passenger on the bus service from the airport to the ski resort areas. As noted

previously, passengers assumed the entire trip was by air no matter what was done to inform the travel agents and the passengers. Passengers went so far as to say that Continental was engaging in false advertising.

The Delta Air Line's representative discussed a service which was provided prior to the hub and spoke system called ground taxi. The ground taxi was identified as one segment of a flight itinerary where a limousine type vehicle provided transportation from a serviced airport to a non-serviced area. Horizon Airlines has a successful van service between Portland and Salem, Oregon. It is considered an essential air service route but the airline does not feel that an air service is necessary so an arrangement was made with a ground transportation vendor to provide the service. The van transport is listed as a flight number in the CRS so the passengers are ticketed for the full transportation service. Apparently the service is successful and still in operation. A similar situation exists in Tennessee. Southwest Airlines is not independently providing the service but there is a bus company that connects to the airline's flights. The service is between Little Rock and Memphis. Since the airline does not provide air transportation between the two cities, a bus company has decided to service that market. The bus company arranges their schedules according to the airline's arriving and departing flights to provide transportation to passengers between the two cities. Southwest Airlines' only involvement in this service is providing the flight schedules to the bus company.

The airline representatives tended to agree that it is not likely that an airline would try offering a door-to-door service for passengers similar to United Parcel Service (UPS) or Federal Express in the foreseeable future. The America West representative

mentioned that people come from so many places, and since there are presently ample shuttle and other services available, why change the situation. Another strong comment was made by the representative of Continental airlines. The door-to-door service industry does exist today, why is there a problem with different companies providing parts of the services as long as it is available. The representatives from Delta Air Lines and Horizon Air Airlines addressed the operational concerns of a door-to-door service. Primarily, since the subject is a passenger rather than a package the cost to provide the service is much greater, time is a major factor (packages only have to be delivered prior to a certain time), and security and insurance would be a problem for both passengers and baggage. The Southwest Airlines representative emphasized the situation of the ailing air transportation industry and the only concern airlines can address now is controlling costs.

Airport Survey

The airport survey was designed to determine many of the same issues as the airline surveys: to determine current airline participation in airport ground access and to evaluate attitudes pertaining to the suitable role of airlines in providing ground access services to passengers. The survey was designed to be administered to a cross-national sample of airports but due to the complexity encountered in conducting the survey, the Airport Survey was redefined to a set of case studies.

The airports were selected based upon their location (in California) and as being representative of typical commercial airports. The airports were also chosen because of

the existing ground transportation problems associated with them. The two airports studied were Los Angeles International Airport (LAX) and San Francisco International Airport (SFO). Treated similar to a case study, both of the airports were visited to determine what ground transportation services were available to the average air passenger as well as to conduct the survey directly with the airport representative. The airport representatives surveyed were from the Landside Operations Department for both of the airports. The actual survey results are located in Appendix 5.

Los Angeles International Airport (LAX)

An on-site visit was conducted to determine what ground transportation services were available at the airport in addition to the actual survey. The airport has several ground transportation booths located outside between each of the terminals. There are airport personnel providing information to any person who inquires. The information booth contains lists of various shuttle service companies going to particular locations in the Southern California area, such as Disneyland. The lists also contain prices for the shuttle service to specific locations and major hotels. The airport itself has a free shuttle service providing ground transportation to and from terminals and parking lots. A particular service provided by one of the ground transportation vendors is the FlyAway operation from Van Nuys to LAX. The FlyAway service is very similar to the Marin Airporter remote terminal/shuttle bus operation in Marin County, California except the FlyAway is owned and operated by the Los Angeles Department of Airports. The FlyAway is a 24-hour scheduled bus service supplied through a contract with a bus line.

Fares are currently: \$3.50 one way, \$6.00 round trip, free for children under two years old, and \$1.75 each way for children from two to twelve. All of the ticketing and fare collection is done at the terminal in Van Nuys. Several amenities are available at the remote terminal including waiting areas, vending machines, courtesy and pay telephones, restrooms and some airline services. Currently there are seven airlines which provide ticketing and travel planning/sales services (but not check-in and baggage services) at the remote terminal. The seven airlines are American Airlines, Continental Airlines, Delta Air Lines, Northwest Airlines, TWA Airlines, United Airlines, and USAir. The airline services are available to both FlyAway users and non-users and operate during normal business hours. A large parking facility is located adjacent to the terminal with a \$1.00 per day parking fee with a 15 day maximum stay. The FlyAway service is also available to non-air passengers. To encourage use of the high-occupancy vehicles, commuters with monthly passbooks are permitted to park for free. As an additional service, security is provided for the entire terminal area in Van Nuys.

According to the airport representative, there is pressure to reduce the vehicle traffic generated by the airport. The pressure primarily comes from internal sources but also from organizations such as the Air Quality Management District (AQMD). The airport is constantly trying to provide a convenient service and there is a concern that the service to the public could be improved if there was less traffic congestion at and around the airport. According to internal policy, passengers should be able to enter and depart an airport without delays and in a convenient manner.

The representative was not aware of any particular airline providing ground

access to its passengers. The only service mentioned was the Van Nuys FlyAway service. But according to the representative, the airport does not monitor the contribution of airlines, either individually or collectively, to road traffic at the airport so knowledge of airline involvement in providing ground transportation to passengers would likely be minimal. The airport representative also alluded to the airport providing all of the ground access services. The airport has never really considered holding the airlines responsible for bringing their passengers to the airport. It is the majority of air passengers who are causing the traffic congestion problems by choosing to use the private automobiles. People have the option of utilizing other modes of transportation to the airport, such as taxis, shuttles, or buses, but people chose to access airports with a private automobile.

The airport envisions airlines increasing their involvement with improving ground access at the airport in the long term, but not in the short term. The airport representative believes that the airlines perceive the airport as being responsible to provide the ground access facilities for the passengers using the airport since the airlines only lease the space. The airport envisions increased airline involvement in the long term with respect to the proposed transportation center. The transportation center will provide facilities for the new Green Line rail transit line, rental car agencies, shuttle bus vendors, taxis, and limousines, and will have a people mover system to transport the passengers to and from the airport. The airline involvement would be in the passenger processing area. A concept of the transportation center is to have facilities for ticketing, seat assignments, and even baggage handling to make passenger services as convenient

as possible. This would help in encouraging more people to avoid using the automobile for transportation to and from the airport because many people avoid using alternative modes of transportation due to the inconveniences associated with baggage.

For the most part, the airport does not even consider increasing airline involvement in ground access services because of the attitudes of the airlines with respect to the issue. The airport believes the airlines' perspective is probably, people make a decision on the method of transportation to and from the airport and airlines cannot tell the passengers how to access the airport. Airlines have the detail that they are only leasing the space from the airport authority and if the airlines were required to end or reduce service at the airport they would create significant economic impacts not only on the airport but also on Southern California. So, the airport focuses on trying to make services better for the travelling public rather than try to create incentives for airlines to be more involved.

There is virtually no interaction between the Landside Operations department and the individual airlines at LAX. The only item for which the airlines contact Landside Operations is permitting for the vehicles. The department is considering using new decals for the airlines' crew transit because the airport police often mistakenly ticket some of their vehicles. Issues such as this are the only interaction between the airlines and the Landside Operations department.

Some additional information concerning ground transportation at Los Angeles International Airport (LAX) is located in Appendix 5 under "Comments\Additional Information" at the end of the survey results.

San Francisco International Airport (SFO)

Currently, San Francisco International Airport (SFO) has information booths in the baggage claim areas that offer ground transportation information on demand. Various types of information services have been attempted such as television screens and recorded messages, but having a human being in a booth had been determined to be most effective. The personnel in the booths are also equipped with the ability to speak a number of foreign languages due to the nature of the travelers through SFO. An additional source of information is the bulletin boards with a courtesy phone for various shuttle, hotel, and rental car services.

The ground transportation situation at SFO is considerably different than that at LAX. SFO is mandated by law to reduce the vehicle traffic generated by the airport. Traffic reduction is required by the Air Quality Management District, the Mitigation Plan for SFO's Master Plan - Environmental Impact Report, and a memorandum of an agreement with all of the cities in the airport area. According to the Master Plan, trips to the airport must decrease by two-percent per year for the first five years and one-percent per year for the life of the Master Plan. Monitoring is being conducted by a group called C-CAG which is similar to a Council of Governments, containing representatives of all of the cities in San Mateo County. The airport is required to meet with C-CAG on a regular basis to discuss the status of the implementation measure.

The Landside Operations representative from SFO was not aware of any particular airline providing ground access services for the passengers at the airport.

Although it was maintained that the airlines have all of the employees park in remote lots and shuttles transport the personnel to the airport. But, essentially every person who works at the airport gets transported to the terminals as part of airport policy.

At certain times of the year, the airport monitors the contribution of airlines to traffic at the airport, as a secondary function. During the peak travel seasons such as major holidays, passenger projections are obtained from the airlines to approximately determine how many passengers will need to be accommodated at the airport. From the projections, the airport determines what measures will be necessary to distribute the traffic problems.

The representative for SFO did not want to express an opinion regarding what the airlines' responsibilities should be in providing ground transportation services to the passengers. Although it was stated that in areas such as Europe and maybe in Chicago, airlines are becoming more interested in rail type of services. High-speed rail is a strong topic for possible utilization in the short-haul trips. This would not only relieve traffic congestion at an airport but high-speed rail would also make more air capacity available for long-haul trips.

Another difference between LAX and SFO is that at SFO, Landside Operations and the airport visualize increased airline involvement in improving ground access at the airport being served. Due to the Master Plan and Capital Development Program process in progress, airlines are becoming involved with ground transportation issues. Airline personnel, mostly Station Managers, are required to be involved in several of the committees and sit in on the Master Plan Implementation meetings. In addition, as a

part of conducting business at SFO, the airlines are required to participate in the creation and implementation of trip reduction rules to attain the two-percent decrease in traffic at the airport. Each of the airlines are to provide a contact person who will be trained and put together a trip reduction plan for the airline. Ground transportation for passengers will be addressed in a group containing airport personnel and all of the individual airline contacts. As a group, the airlines and airport will determine how to better provide ground transportation services to the air passengers. Initially, information services will be increased to encourage use of high-occupancy ground transportation.

Previous to the Trip Reduction Program, Landside Operations did not directly interact with the individual airlines. Typically all ground transportation issues from Landside Operations was directed through the Airfield Operations department. Currently, it is uncertain whether the airlines will display different levels of cooperativeness in working with the airport on ground access because the interaction has only just recently begun. Due to historical airline operations, the airport does anticipate the larger carriers, United Airlines and American Airlines, to be the major contacts. For more information concerning this survey, the results can be found in Appendix 5.

CHAPTER 5. CONCLUSIONS

As addressed previously, the primary objectives of this report were to examine the possibility of expanding the role of airlines in providing ground access to passengers, to assess the historical and current involvement of airlines with ground transportation, to develop a set of scenarios in which the airlines' role could be expanded, and to evaluate the opinions of the air transportation industry on the issue of airline participation in airport ground access. Although parts of the report may sound suggestive, this report does not imply that additional involvement of airlines in providing ground access services is warranted. The document is merely presenting prior and current conditions, industry attitudes and opinions, and possible alternatives through which airlines could be involved.

Currently, almost nothing is being done by airlines to provide ground transportation services to the passengers. In the past, airlines such as America West and United have been involved in an assortment of services including remote terminals, buses, and shuttles. From the review of trade literature and expert interviews, a set of scenarios were developed which offered methods by which airlines could increase the involvement in providing ground transportation services. The scenarios include: offering services to places not often provided by air (excursion/seasonal), hubbing and rehubbing, rescheduling flights, offering information through Computer Reservation Systems (CRS), rail systems (high-speed rail, maglev, and local rail transit systems), bus and shuttle services, limousine services, water access, park-and-ride facilities, remote terminals, and

advanced technologies (IVHS, PRT).

The various scenarios identified above are all examples of a more general economic phenomenon known as bundling, in which a firm offers a combination of goods or services as a single product. As indicated in Chapter 3, there bundling has both pros and cons. The advantages of bundling include improvements to the quality of services as a result of coordination, and the development of customer loyalty. In some instances, bundling may also enable suppliers to extract additional rents from passengers by more effectively exploiting their control of particular assets. The main disadvantage of bundling is the loss of economies of scale and specialization. In the context of airlines, this could manifest itself in airlines undertaking activities that they are not "good" at, and possibly the fragmentation of the ground access market among many airlines when it could be more effectively served by a smaller number of firms. Based upon the survey results, it was determined that the airlines are reluctant to be involved with ground transportation services because they consider them to be the responsibility of the local airport authority, adequately accommodated by other private and public vendors, and unprofitable. The airports tended to agree with the airlines, although at San Francisco International Airport, the airlines are being required to increase their involvement in order for the airport to comply with the Trip Reduction Ordinance in the Airport Master Plan.

The most obvious interpretation of these findings is that in the context of air passenger transportation, the "cons" to bundling of ground access and air transport services outweigh the "pros." Airline feel that they have no special competence in these

services, and that they want to retain their identity as a supplier of air transport rather than of multi-modal transport. To some degree, these views are supported by unsuccessful experiences with offering multi-modal services, either as a result of their failure to attract sufficient patronage or because of passengers' perceptions that it is deceptive to include ground transport services on an airline ticket. Frank Borman, CEO of Eastern Airlines, once said that baggage claim "is the last opportunity for an airline to [anger] a passenger." From the airlines' viewpoint, offering ground access services only extends this opportunity.

Thus, it seems clear that U.S. airlines will not, on their own volition, significantly expand their role in ground transport services in the foreseeable future. The question for policy makers is thus whether, and how, such expansion should be encouraged. This in turn rests on the issue of the quantitative significance of the shortcomings of the present system. Would airline involvement in ground access significantly shift airport access trips toward higher occupancy vehicles? Would airline scheduling and routing decisions be affected if they were more directly responsible for ground access? Would passengers, once used to such a system, be much more satisfied? These are the types of questions that must be resolved before further action is taken to impress the intermodalist philosophy on the passenger airline industry.

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APPENDIX 1. INTERVIEWS

Rob Frazier

Date: Tuesday, September 15, 1992
Title: Graduate Student Researcher
Location: McLaughlin Hall Room 107A

The project consisted of two case studies of remote terminals where bus or rail is used to access the airport. One is a terminal operation in Marin County accessing San Francisco Airport called the Glen Airporter. It offers bus service from Larkspur with a few other stops. The other is in Van Nuys serving Los Angeles International Airport (LAX) called the Fly-Way. The one in Marin is privately owned and in LA is run by the Los Angeles Department of Airports. As far as airlines go they play a role by having ticketing services at each of the terminals and at one point American Airlines was even checking in passengers at these remote terminals. This lasted for about 1-1/2 years until the Persian Gulf War started and the airports went to Level 4 security. Since then though the airlines have not shown any interest in doing it again.

Just American and United Airlines were providing this service. It would be unrealistic to have any of the smaller airlines providing the check-in service at the remote terminals because of the small patronage. The actual service from the remote terminal was completely private (the airlines played no role in actual ground transportation).

The owner (Grace Hughes -415-461-4770) of the remote terminal is trying to get the airlines back into the terminals for providing check-in service. There are a few remote terminals where there is still check-in service but you will have to talk to Professor Gosling about the possibilities. One possibly in Arizona with American Airlines where the airline actually has its own bus line with the flight number on the bus (believes it is Scottsdale).

Robert Jacobsen (714-240-3513) in Southern California is trying to organize a company (SOCRATES - Southern California Remote Air TErminalS) which would provide door-to-door service. He wants it to be in a luxury fashion with vans and limousine service where they check the passenger and baggage in at their home. They will then take passengers to a remote type terminal where passengers transfer into a luxury bus with phones and FAX machines which take them to the airport. The passengers would not have to deal with their baggage once they left their home, it would be taken care of for them. Mr. Jacobsen would like all of the transportation arrangements to be taken care of at the travel agent through the computer facilities. The service would be provided from the Anaheim area (primarily hotels) to LAX.

It was found that the remote terminals were quite successful. Marin makes money on the remote terminal. The one in LA does not because it is publicly run with

high quality services. Due to the high air quality restrictions commuters also use the remote terminal services. The cost is very low, even lower for commuters, and it is a subsidized program. To meet company air quality standards some airlines have their employees use this to satisfy requirements.

Some additional information which could be useful:

LAX - Air Passenger Survey Results (also one for Bay Area)

LA Department of Transportation - book on Promoting HOV use

(Ask if airlines played a role.)

Jens O. Rivera (213) 646-2060

Jan Fambro / Shelly Fischer (213) 487-0830

LA International Airport Multi-Modal Ground Access Study -prepared by Wilbur Smith Associates

Alain Andrey

Date: Wednesday, September 16, 1992

Phone: 01/812 49 02 (at Zurich Airport)

Title: Swiss Air Airlines

Location: McLaughlin Hall Room 214

Q: I recently started a research project on airlines and airport ground access to determine if the airlines should be responsible for more of a door to door service than only the airport to airport service. Does Swiss Air provide any services related to this and if not, have they in the past or do they have any future plans?

A: In the old days, Swiss Air owned buses which served downtown points in Zurich and Geneva but that stopped when the Swiss Railway Company opened a terminal in the airport. Such a link is quicker than a bus and it brings you to the main station from which you can transfer to another mode of transportation or onto another train. The railway in the airport not only links cities but also all of the country.

An additional convenience includes blocked cars between the airport in Zurich and the capital Berne. These are cars on trains which publish the flight number on the train car itself so you can just get on and go to the airport. The tickets for the rail transportation service is purchased at the same time as the airline service.

The first thing Swiss Air offered was something called Rail-Fly luggage where at some 50 railway stations you can check in your luggage and it will later be handed to you at your destination. The second improvement was actual check-in services at the railway stations, you check-in luggage, get boarding passes and seat arrangements. The Fly-Rail concept took much longer because of the safety problem of getting the luggage from the airport to the train. They were very much concerned with the transportation of the luggage on the train. They could not afford to have personnel on the train themselves. But since the post office uses the train to transport mail, they have to provide a person to watch and sort the mail in the rail car. This gave Swiss Air the opportunity to have

a physical person watching the luggage. In addition the luggage has a seal on it to ensure full transfer and to protect the baggage from theft. People have found this particularly useful. For example with skiers. At your hotel you check in all of your equipment and you do not have to deal with it again until you reach your destination. On the United States side, once you check-in at the terminal say in San Francisco, you will get your luggage at your hotel in Switzerland.

From the security point of view this was not a concern. They did however have to negotiate with the government concerning customs. Typically you had to clear your baggage in person. This was solved with passengers declaring in writing. To deal with the problem of smuggling customs did occasional spot-checks. Customs was given a list of the people who used this service and from there customs decided whether or not they would clear the luggage.

This service is free of charge for business fare and first class. The economy passengers have access to this but they must pay a fee.

For the airlines, the city to airport transportation is no longer a concern because trains are available for both Geneva and Zurich. You never have to leave the building for the transfer from the train to the airport. The buildings also often contain shopping centers.

Swiss Air with the coordination of the government started promoting public transport to the airport. The promotion is quite simple. It consists of public announcements, commercials, and ads. The surroundings of Zurich of about 50-miles there is a strong surface transportation system between the buses and trains. At least every 30-minutes in more populated areas and every hour in less populated areas, you can get transportation to the airport. Once this was working well the government started charging for things like curb-side parking and increasing parking fees to about \$30/day. Parking is still fairly full but public transportation is being used more and more. This has reduced traffic and pollution at the airport. The difference between Europe and the U.S. is that cities in Europe cannot expand, neither can the airport. The only thing they can do is add terminals

but this would require great promotion of public transportation. Since the airport is government owned a public vote must decide whether expansion occurs. It is important to note that the public transportation is subsidized in a way.

The main problem in the States is the freedom of movement (private transportation) and the expansion of growth. The density of American cities does not allow for efficient public transportation. Public transportation in U.S. is for the "poor chap." If you do not drive it is because you cannot afford a car. Also the U.S. has no consideration of the energy they are using.

Public transportation in U.S. is often dirty and unsafe. Another problem you face is that mentally people are not capable of transit. It cannot offer the privacy and convenience expected, it limits freedom. Distances are also a problem for the U.S. Several cities in Europe are was called "living streets" were there is a 10 mph speed limit, trees in the middle, and speed bumps making private travel difficult. They also have eliminated parking spaces within the middle of cities while adding spaces outside with charged park and ride services.

Another difference is the mixed use planning. People in European cities often live in the business areas. This population in mixed areas often press the issue of less traffic on the streets. This gives an extra push for the government to exercise power to promote public transportation.

Your project is a good thing but a lot of work is involved. You will have to make situations at the airports lousy to make people avoid driving. There is a problem with the private shuttles because of competition with public transportation. The public transportation must provide direct access to the terminal avoiding changes because of the Americans laziness pertaining to luggage.

Americans are smart in business but once the deal is set there is a loss of interest. Plans must be water tight and thoroughly organized. You should provide simple things like accessible carts that can use escalators and extreme publication of services. You must also be able to buy train tickets there with whatever currency they have. The best option is to check-in luggage on the transportation but it is extremely difficult safety wise. Everything must be very convenient. Public transport must be extremely attractive, quiet, nice, efficient, and safe. It also must be very attractive which requires high subsidies.

Currently, Swiss Air is researching into the possibility of providing check-in services at some of the larger hotels. The biggest obstacle is the staff required to handle the ticketing services.

Garth Hopkins

Date: Thursday, September 24, 1992
Title: Department of Transportation
Division of Aeronautics
1130 K Street - 4th Floor
Mail: P.O. Box 942874
Sacramento, CA 94274-0001
(916) 324-0761

Q: What do you know about this project?

A: To be honest, he had only read the brief description provided by the Institute of Transportation Studies for the student's reference. But he mentioned that the concept of airport ground access is part of his role at Caltrans. He recommended looking at the proceedings which resulted from the Off-Airport Terminal Forums conducted by Geoffrey Gosling 1-2 years ago. Another possible thing to look into is a United Airlines shuttle service between some town in Illinois and the airport in Chicago (O-Hare?). It is the perception that airlines will have to do more concerning airport ground access in the future. Currently there are Off-Airport terminals in Marin and Van Nuys,

California.

Caltrans is interested in funding an off-airport terminal in the Los Angeles area and they have found that airlines do not seem to care about ground access whatsoever. Also there is a problem with the baggage issue for insurance purposes. Caltrans anticipates that in the future there will have to be more government and airport cooperation with airlines if airlines want to continue to get passengers.

Q: What is Caltrans trying to get out of this project?

A: Since Caltrans is interested in off-airport terminals they really want to get the airlines more involved with the process. Caltrans is interested in how to get more airline interaction in the ground access issue. He said that within the Bay Area itself, for congestion purposes, the airlines can do more by putting more flights through San Jose and Oakland providing San Francisco with more International possibilities. This could help with ground access.

He requests that we keep him informed on this research project.

Janice Gendreau

Date: Thursday, October 29, 1992
Title: Janice Gendreau
Associate Transportation Planner
Landside Operations
San Francisco International Airport
P.O. Box 8097
San Francisco, CA 94128
(415) 761-0800

Q: How does your office interact with the individual airlines in matters pertaining to ground access transportation at the airport?

A: The airlines themselves are not particularly involved with landside access. The Landside Operations office has various proposals to get the airlines to provide information to the passengers. The one thing some of the airlines do provide pertaining to ground access is solicitation of a particular shuttle service. Currently, Landside Operations and individual airlines are working on a project to place television sets in the baggage claim areas with programs introducing the incoming passengers to the various landside access opportunities. The television projects will also familiarize the passengers with various aspects of the airport. This project was initiated by Landside Operations and the airlines have been receptive to the concept.

Q: Do you see any possibility for airlines to increase their involvement for making ground access better at the airport?

A: Airlines show no initiative to get involved with landside operations. The one thing she has heard is that Caltrans plans to approach the airlines concerning their possible involvement with high-speed rail to the airport. This concept is similar to the Lufthansa high-speed rail interaction in Germany.

Q: I have been trying to reach Airline Station Managers to ask them questions pertaining to ground access, but it is extremely difficult to get the name and phone numbers through reservations personnel. Do you have access to the name and phone numbers of the Station Managers, and if you do how can I get a copy of it?

A: She believes that their office has a list of Station Managers and their phone numbers in the form of a mailing list. If it is found they will mail it to Geoffrey Gosling's office with "Attn: Krista Rhoades." If they cannot find the list she will contact me to let me know that they do not have the information.

Gail Staba

Date: Thursday, March 4, 1993
Title: Landside Operations
San Francisco International Airport
P.O. Box 8097
San Francisco, CA 94128
(415) 876-2158

Q: What is your job title?

A: Transportation Planner

Q: How does the landside operations department interact with the individual airlines in matters pertaining to ground transportation at the airport?

A: At this time we provide information and we work with them on special projects. At this time we are putting together a transportation or trip reduction rule and we will be working with all the major employers, which are generally the airlines, to have them designate employee transportation coordinators and train them. And we are going to institute a transit task force which will be comprised of different people from ten organizations. We interact with safety concerns they have on ground access on the

airport as far as signaling intersections, stop signs, access routes, and things like that. We interact with them on our Master Plan in embarking on new facilities. With respect to passenger traffic, we have a holiday travel working group in which we ask them for information about their passenger loads so that we can provide enough ground transportation for these people and make sure there is enough traffic control and security. Another thing is when we run out of gates and we have to put the planes somewhere else, we do provide a shuttle to get the passengers from the plane to the terminal. There is someone at United Airlines that I have been in contact with a lot who is in charge of their TDM program. Her name is Sue Peterson. Her number is (415) 634-7209.

Q: How would you describe the airlines' involvement with respect to providing ground access services to their passengers?

A: For the most part it is non-existent. They do provide a lot for their employees, but not for their passengers. It is very unusual when they do that as far as I know.

Q: Do you see any possibility for airlines to increase their involvement for making ground access better at the airport?

A: Absolutely. We are currently undertaking a media campaign which we hope we will get some cooperation with the airlines and travel agents and other types of people in the industry to promote high-occupancy vehicles and promote other sorts of things.

Q: In your opinion, what are the airlines' responsibilities in the ground access area for their passengers? For example, should they be in any way involved with getting passengers from their home or other location to the airport?

A: Isn't that an anti-trust issue? I really don't know how to answer that at this point.

Q: Are you aware of any particularly interesting or unusual ground transportation service provided by an airline there at San Francisco International Airport, and if so what is it and what does it involve?

A: I know that during a point in time at San Francisco Airport in the far past, there was an airline which provided a ferry ticket to all their deplaning passengers to be able to get downtown. So I know there is some existing protocol to do something like that. I think it

was a demonstration project in 1975 or so.

Q: What are some of the more important issues or policies concerning passenger ground access there at San Francisco International Airport?

A: At this time access is controlled for transportation providers, all except for private individuals. The main issues that this airport deals with is safety and maintaining access and sufficient flow.

Waleed Youssef

Date: Friday, April 30, 1993
University of California, Berkeley
Transportation Science Seminar
"The Complementarity Between Air and High Speed Rail Transportation"

- Intercity high speed rail could solve or improve air and ground transportation problems.
- France example (TGV-SNCF Railway)
 - High speed rail has grown incredibly, especially in the Paris to Lyon corridor.
 - TGV profits are used to subsidize other rail routes.
- California market (Los Angeles to San Francisco corridor) is 30 percent longer than Paris to Lyon corridor and the combined population is larger in California.
- Rail range less than 350 miles or 2 hours to be competitive with air.
- In Europe, duration of ground transportation (be it public or private transportation) makes rail the dominant mode because rail stations are mostly downtown whereas airports are typically far from the city centers.
- High speed rail unrealistic for Los Angeles to San Francisco corridor because of:
 - Public transportation is poor in the United States (disjoint).
 - 75 percent of travel between Los Angeles and San Francisco is by the automobile.
 - Population densities are too low and the population is too disperse.
 - There is a high frequency of air travel for the market in that corridor.
 - Ground access in the United States is very poor in comparison to Europe.
- As it turns out, you cannot really compare the United States to Europe.
- High speed rail positively affects economic development.
- An argument for high speed rail is that it will relieve both air and ground transportation. There will be a reduction in airport ground traffic.
- Since there is already a problem with automobiles going to airports, high speed rail will not necessarily have any affect on easing traffic because the same people

- will drive to the rail station instead of the airport.
- The real problem with airport access is lack of adequate public transportation systems.

APPENDIX 2.
INITIAL AIRLINE STUDY

- 1) American (1-800-433-7300) - Do not have any shuttle service. The only thing they can do is give phone numbers for airport shuttle service or bus service. He thinks they used to have a shuttle (American specific) but it was not utilized enough.
- 2) Air Canada (1-800-776-3000) - Long-haul flights, if fly executive class they do provide chauffeur service. They do not have any shuttle though and said that I was on my own getting to the airport.
- 3) Alaska Airlines (1-800-426-0333) - No shuttle type service.
Recommends calling the airport shuttle services.
- 4) Alitalia Airlines (1-800-223-5730) - Out of Los Angeles and does not have a shuttle service.
- 5) America West Airlines (1-800-247-5692) - Does not provide anything but immediately got information on who does provide transportation to the airport.
- 6) British Airways (1-800-247-9297) - No shuttle. Executive card holders are given limousine services.
- 7) Canadian Airlines International Limited (1-800-426-7000) - Recommended calling local transportation facilities.
- 8) Delta Airlines (1-800-221-1212) - No shuttle but could give phone numbers for private airport shuttles.
- 9) Hawaiian Airlines (1-800-367-5320) - No services for ground transportation to the airport. Said that you would have to call one of the private shuttles.

- 10) Japan Airlines (1-800-525-3663) - No shuttle service.
- 11) Lufthansa (1-800-645-3880) - No services.
- 12) Mexicana Airlines (1-800-531-7921) - No transportation services but they can give numbers to shuttles.
- 13) Southwest Airlines (1-800-435-9792) - No shuttles.
- 14) Swiss Air (1-800-221-4750) - Only services they provide is limousine transportation for first and business class passengers.
- 15) TWA (1-800-221-2000) - No shuttle services.
- 16) United Airlines (1-800-241-6522) - You have to get there on your own. Recommended shuttle services.
- 17) US Air (1-800-428-4322) - No shuttle or other services provided.

APPENDIX 3.
AIRLINE STATION MANAGER SURVEY

for San Francisco International Airport

DATE: _____

AIRLINE: _____

- 1) What is your name and position?
- 2) What is [Airline] doing to facilitate ground access for it's passengers?
 - a) [If not providing ground access currently] Has [Airline] provided ground access services in the past, and if so what did it involve?
 - b) [If is providing or has provided ground access in the past] Is/was it successful and [if in the past] why did it end?
 - c) [If limousine services not mentioned previously] Does [Airline] provide limousine services for 1st or Business Class passengers and if so how successful is it?
 - i) [If not mentioned previously] Are the passengers made aware of this service or must they inquire about it?
- 3) [If airline is providing or has provided ground access services] What was your personal involvement with ground access services?
- 4) Would you be the person that Janice Gendreau of Landside Operations contacts for issues pertaining to ground access services?

- 5) The next three questions pertain to your personal opinion so please answer accordingly.
- a) Do you feel that airlines should be involved with providing ground access services directly? Explain.
 - b) Do you feel that airlines should take landside transportation concerns into account when scheduling their flights? Explain.
 - c) Do you feel that airlines should provide information concerning ground access services; particularly through Computer Reservation Systems or television monitors located in baggage and terminal areas? Explain.
- 6) Within the overall corporation, who would determine whether or not your airline should play a role in providing any ground access services at San Francisco Airport or any other specific airport?
- 7) [If not able to get it previously] Can I get your direct phone number in case I need you to answer any more questions that may arise in my research?

AIRLINE STATION MANAGER SURVEY

for San Francisco International Airport

DATE: Thursday, April 15, 1993

AIRLINE: American Airlines

1) What is your name and position?

Name: Mr. Trvg McCoy

Position: Station Manager

2) What is American Airlines doing to facilitate ground access for it's passengers?

Nothing. Only if our passengers ask about it [ground transportation], then we tell them but we do not pay for it.

a) [If not providing ground access currently] Has American Airlines provided ground access services in the past, and if so what did it involve?

Not that I am aware of.

b) [If is providing or has provided ground access in the past] Is/was it successful and [if in the past] why did it end?

N/A

c) [If limousine services not mentioned previously] Does American Airlines provide limousine services for 1st or Business Class passengers and if so how successful is it?

No.

- i) [If not mentioned previously] Are the passengers made aware of this service or must they inquire about it?

N/A

- 3) [If airline is providing or has provided ground access services] What was your personal involvement with ground access services?

N/A

- 4) Would you be the person that Janice Gendreau of Landside Operations contacts for issues pertaining to ground access services?

Yes, but American Airlines does not do that. But yes, I would be the one she would contact.

- 5) The next three questions pertain to your personal opinion so please answer accordingly.

- a) Do you feel that airlines should be involved with providing ground access services directly? Explain.

No, it is not profitable.

- b) Do you feel that airlines should take landside transportation concerns into account when scheduling their flights? Explain.

That is all done by our general office in Dallas, Texas, so I could not help with that. I can make suggestions but they make the final decisions.

- c) Do you feel that airlines should provide information concerning ground access services; particularly through Computer Reservation Systems or television monitors located in baggage and terminal areas? Explain.

If people ask, we also have an information service at San Francisco Airport. So, in other words, if I wanted to go say from here [San

Francisco Airport] to Berkeley and American can't help me they might ask a ticket agent and they, I'm sure, would say to them "go to the information center" wherever it is. But we don't have that information readily. We do say "you can go up there or down there" to get a cab or one of the shuttle buses that go door to door.

- 6) Within the overall corporation, who would determine whether or not your airline should play a role in providing any ground access services at San Francisco Airport or any other specific airport?

That would have to be answered by our general office in Dallas. I really don't know which department.

- 7) [If not able to get it previously] Can I get your direct phone number in case I need you to answer any more questions that may arise in my research?

(415) 877-6000

AIRLINE STATION MANAGER SURVEY

for San Francisco International Airport

DATE: Monday, November 30, 1992

AIRLINE: America West

- 1) What is your name and position?

Name: Mr. Robert Sherriff

Position: Station Manager

- 2) What is America West Airlines doing to facilitate ground access for it's passengers?

Nothing. We are not in the business of transporting passengers to and from the airport if that is what the survey is about. As far as I know there is no role in the airlines to transport people to and from the airport. That is usually the city's role. The airport is owned by the city so the city is the one that should be surveyed to find out what they are doing to get their citizens to and from the airport. The airlines do not take a role that I am aware of to get the people to and from the airport. Our role is to get the passengers from one airport to another.

- a) [If not providing ground access currently] Has America West Airlines provided ground access services in the past, and if so what did it involve?

We have in Phoenix, Arizona we attempted it. Not in San Francisco we are too small. But in Phoenix, Arizona where our hub is, we provided ground transportation from the suburbs. We ran a bus from

Scottsdale, Arizona into Skyharbor Airport. It was called the Careliner and it failed miserably. We did not get enough participation. It was costing too much money. It was so they could park their cars in the suburbs and they could take the bus right in to the gate.

In fact, they could buy a ticket on us. If you where flying into Phoenix and wanted to go to Scottsdale you would buy your ticket to go to Scottsdale. There was no charge for the Phoenix to Scottsdale portion of the ticket. You would get off the plane at the jetway and walk to another door and board a bus. They would transfer your baggage automatically to the bus. You never had to see your luggage until you reached Scottsdale. I had forgotten about that attempt to get passengers out to the suburbs, where they could park their cars and not have to bring them to the airport area.

- b) [If is providing or has provided ground access in the past] Is/was it successful and [if in the past] why did it end?

We were using large greyhound style buses and we would get 5-6 passengers on a 40+ person bus. Not enough participation by the public.

- c) [If limousine services not mentioned previously] Does America West Airlines provide limousine services for 1st or Business Class passengers and if so how successful is it?

We have no such services.

- i) [If not mentioned previously] Are the passengers made aware of this service or must they inquire about it?

N/A

- 3) [If airline is providing or has provided ground access services] What was your personal involvement with ground access services?

None.

- 4) Would you be the person that Janice Gendreau of Landside Operations contacts for issues pertaining to ground access services?

In what respect? I suppose, everything pertaining to meetings would go through my secretary.

- 5) The next three questions pertain to your personal opinion so please answer accordingly.

- a) Do you feel that airlines should be involved with providing ground access services directly? Explain.

Well it is not a matter of whether we should be or not. If it is profitable. We can't take anymore losses, as you know airlines are in very bad shape. If it is something that could be done in a profitable matter yes. I think it would be to our benefit and the public's benefit if we could do it in a profitable manner. But if it is a losing proposition we can't afford to do it, whether we want to or not. We always want to provide more transportation for the public and reduce the cars on the road. It would be a good thing. Yes, if it is financially feasible and profitable. No if it would mean a loss. We cannot afford any more.

- b) Do you feel that airlines should take landside transportation concerns into account when scheduling their flights? Explain.

They can't. For one thing they are not scheduled here in San Francisco they are scheduled in another part of the country. They have to schedule the airlines according to how many airplanes they have and when the passengers want to fly, not what the traffic situation is like for each of the airports. That would be a monumental undertaking. No I don't think the airlines would want to do that. It would certainly be helpful but it would be an impossible task.

- c) Do you feel that airlines should provide information concerning ground access services; particularly through Computer Reservation Systems or television monitors located in baggage and terminal areas? Explain.

Yes we do. In our computer we have a list of all the ground transportation services. Any station can pull up the information. We put a little information on the city in the computer: how many miles to the city and who the transporters are, some of the sites to see, closer hotels to the airport and in the city, and rental car agencies.

- 6) Within the overall corporation, who would determine whether or not your airline should play a role in providing any ground access services at San Francisco Airport or any other specific airport?

No, we do not have any such position that I know of.

- 7) **[If not able to get it previously]** Can I get your direct phone number in case I need you to answer any more questions that may arise in my research?

(415) 877-0458

AIRLINE STATION MANAGER SURVEY

for San Francisco International Airport

DATE: Tuesday, March 2, 1993

AIRLINE: Continental Airlines

1) What is your name and position?

Name: Mr. Kirk Holmes

Position: Director of Airport Services

2) What is Continental Airlines doing to facilitate ground access for it's passengers?

You mean for outer communities, passengers or employees. At the present time we aren't doing much of anything. The only thing we are doing is preparing for the new emissions standards with carpooling and stuff. But we haven't really done much with it. As for passengers, we haven't done anything.

a) [If not providing ground access currently] Has Continental Airlines provided ground access services in the past, and if so what did it involve?

You mean like if I had a first class customer and we wanted to pick him up and deliver him to the airport? Not to my knowledge. No.

b) [If is providing or has provided ground access in the past] Is/was it successful and [if in the past] why did it end?

N/A

c) [If limousine services not mentioned previously] Does Continental

Airlines provide limousine services for 1st or Business Class passengers and if so how successful is it?

No.

- i) [If not mentioned previously] Are the passengers made aware of this service or must they inquire about it?

N/A

- 3) [If airline is providing or has provided ground access services] What was your personal involvement with ground access services?

N/A

- 4) Would you be the person that Janice Gendreau of Landside Operations contacts for issues pertaining to ground access services?

Yes, but typically one of my people work out the details.

- 5) The next three questions pertain to your personal opinion so please answer accordingly.

- a) Do you feel that airlines should be involved with providing ground access services directly? Explain.

I would think yes for the high yield customers. Obviously it is a competitive industry and I have heard where we have talked about doing it. I think it would be an excellent service.

- b) Do you feel that airlines should take landside transportation concerns into account when scheduling their flights? Explain.

Yes, especially with public transportation becoming a key mode of transportation. Obviously we need to schedule so that we can get customers on the aircraft. So we need to synchronize to some degree which we can. That's a big problem though. You are feeding banks and

time zones which are a problem for airlines.

- c) Do you feel that airlines should provide information concerning ground access services; particularly through Computer Reservation Systems or television monitors located in baggage and terminal areas? Explain.

Yes, and we do. We do have taxi and parking and all that kind of information in our computer systems.

- 6) Within the overall corporation, who would determine whether or not your airline should play a role in providing any ground access services at San Francisco Airport or any other specific airport?

It would have to be at headquarters. It would probably be the Vice President of Marketing, John Nelson.

- 7) [If not able to get it previously] Can I get your direct phone number in case I need you to answer any more questions that may arise in my research?

(415) 876-2608

AIRLINE STATION MANAGER SURVEY

for San Francisco International Airport

DATE: Thursday, February 11, 1993

AIRLINE: Northwest Airlines

- 1) What is your name and position?

Name: Mr. Steve Brice

Position: Director of Customer Service

- 2) What is Northwest Airlines doing to facilitate ground access for it's passengers?

Nothing here at San Francisco which I know of. We are in a different sort of business here, namely taking people where they want to go. Ground transportation is not of our concern. Its a whole other issue.

- a) [If not providing ground access currently] Has Northwest Airlines provided ground access services in the past, and if so what did it involve?

Not that I am aware of.

- b) [If is providing or has provided ground access in the past] Is/was it successful and [if in the past] why did it end?

N/A

- c) [If limousine services not mentioned previously] Does Northwest Airlines provide limousine services for 1st or Business Class passengers and if so how successful is it?

We've had programs before for first class passengers when we had our Australia service and all that, but that is sporadic. And I think Air Canada was doing that. But nobody has really help up to that. It is just a promotional type thing and its lasted for just brief periods of time. In Tokyo we do have something. We have a City terminal that we handle the people from Tokyo and we process them and have check-in and all this but that's a little different. But I don't know enough about that system to really tell you a whole lot. In San Francisco we don't see much of that.

- i) [If not mentioned previously] Are the passengers made aware of this service or must they inquire about it?

It was a promotional thing. So yes they were made aware of it.

- 3) [If airline is providing or has provided ground access services] What was your personal involvement with ground access services?

None.

- 4) Would you be the person that Janice Gendreau of Landside Operations contacts for issues pertaining to ground access services?

I can't recall that name. Maybe someone else here is in contact with her but I don't know.

- 5) The next three questions pertain to your personal opinion so please answer accordingly.

- a) Do you feel that airlines should be involved with providing ground access services directly? Explain.

No. That's all I have to say.

- b) Do you feel that airlines should take landside transportation concerns into account when scheduling their flights? Explain.

No, I don't believe so. That's another issue entirely. I think we need a transit system that provides for those kinds of people. You are not dealing with San Francisco alone. You are dealing with other hubs and gateways so whatever what was a micro-cosmic affair out of us here is a macro-cosmic affair all over the country. The ramifications of air transportation are much broader than a local, single point.

- c) Do you feel that airlines should provide information concerning ground access services; particularly through Computer Reservation Systems or television monitors located in baggage and terminal areas? Explain.

That would be a nice function. I don't feel that would be a problem at all. That frequently happens now. Airports have really taken a lot more of that over. I think that is really the role of the airport in the future. San Francisco has been fairly progressive in that and that's what we rely on because they coordinate a number of different airlines to a single effort. There is transportation provided by the airport but that tends to be from remote parking shuttles. Free enterprise is another issue at work here.

- 6) Within the overall corporation, who would determine whether or not your airline should play a role in providing any ground access services at San Francisco Airport or any other specific airport?

We don't have that in San Francisco. If anybody were to consider it, I suppose it would be me. I would look at the proposals. There is nobody corporately that I am aware of who deals with ground transportation issues.

- 7) [If not able to get it previously] Can I get your direct phone number in case I need you to answer any more questions that may arise in my research?

(415) 877-5085

AIRLINE STATION MANAGER SURVEY

for San Francisco International Airport

DATE: Thursday, April 29, 1993

AIRLINE: Southwest Airlines

1) What is your name and position?

Name: Mr. Rusty Arnold

Position: Station Manager

2) What is Southwest Airlines doing to facilitate ground access for it's passengers?

Nothing. We are not really involved in anything like that, that's basically all done through the airports' commission that would be handling something like that. The only thing we do is refer people to the ground transportation information booth which is located in almost any airport we serve and so that's fairly standard in the airline industry.

a) [If not providing ground access currently] Has Southwest Airlines provided ground access services in the past, and if so what did it involve?

No.

b) [If is providing or has provided ground access in the past] Is/was it successful and [if in the past] why did it end?

N/A

c) [If limousine services not mentioned previously] Does Southwest Airlines

provide limousine services for 1st or Business Class passengers and if so how successful is it?

No.

- i) [If not mentioned previously] Are the passengers made aware of this service or must they inquire about it?

N/A

- 3) [If airline is providing or has provided ground access services] What was your personal involvement with ground access services?

N/A

- 4) Would you be the person that Janice Gendreau of Landside Operations contacts for issues pertaining to ground access services?

I'm not familiar with that name so probably not.

- 5) The next three questions pertain to your personal opinion so please answer accordingly.

- a) Do you feel that airlines should be involved with providing ground access services directly? Explain.

Absolutely not from a cost standpoint.

- b) Do you feel that airlines should take landside transportation concerns into account when scheduling their flights? Explain.

Most definitely. I think they should be concerned with that.

- c) Do you feel that airlines should provide information concerning ground access services; particularly through Computer Reservation Systems or television monitors located in baggage and terminal areas? Explain.

I don't know if this [ground transportation] is a big issue. We've

never experienced any problems. it has never really come up as something that's a big request from our customers. That's usually when we would get really involved in a situation like that.

- 6) Within the overall corporation, who would determine whether or not your airline should play a role in providing any ground access services at San Francisco Airport or any other specific airport?

That would probably be our President of Southwest, Herb Kelaher(?). I don't want to give you his number to ask him these questions, he is too busy, but you can call Pete McGlade --Director of Schedule Planning (214) 904-4121 and he maybe could direct you to the appropriate person.

- 7) [If not able to get it previously] Can I get your direct phone number in case I need you to answer any more questions that may arise in my research?

(415) 877-0236

AIRLINE STATION MANAGER SURVEY

for San Francisco International Airport

DATE: Wednesday, December 9, 1992

AIRLINE: United Airlines

1) What is your name and position?

Name: Mr. Rod Strickland

Position: General Manager - Customer Services

2) What is United Airlines doing to facilitate ground access for it's passengers?

I don't think you should look at that quite so narrowly, as to say what is United doing, i.e. providing shuttle or limousine services, etc. We don't do any of that. What we do is we work through the Airline Association and through the Department of Airports and through the political channels to ensure that public transportation exists. And that all of the communities are served and congestion is reduced. In my judgement, do not take this to be United's, if all of the airlines were to add limousine services which some airlines do, what you are doing is tying up the roadways and adding to the congestion of the airport in the interests of the few rather than the many. When you get to any one airline or any one class of service being offered a particular type of transportation service, I think you may be defeating the real needs of the community.

a) [If not providing ground access currently] Has United Airlines provided ground access services in the past, and if so what did it involve?

We do not work individually with the customers in any market or

in any class of service for transportation to the airport. What we do do is work with the community, with the airport, and with the transportation companies on things like BART coming to the airport. We are involved with that and we believe that in the long-term that will relieve some of the congestion on the roadways. We work with the transportation companies on the communities that have bus services and other transit systems that serve the airport whether it be rail, bus, limousine, or taxi. But in so far as specifically working with our customers, that rather than transportation is more of a marketing gimmick working against transportation.

- b) [If is providing or has provided ground access in the past] Is/was it successful and [if in the past] why did it end?

N/A

- c) [If limousine services not mentioned previously] Does United Airlines provide limousine services for 1st or Business Class passengers and if so how successful is it?

No, see question #2 above.

- i) [If not mentioned previously] Are the passengers made aware of this service or must they inquire about it?

N/A

- 3) [If airline is providing or has provided ground access services] What was your personal involvement with ground access services?

N/A

- 4) Would you be the person that Janice Gendreau of Landside Operations contacts for issues pertaining to ground access services?

Not necessarily. In the course of running the airport here in San Francisco we would have operational type contact that called for the short-term planning.

But when you get into the longer-term planning that would tie into the airport's master plan, which by the way just yesterday was approved by the Board of Supervisors in San Francisco for several million dollars which includes Bart and a light-rail people-mover and that sort of thing, when you get into that it goes back to our headquarters and we have headquarters Property/Facility people that work directly with the cities.

5) The next three questions pertain to your personal opinion so please answer accordingly.

a) Do you feel that airlines should be involved with providing ground access services directly? Explain.

Not airlines per se, I think it has to be organized. What you have is maybe 40 different airlines that operate out of San Francisco and for any of the 40 airlines to try and do their own thing you would probably end up with a patchwork that probably would not be very effective. What I think the airlines should do is through their associations work with the community and the airport towards coming up with what is best for everyone. We are one voice. But no one airline should try to design their own system because it does not work. The airport is not one airline it is about 40 airlines.

b) Do you feel that airlines should take landside transportation concerns into account when scheduling their flights? Explain.

Yes and no. I would say that the obvious answer is yes, but it is not as high a priority as all of the other things that lead up to making those type of decisions. There is a lot that goes into scheduling for an airline. Not of least of which is the traffic side or aircraft side at the airfield, gate space, runway capacity, FAA spacing in the control tower. There is a number of considerations and also the whole airport, the other airlines and their schedules. If the airport is properly designed and San Francisco I think is, to where you have a certain runway capacity to allow landings and takeoffs and you have certain roadway capacities that bring

people and traffic in, if you schedule within the capacities of the runways the access should support that. But to say do you take the roadway system into consideration in your scheduling is to assume that the airport was improperly design when it was laid out and built.

- c) Do you feel that airlines should provide information concerning ground access services; particularly through Computer Reservation Systems or television monitors located in baggage and terminal areas? Explain.

We provide television type information of our own schedules through out the airport as well as many major hotels. Most ground access service information is provided. Let me take it further than what you have asked and see if it helps. Just like we talked earlier of the planning of transportation to the airport or things like Bart or shuttle or taxi service. All of the vendors that serve the airport for arriving customers to take them to Marin or the East Bay, etc., all of those services are generally a result of market demand and coordination with the airport. The airport does not allow services without the demand for it. What I believe is to be the best way to balance the transportation needs again is through the Airlines Association working with the airport and community, then providing those services and making sure the services are properly signed, properly staffed, the right location, and believe it or not Krista, it is a big item what curb space exists. You go around the curb here at San Francisco, the different colors that are used on the curb for where taxis can park, where limousines park, where hotel/motel shuttles can park, where the shuttle services can park. They are all monitored and they pay for use of that curb. It is very very very competitive. It is not just anyone that can pull in and park anywhere. Every vehicle that goes around the airport, that is of a transportation type [passenger], they all have somewhere embedded in their roof a little signal that is read each time they go around and that costs them money. If they are a commercial vehicle and come through here and get caught without that transponder they get a hefty fine. So the role that the airlines should play and do play in that is when you call for information and say you live on the East Coast

somewhere and you are flying to San Francisco and want to know how to get to Marin, the airlines should have that information available. But there is nothing proprietary about this information. The ground transportation should be coordinated and in my judgement there should not be anything different for each airline.

- 6) Within the overall corporation, who would determine whether or not your airline should play a role in providing any ground access services at San Francisco Airport or any other specific airport?

Well as the local manager I would obviously have input. In longer-term projects, Facility and Property people from our headquarters would get involved. It would just depend on the size of the project.

- 7) [If not able to get it previously] Can I get your direct phone number in case I need you to answer any more questions that may arise in my research?

(415) 876-5157

APPENDIX 4.
AIRLINE SURVEY (HEADQUARTERS LEVEL)

DATE: _____

AIRLINE: _____

- 1) What is your name, position, and department?
- 2) Who there at [Airline] would be most informed on providing ground access services for the passengers?
 - a) [If mentions someone] What is that person's name, position, and phone number?
- 3) Is [Airline] doing anything to facilitate ground access for it's passengers?
If so, what is it and what does it involve?
 - a) Is it successful?
- 4) Has [Airline] provided ground access services in the past, and if so what did it involve?
 - a) Was is successful?
 - b) Why did it end?
- 5) [If limousine services not mentioned previously] Does or did [Airline] provide limousine services for high yield customers and if so how successful was it?
 - a) [If providing this service] Are the passengers made aware of this service or must they inquire about it?

- b) Has [Airline] ever considered developing an arrangement with an airport limousine service such that customers could book service to the airport at the same time they book their flights? If so, explain. What would be the advantages or disadvantages of such a strategy?
- 6) What is your personal involvement with ground access services?
- 7) Who would be involved in the planning and decision process for providing ground access services at a particular airport? For example, station managers, marketing, strategic planning, environmental, and/or promotions.
- a) What would be the lines of authority?
- 8) What is the marketing strategy for providing a particular type of ground transportation service?
- 9) The following questions pertain to your personal opinion so please answer accordingly.
- a) Should airlines be involved with providing ground access services directly? Explain.
- b) Should airlines take landside transportation concerns into account when scheduling their flights, particularly during the peak hours? Explain.
- c) Should airlines provide information to their passengers concerning ground access services; particularly through Computer Reservation Systems? Explain.
- 10) Has [Airline] ever considered having reservation agents routinely offer ground access information without being asked? If so, explain. What would be the advantages or disadvantages of such a strategy?
- 11) Has [Airline] ever considered listing multimodal services involving surface transportation? For example, a van connecting to a flight. If so, explain. What would be the advantages or disadvantages of such a strategy?

- 12) Federal Express and UPS have been quite successful offering door-to-door air express service. In general, how would you assess such a strategy for a passenger airline? What are the major obstacles? Do you think an airline in the United States might try this in the foreseeable future?

AIRLINE SURVEY (HEADQUARTERS LEVEL)

DATE: Tuesday, June 22, 1993

AIRLINE: America West

- 1) What is your name, position, and department?

Frank Shubert

Hub Operations

America West Airlines, Inc.

222 S. Mill Avenue

Tempe, Arizona 85281

(602) 693-5165

(800) 247-5692

- 2) Who there at America West Airlines would be most informed on providing ground access services for the passengers?

I really don't have time to answer very many questions. If you don't mind, I can have you talk to somebody else. His name is Larry Hays and I will have him call you.

AIRLINE SURVEY (HEADQUARTERS LEVEL)

DATE: Tuesday, June 22, 1993

AIRLINE: America West

- 1) What is your name, position, and department?

Larry Hays

Senior Budget Analyst

Customer Services - Budget

America West Airlines, Inc.

222 S. Mill Avenue

Tempe, Arizona 85281

(602) 693-5165

(800) 247-5692

- 2) Who there at America West Airlines would be most informed on providing ground access services for the passengers?

Probably you need to speak to someone that's in the operational division.

- a) [If mentions someone] What is that person's name, position, and phone number?

N/A.

- 3) Is America West Airlines doing anything to facilitate ground access for it's passengers? If so, what is it and what does it involve?

Not currently.

- 4) Has America West Airlines provided ground access services in the past, and if so what did it involve?
- a) Was is successful?
 - b) Why did it end?

Before we moved to Terminal Four, we used to pick up on the airport's grounds, but we used to always deliver the passengers on the ticket counter level. The reason for that is so they can go through security. What we did originally was set up at Scottsdale, Arizona only. We did expand it to a couple other destinations however we did discontinue those. From what I understand, and this was started prior to my life at America West, I've only been here 6-1/2 years versus 10 years of the whole life of the airline. It is a two fold program. One was to provide access for people in Scottsdale to our terminal . Scottsdale has its own airport which is very small but it does have a few scheduled departures. But, its kind of a way which you can drive up and park your car. You don't have to go through the airport hassle of parking and walking to the gate. It is a convenience for the north-east valley people near Scottsdale. They come in, they can check their bags, get on the bus and they don't have to mess with traffic. Plus, the second fold to that was the fact that the buses were painted with our logos on it as they were driving up and down the road. It was kind of a moving billboard.

We had several facilities in Scottsdale but we did have personnel stationed there for baggage handling and ticket counters and people could also go there and use that as a city ticket office and purchase tickets.

What we did at one time was just a free access. I don't believe it was even ticketed as Scottsdale as a destination, or Mesa at the time. If you showed up there and had a ticket out of Phoenix prior to your flight you could ride the bus, it was free. Later on when we ran into a little financial trouble we did charge, I believe, \$5.00 one way, so then they kind of ticked it a destination. That was through the CRSs (Computer Reservation System), System One is the one that we use.

We negotiated with certain vendors. We initially had Greyhound, then later we had various other vendors we utilized. Then we went down from the big Greyhound buses to the little ones because our loads weren't that large and we were obviously trying to save some money. We were billed on a per segment basis on a number of segments. At one time we had a departure on the hour every hour. It started from 6 in the morning until 10 or 11 at night, of course we scaled it back. Then we had at one time, I think, operating 5 buses or 6 buses during the peak travel times like the 9 in the morning and the 5 in the afternoons so that we could keep up the 30 to 45 minute turn time.

We did some marketing, it was not really heavily marketed. We advertized it in our flight guides. We also put fliers in with the tickets in the jackets. Through our in-flight magazine guides, we advertised them in our flight guides. And then we did get some local media coverage here when we opened one up, and I believe word of mouth. I can't remember if they actually advertised in the newspaper. Anytime we had an America West advertisement for fares, it was always in the paper for "Scottsdale Careliner."

We initiated our service at Scottsdale in 1987 but I don't remember the exact month. If I remember right, it was in May or June but it was a few years ago. Then we discontinued service just prior to filing Chapter 11 in June of 1991.

From a financial point of view, strictly numbers, it was nothing that ever generated a heck of revenue for us. It is what you would call a "perk." We were just trying to give the passengers a little added service saving, if you don't want to have to drive tot he airport, all you have to do is check-in at Scottsdale, no crowds, get on the bus and we'll take you straight tot he ticket counter. You don't have to check-in, you go straight to the gate and you don't have to worry about your bags. The loads were never 100%, I mean there were peak times when the buses were full, you couldn't get on one of the buses. But there were times when they ran empty. At that time you would have to figure if the value of the moving billboard was worth the money, and you were paying that per segment.

5) [If limousine services not mentioned previously] Does or did America West Airlines provide limousine services for high yield customers and if so how successful was it?

a) Are the passengers made aware of this service or must they inquire about it?

I don't believe we ever used limousines but I don't know. We did at one time try valet parking. It worked for a while but we ran into some problems, but it was another one of those feel goods. We wanted to give our customers some additional service but that did not really impact the revenue side. We also have garage level check-in at one time at Phoenix but we no longer do. It was a good concept but financially we could not keep those perks out there.

We also had satellite operations, we had two parking lots where we had fast checks. You would go and pull up to a booth where you would unload your bags, give you seat assignments, tag bags, do everything that you would usually do at a ticket counter, and then you just park and go straight to the gate. But we also had to do away with those. Again it was a nice little service but it was not cheap. As you probably know from the papers, the airlines are losing a heck of a lot of money. I think if you look at America West in comparison with all carriers, I think America West offered a little more to passengers on the service side. We were trying to do a lot for our customers, we really were. It was nice, if you were a customer and you utilized it, great. We just got to a point where we could not afford it. Who knows, if things turn around, we might go back to it. All things are relative. If the company is making more money and they want to expand their customer service base, we might put on more meal flights and so on. Everything's cyclical. We may go back to ground transportation. We just don't know what the future holds.

If you look at America West, we were trying to be innovative with our passengers' needs, trying to make things easier on them. But that's what we call a "feel good," or increase customer service. But it just did not financially pan out. Because in bankruptcy you have to cut to the bone.

b) Has America West Airlines ever considered developing an arrangement with an airport limousine service such that customers could book service

to the airport at the same time they book their flights? If so, explain.
What would be the advantages or disadvantages of such a strategy?

N/A.

- 6) What is your personal involvement with ground access services?

Very little, it would be in the financial/numbers end of things.

- 7) Who would be involved in the planning and decision process for providing ground access services at a particular airport? For example, station managers, marketing, strategic planning, environmental, and/or promotions.

It would probably be a conglomeration of all that. Probably, from what I remember, that this issue came from the top down. It was the Chairman of the Board or the President. I can't remember exactly whom decided that they wanted to add this service as part of the America West product. We wanted to give, kind of put a CTO out there plus provide a service for our passengers. So this one was more or less a top down.

We do get requests for destinations all of the time but I don't know if that was the case in Scottsdale. I don't know if the company was reaching out for business travellers out of Scottsdale, there are so many intangibles, it is hard to put a finger on it.

- a) What would be the lines of authority?

Overall, more or less, it went from the top to the Vice Presidents and then the Vice Presidents pulled their people together on the operational side and then with the people on the planning side and even sales and marketing to help pull together the information to put together whatever media attention and then put together a schedule and then get together with property people and find a building that's suitable for us, negotiate with certain bus carriers and get with operations to staff the facility on both the Scottsdale and the Phoenix side. So when the bus came in we would have people to cover it and load the bags and what not.

- 8) What is the marketing strategy for providing a particular type of ground transportation service?

It depends on what is involved and how much you have to spend.

- 9) The following questions pertain to your personal opinion so please answer accordingly.

- a) Should airlines be involved with providing ground access services directly? Explain.

Well, if your going from my job as a financial analvst I would say no. But its so hard to say if you look at it dollar wise. My personal opinion is if it doesn't make money, we should not be doing it. However, on the other hand, I understand that there are intangibles out there that we are doing when we provide a service. Should America West Airlines be in the bus service, no, I think an airline should concentrate on its main focus of moving passengers through the air not necessarily on the ground.

There is a piece in America West which we have what we call America West Vacations where we sell hotel packages and we do in that scenario do provide ground transportation in addition to the air and hotel. So in that case the airline should include ground transportation. Otherwise, there are plenty of vendors out there ready to provide services.

- b) Should airlines take landside transportation concerns into account when scheduling their flights, particularly during the peak hours? Explain.

Its very tough because what you get into there is when an airline competes against another airline you lose competitive advantages. You can't easily adjust a whole fleet. To answer your question, no. The airlines' schedules are based on competitiveness and when customers demand for travel. A lot of times it depends on demand and frequencies. I don't see any airline tieing ground transportation to scheduling flights unless there is profit involved.

- c) Should airlines provide information to their passengers concerning ground access services; particularly through Computer Reservation Systems? Explain.

Yes, I don't really see a problem with that. The only problem I could see is if it is a nice little perk you are passing to your passengers, is it going to create a lot of programming time to put that information into there and update that information. It would be nice if the passenger could have that information but they can get it easily enough as it is through the City or Chamber of Commerce. You are putting a lot of burden onto an airline and airlines just cannot be everything to everybody. It would be nice but in our in-flight magazines we do provide some information and numbers.

We do or at least used to with our frequent fliers use Dollar as our exclusive carrier. We would explain to our passengers that if you show your ticket to the rental car agency you would get a discount and so on and so forth. For the reservation side, it may be a little too much.

- 10) Has America West Airlines ever considered having reservation agents routinely offer ground access information without being asked? If so, explain. What would be the advantages or disadvantages of such a strategy?

I believe we have already discussed that issue.

- 11) Has America West Airlines ever considered listing multimodal services involving surface transportation? For example, a van connecting to a flight. If so, explain. What would be the advantages or disadvantages of such a strategy?

[Discussed previously with Scottsdale service]

- 12) Federal Express and UPS have been quite successful offering door-to-door air express service. In general, how would you assess such a strategy for a passenger airline? What are the major obstacles? Do you think an airline in the U.S. might try this in the foreseeable future?

Door-to-door service? Oh boy, I really can't see economies of scale flying in the airline's favor. If your looking at UPS, here in Phoenix we move monthly approximately 150,000 passengers, so if America West was to go into the business of trying to pick up and deliver passengers, I don't see it being cost-effective from our point of view without increasing fares dramatically. Here we already have good ground transportation with super shuttles and things of that nature, they are geared towards that. But generally your airlines don't have cost structures, with the exception of America West and Southwest, their cost structures just can't support that. I don't know, that's a tough question.

For insurance purposes, a lot of that may be covered on the airline's rider, I mean we are insured through Lloyd's of London, so I mean we have passenger liability. Its not just an air thing. I believe the Scottsdale service fell under our aircraft liability for passenger movement. But yes, there is too much a risk for accidents. People just come from so many different places. I don't see airlines getting into that. If the executives of an airline think your focus is on being an airline, I believe that's what you need to do. With all the talk of high speed rail and other services, I don't see airlines as moving in on the door-to-door service.

AIRLINE SURVEY (HEADQUARTERS LEVEL)

DATE: Thursday, July 15, 1993

AIRLINE: Continental Airlines

- 1) What is your name, position, and department?

Bruce Olson

Director of Airport and Reservation Services

Continental Airlines

2929 Allen Parkway, Suite 1312

Houston, Texas 77019

(713) 834-5480

(800) 525-0280

- 2) Who there at Continental Airlines would be most informed on providing ground access services for the passengers?

I'm not really sure, Marketing maybe.

- a) [If mentions someone] What is that person's name, position, and phone number?

N/A.

- 3) Is Continental Airlines doing anything to facilitate ground access for it's passengers? If so, what is it and what does it involve?

I don't believe so.

- 4) Has Continental Airlines provided ground access services in the past, and if so what did it involve?

We have done shuttle services, yes. Not as a matter of practice, no. We've done shuttles from terminal to terminal and from airport to airport for competitive reasons at various times in the past.

- a) Was it successful?

No. It was not really successful and at times we charged for the service. But it's been a long time since we've done it.

- b) Why did it end?

It ended because of schedule changes, patterns of service changed, and the environment changed. It had a lot to do with going broke too.

- 5) [If limousine services not mentioned previously] Does or did Continental Airlines provide limousine services for high yield customers and if so how successful was it?

At the moment, no. We have considered it but we are not doing it. We are not able to comment at this time whether we are considering it for some certain classes of service. For example, some international services are offered by other carriers and we are looking at competitive match but we are not doing it at this time.

- a) Are the passengers made aware of this service or must they inquire about it?

N/A.

- b) Has Continental Airlines ever considered developing an arrangement with an airport limousine service such that customers could book service to the airport at the same time they book their flights? If so, explain. What would be the advantages or disadvantages of such a strategy?

N/A.

- 6) What is your personal involvement with ground access services?

Give opinions on it, if and when it comes up.

- 7) Who would be involved in the planning and decision process for providing ground access services at a particular airport? For example, station managers, marketing, strategic planning, environmental, and/or promotions.

Our Marketing Department and our Sales Department.

- a) What would be the lines of authority?

Our CEOs and Vice President of Marketing. Station Managers would be asked to evaluate it, both from a does this make sense in the real world standpoint and then evaluate whether they could handle the operational responsibility and requirements, i.e. does the airport authority permit you to do it and probably the first question would kill most of them. The airport authority often does not allow you to do stuff like this or they want their money out of it too, so they want their cut and it does not become economically feasible.

- 8) What is the marketing strategy for providing a particular type of ground transportation service?

Talk to Marketing.

- 9) The following questions pertain to your personal opinion so please answer accordingly.

- a) Should airlines be involved with providing ground access services directly? Explain.

I don't think there's an easy answer to that. It's not a yes or no.

there's some gray. There are situations where obviously there are, may be competitive reason, or profit motive reasons to be able to lay on more than air transportation. There may be other situations where it doesn't make economic sense to do it. For the most part we are an "airline."

- b) Should airlines take landside transportation concerns into account when scheduling their flights, particularly during the peak hours? Explain.

No, the market place dictates that. Yes, the market dictates it, we are not in the business to try and minimize traffic rushes. If we move it around, others will, the traffic movements will move too. If there is a social concern there, then it becomes a regulatory function and we are not in the business of being the regulated, regulator, or the regulatee. And if its not that, then we have to govern my the market forces and the reason for the traffic is that's when people want to travel and we want to put the product where the people want to be. So much as it may sound harsh, it's the reality of the market place. It's a free market economy.

- c) Should airlines provide information to their passengers concerning ground access services; particularly through Computer Reservation Systems? Explain.

Not unless there's a demand for it. We don't have a responsibility for it unless we are involved with it financially or the public is demanding it in order to use our service. If there's a demand for it in order to use our service, i.e. if that information is critical to the decision making process of what airline to choose and when to fly and which airline and what fare to pay then it should be available. For example, we do have ground transportation information in our computer system today. Some information is available but we don't carry all the little local limousine companies but we do carry outlines and some phone numbers depending on the city and the information maintained for that city based on the market.

- 10) Has Continental Airlines ever considered having reservation agents routinely offer ground access information without being asked? If so, explain. What would be the advantages or disadvantages of such a strategy?

[See above.]

- 11) Has Continental Airlines ever considered listing multimodal services involving surface transportation? For example, a van connecting to a flight. If so, explain. What would be the advantages or disadvantages of such a strategy?

Yes we have. The circumstances was Scandinavia Airlines with ferries in Scandinavia connecting with us. Not to my knowledge [that it is still in existence] but it's hard to tell because it carries bloody flight numbers on them. We've done this also in the ski markets a couple of times, we've had bus services that carry flight numbers so that they could be booked, in the Colorado ski markets. We did not do it last year, we did it two years previous to that. I don't know if it materially effected the bookings for the total through service. It was very convenient in terms of booking an integrated package. It was also confusing as hell to our agents and the public because they thought some of these were flights to Aspen, and they turned out to be buses. No matter how hard we tried to put the word out, people when they hear a four-digit number, which the computer required, they assumed it was a flight and accused you of lying when they find out that it's not. No matter what you do with it, you can put "Greyhound Bus" on the ticket and they would still think it sprouted wings if you sold it from Continental. They would say we false advertised. It's mixed, in terms of whether what it did incrementally over and above, I am not willing to say that it was a success. It was definitely a nice integrated package.

- 12) Federal Express has been quite successful offering door-to-door air express service. In general, how would you assess such a strategy for a passenger airline? What are the major obstacles? Do you think an airline in the U.S. might try this in the foreseeable future?

We offer door-to-door ticket deliveries now to get the passenger his ticket using those same kinds of services, or our own. In terms of you make the

reservation and the car comes up and takes you to the airport, we don't view that as worthwhile at the moment. There are services in most communities that provide that information through the travel agent who puts the integrated product together for 80 percent of our travellers. So that when the customer goes into the travel agency and says they want to do this, they do it. Just because it's a different company it doesn't mean that it doesn't exist today. Based on the amount that we see that going on, we don't think there is much of a market for it. The american public has not gotten to that point yet.

AIRLINE SURVEY (HEADQUARTERS LEVEL)

DATE: Wednesday, July 21, 1993

AIRLINE: Delta Air Lines, Inc.

- 1) What is your name, position, and department?

Charlie Hawes

Senior Marketing Representative

Corporate Marketing

Delta Air Lines, Inc.

Hartsfield Atlanta International Airport

Atlanta, Georgia 30320

(404) 715-5761

(800) 221-1212

- 2) Who there at Delta Air Lines would be most informed on providing ground access services for the passengers?

That would be handled through the Passenger Service, Airport Customer Service side of Delta.

- a) [If mentions someone] What is that person's name, position, and phone number?

N/A.

- 3) Is Delta Air Lines doing anything to facilitate ground access for it's passengers? If so, what is it and what does it involve?

We are always evaluating the services that are provided to be sure that we are optimizing good customer service. We offer vehicle as well as van transportation between concourses. We also offer, in cases where we have non-ambulatory or very limited ambulatory who need to get very quickly from one flight to another, transportation from the arrival gate to their new gate or airline whatever the case may be. Door-to-door, as far as airport to hotel, depends on the situation and is handled on an irregular operations basis, in a case-by-case. But as far as from the home to our door, no we do not.

a) Is it successful?

N/A.

4) Has Delta Air Lines provided ground access services in the past, and if so what did it involve?

No.

a) Was it successful?

N/A.

b) Why did it end?

N/A.

5) [If limousine services not mentioned previously] Does or did Delta Air Lines provide limousine services for high yield customers and if so how successful was it?

No.

a) Are the passengers made aware of this service or must they inquire about it?

N/A.

- b) Has Delta Air Lines ever considered developing an arrangement with an airport limousine service such that customers could book service to the airport at the same time they book their flights? If so, explain. What would be the advantages or disadvantages of such a strategy?

At this time we are evaluating all facets of customer services and that would be one of those we are still evaluating.

- 6) What is your personal involvement with ground access services?

None. Only when asked. There may be sometime when I am asked, but to this point no.

- 7) Who would be involved in the planning and decision process for providing ground access services at a particular airport? For example, station managers, marketing, strategic planning, environmental, and/or promotions.

Marketing will bring the case to the General Office after their evaluation and recommendations.

- a) What would be the lines of authority?

It would go from the Marketing Manager to Regional Marketing Manager to Director of Field Marketing, then he would decide from there where it should go. If it should come to Corporate Marketing, it may come.

- 8) What is the marketing strategy for providing a particular type of ground transportation service?

I don't know.

- 9) The following questions pertain to your personal opinion so please answer accordingly.

- a) Should airlines be involved with providing ground access services directly? Explain.

In some cases I think it could be very beneficial to us, or to any airline. Not in all cases. Where it is profitable.

- b) Should airlines take landside transportation concerns into account when scheduling their flights, particularly during the peak hours? Explain.

No. Well, we can't base our schedules on pick-up and drop-off. We need to keep our schedules competitive within the industry as well as making sure we have airplanes available. It's an issue of marketing demand.

- c) Should airlines provide information to their passengers concerning ground access services; particularly through Computer Reservation Systems? Explain.

Yes, it's offered. There is information in the Computer Reservation Systems now concerning airport transportation. That's already available. It's on an airport-to-airport basis.

- 10) Has Delta Air Lines ever considered having reservation agents routinely offer ground access information without being asked? If so, explain. What would be the advantages or disadvantages of such a strategy?

No. Again you would have to handle situations like that on a case-by-case basis. There is information in the computer for most cities that are offered through a vendor type of a program like limousine services. There are companies on the airport, not Delta or other airlines, they are contractors that service the airport itself and they provide us with schedules and we put them into our reservation systems under general information.

- 11) Has Delta Air Lines ever considered listing multimodal services involving surface transportation? For example, a van connecting to a flight. If so, explain. What

would be the advantages or disadvantages of such a strategy?

There use to be, the airlines all had what we used to call the "ground taxi" which was more or less one segment of a flight itinerary. It was identified as an air taxi, which meant it was a limousine type of a service. But since the hub and spoke system that we use, in most cases that became unnecessary.

- 12) Federal Express has been quite successful offering door-to-door air express service. In general, how would you assess such a strategy for a passenger airline? What are the major obstacles? Do you think an airline in the U.S. might try this in the foreseeable future?

I think that the airlines may entertain a door-to-door service on the passenger side. Again, when you're dealing with a package as opposed to passengers, the cost to provide that service to a passenger is much greater than on the package side. There are a lot of factors. I think the biggest is the fact that we all look at the cost to us to provide the service to the customer and if a door-to-door service is something we look at, that would have to be considered a part of the operational cost. There is also the time factor for the passengers, they don't like to wait.

AIRLINE SURVEY (HEADQUARTERS LEVEL)

DATE: Wednesday, June 23, 1993

AIRLINE: Horizon Air

- 1) What is your name, position, and department?

George Bagly
Vice President - Operations
Horizon Air
5515 Northeast Transport Way
Portland, Oregon 97218
(503) 249-4114
(800) 356-5993

- 2) Who there at Horizon Air Airlines would be most informed on providing ground access services for the passengers?

Bill Air, Vice President of Marketing.

- a) [If mentions someone] What is that person's name, position, and phone number?

N/A.

- 3) Is Horizon Air Airlines doing anything to facilitate ground access for it's passengers? If so, what is it and what does it involve?

No.

a) Is it successful?

N/A.

4) Has Horizon Air Airlines provided ground access services in the past, and if so what did it involve?

No.

a) Was is successful?

N/A.

b) Why did it end?

N/A.

5) [If limousine services not mentioned previously] Does or did Horizon Air Airlines provide limousine services for high yield customers and if so how successful was it?

No.

a) Are the passengers made aware of this service or must they inquire about it?

N/A.

b) Has Horizon Air Airlines ever considered developing an arrangement with an airport limousine service such that customers could book service to the airport at the same time they book their flights? If so, explain. What would be the advantages or disadvantages of such a strategy?

No, we've looked at it but haven't done it.

6) What is your personal involvement with ground access services?

None, because we have already decided not to do it.

- 7) Who would be involved in the planning and decision process for providing ground access services at a particular airport? For example, station managers, marketing, strategic planning, environmental, and/or promotions.

Marketing.

- a) What would be the lines of authority?

Just Marketing. I think.

- 8) What is the marketing strategy for providing a particular type of ground transportation service?

We decided just not to get involved with it.

- 9) The following questions pertain to your personal opinion so please answer accordingly.

- a) Should airlines be involved with providing ground access services directly? Explain.

No. I don't think so. I doubt that it is profitable and we're a regional airline and for the amount of passenger ticket price we receive, I just don't think it is something we can do. If you had somebody riding on a \$500 ticket it might be worthwhile but our ticket average is about \$85 so...

- b) Should airlines take landside transportation concerns into account when scheduling their flights, particularly during the peak hours? Explain.

No. I think our customers come from a variety of modes of ground transportation. Everything from shuttle buses to limousines, taxi cabs to walking, and we aren't loading 500 people on to our airplanes, we are loading only 30 so I don't think ground transportation is a issue concerning us.

- c) Should airlines provide information to their passengers concerning ground access services; particularly through Computer Reservation Systems? Explain.

We haven't had a whole lot of requests for it that I know of. Not that I know of have we ever been asked to provide that kind of information.

- 10) Has Horizon Air Airlines ever considered having reservation agents routinely offer ground access information without being asked? If so, explain. What would be the advantages or disadvantages of such a strategy?

We schedule rental cars and stuff like that, but no other things that I am aware of.

- 11) Has Horizon Air Airlines ever considered listing multimodal services involving surface transportation? For example, a van connecting to a flight. If so, explain. What would be the advantages or disadvantages of such a strategy?

No. Well, I take that back. We offer a van service listed as a flight number in our Computer Reservation System in lieu of flying that route. We have done that very successfully. It was an essential air service route to a city that we didn't think needed an essential air service flight and so we made an arrangement with a ground transportation company to provide these "flights." We booked them in the reservation system. The cities involved were Portland and Salem, Oregon. It is successful and still in existence.

- 12) Federal Express has been quite successful offering door-to-door air express service. In general, how would you assess such a strategy for a passenger airline? What are the major obstacles? Do you think an airline in the U.S. might try this in the foreseeable future?

I'm not sure that a... I doubt it would be economically feasible to do that because people are more time sensitive than a package delivery service. As long as you get the package there before 10:00 a.m. they don't care, but I don't think

anyone wants to be dropped off at 5:00 in the morning because that's the time of rounds. I have not seen van services that went door-to-door work because it is just too diverse and its not timely. You get eight people in a van with all different addresses, you end up driving around for hours to get the job done. No, I don't see airlines doing this in the future.

AIRLINE SURVEY (HEADQUARTERS LEVEL)

DATE: Thursday, July 15, 1993

AIRLINE: Southwest Airlines

- 1) What is your name, position, and department?

Lisa Kendzior

Marketing Planning Manager

Southwest Airlines

2702 Lovefield Drive

Dallas, Texas 75235

(214) 904-4509

(800) 435-9792

- 2) Who there at Southwest Airlines would be most informed on providing ground access services for the passengers?

Station Mangers are the closest, they're probably hearing it through agents who interface with customers so they're probably hearing it first. And like any good Station Manager they're trying to work their contacts to better improve service for our customers. I would guess that's going on. I can't generalize that but the station manager is definitely a key player.

- a) [If mentions someone] What is that person's name, position, and phone number?

N/A.

- 3) Is Southwest Airlines doing anything to facilitate ground access for it's passengers? If so, what is it and what does it involve?

We are very customer service driven so I would say not in all of our markets but some certain markets where there might be concerns or it might be an issue. I would bet that locally they're working at communicating to our customers what's available and working on trying to improve it. I don't know that for a fact though. If you talk to Station Managers, those would be the people that would have an idea.

- a) Is it successful?

N/A.

- 4) Has Southwest Airlines provided ground access services in the past, and if so what did it involve?

Not at least since I've been here. We have not, in the past five or six years, that I am aware of.

- a) Was is successful?

N/A.

- b) Why did it end?

N/A.

- 5) [If limousine services not mentioned previously] Does or did Southwest Airlines provide limousine services for high yield customers and if so how successful was it?

No.

- a) Are the passengers made aware of this service or must they inquire about it?

N/A.

- b) Has Southwest Airlines ever considered developing an arrangement with an airport limousine service such that customers could book service to the airport at the same time they book their flights? If so, explain. What would be the advantages or disadvantages of such a strategy?

I believe so yes, but I don't believe we did it. I believe we considered it.

- 6) What is your personal involvement with ground access services?

Nothing.

- 7) Who would be involved in the planning and decision process for providing ground access services at a particular airport? For example, station managers, marketing, strategic planning, environmental, and/or promotions.

Like I said earlier, Station Managers, but I don't know. I don't think we do anything.

- a) What would be the lines of authority?

N/A.

- 8) What is the marketing strategy for providing a particular type of ground transportation service?

N/A.

- 9) The following questions pertain to your personal opinion so please answer accordingly.

- a) Should airlines be involved with providing ground access services directly? Explain.

We are an air transportation industry. We have a problem controlling costs so we cannot be putting our energy into diversified

services. Our energy must stay with air transportation not ground transportation.

- b) Should airlines take landside transportation concerns into account when scheduling their flights, particularly during the peak hours? Explain.

No, it's based on market demand. We can't do that.

- c) Should airlines provide information to their passengers concerning ground access services; particularly through Computer Reservation Systems? Explain.

I believe in that. I'm not sure I would agree to sell it. I would be offering it as good customer service if when asked. I believe we do give information and direct people who ask.

- 10) Has Southwest Airlines ever considered having reservation agents routinely offer ground access information without being asked? If so, explain. What would be the advantages or disadvantages of such a strategy?

No.

- 11) Has Southwest Airlines ever considered listing multimodal services involving surface transportation? For example, a van connecting to a flight. If so, explain. What would be the advantages or disadvantages of such a strategy?

Yes. I think it has to do with some service between Little Rock and Memphis. If we don't serve Memphis but we serve Little Rock there's some bus companies that have been working at connecting to our service to be there to pick up people coming and take them to Memphis. That's one that I am aware of. It's on their end not ours. They are arranging their schedule around ours.

- 12) Federal Express has been quite successful offering door-to-door air express service. In general, how would you assess such a strategy for a passenger airline?

What are the major obstacles? Do you think an airline in the U.S. might try this in the foreseeable future?

I think it's possible. I think though given our ailing industry and the problems we face and will continue to face that controlling our costs is more important than adding amenities because if you provide that, it's going to cost. I don't think this is the time to do it.

APPENDIX 5.
AIRPORT SURVEY

Date: _____

Airport: _____

- 1) What is your name, position, and department?
- 2) Do you feel pressure to reduce the vehicle traffic generated by your airport? If so, from what sources?
- 3) Does any particular airline provide ground access services for their passengers at the airport? If so, what do they do and does it appear to be successful?
- 4) Do you monitor the contribution of airlines, either individually or collectively, to road traffic at the airport or in the region?
- 5) How would you describe the airlines' involvement with respect to providing ground access services to their passengers?
- 6) In your opinion, what are the airlines' responsibilities in the ground access area? For example, should airlines be in any way involved with getting their passengers from their home or other location to the airport?
- 7) As far as you know, do airlines at your airport take any ground access considerations (e.g. periods of heavy congestion, times of shuttle operation) into account when scheduling flights?

- 8) Do you see any possibility for airlines to increase their involvement with making ground access better at the airport? Explain.
- 9) What incentives or leverage points could you use to encourage airlines to increase efforts to reduce the ground access traffic they generate? What experience do you have in considering or implementing these strategies?
- 10) How does your department interact with the individual airlines in matters pertaining to ground transportation at the airport?
- 11) Do you perceive that different airlines display different levels of cooperativeness in working with you on ground access matters? If so, can you suggest any causes for these differences?
- 12) Are you aware of any particularly interesting or unusual ground transportation services provided by airlines there at [Airport] or at any other airport? If so, what are they and what do they involve?

AIRPORT SURVEY

Date: Tuesday, July 27, 1993
Airport: Los Angeles International Airport

- 1) What is your name, position, and department?

Name: Martin Obregon, Jr.
Management Analyst
Landside Operations
City of Los Angeles Department of Airports
1 World Way
P.O. Box 92216
Los Angeles, CA 90009-2216
(310) 646-2250
FAX (310) 646-5024

- 2) Do you feel pressure to reduce the vehicle traffic generated by your airport? If so, from what sources?

I think we do get some sort of pressure to reduce our congestion at the airport. Basically just from our internal sources. I think that there is a concern that the service to the public could be better if there was less congestion out at the airport. In terms of outside sources I can't think of any one organization that pressures us to alleviate the traffic problem out here. I'm sure the AQMD (Air Quality Management District) has requirements for our contracts but apart from the AQMD I am not aware of any pressures to reduce traffic. I believe it is a department policy to mitigate and to try to reduce the amount of pollution that the airport emits through its operations.

I think its more like in terms of internal policy that we try to provide a service to the public in which a passenger comes in on the airplane and they exit the airport as conveniently as possible. Also that passengers arrive at the airport

for departures in a very convenient fashion and depart without any kind of delays. I feel more of an internal pressure than from outside sources. A person should not be able to tell that they are at an airport.

- 3) Does any particular airline provide ground access services for their passengers at the airport? If so, what do they do and does it appear to be successful?

I don't believe so. I know that they provide crew transport to their employees and that's available to airline employees. I am not aware of any one service. I think that the airlines may provide some kind of limousine service to their passengers. There's an airline down by the Imperial Terminal for first class passengers, that is all that they service and they do provide limousine service but it is not within the airport area, it's on the outskirts. It does not really help our traffic problem though.

Our FlyAway service basically transports people from a Van Nuys Remote Terminal. The frequency is about every 30 minutes. I can get you statistics on the number of passengers that service. I don't know if the airlines are still doing check-in and baggage services there but I can get you that information. The company that runs the shuttle is not in any agreement with the airlines, they are in agreement with the airport to provide the service.

- 4) Do you monitor the contribution of airlines, either individually or collectively, to road traffic at the airport or in the region?

No, we don't.

- 5) How would you describe the airlines' involvement with respect to providing ground access services to their passengers?

I don't know if we have requested that. I won't be able to answer that. The airport provides all of the services that I am aware of. The airlines provide their own sky cab service which is the baggage handlers at the terminals.

- 6) In your opinion, what are the airlines' responsibilities in the ground access area? For example, should airlines be in any way involved with getting their passengers from their home or other location to the airport?

From what I understand, the airport has never required or suggested to the airlines to bring their own passengers to the airport. The majority of passengers bring their private vehicles that causes major congestion. Passengers have the option of taking a taxi, they have the option of taking a shuttle, or take one of the buses if they live close to one of the routes or scheduled stops. It's real interesting, some of our statistics show that lately the shuttle vans are making less circuits which may be an indication that people are using them less. Our taxi trips are actually increasing. It seems that people are out to take a less shared ride mode out of the airport. It is sort of a concern to us. The airport is a huge market. We have about 45 million passengers coming in and out of the airport. I would say about 2 million of those passengers are using high-occupancy vehicles which is a really low number. I think people in Southern California are used to using their private vehicles. The recession has affected the industry a lot because people feel that paying for gas is cheaper than any other mode.

Parking revenues here are even down this month by 12 percent in comparison to last month. It's like people aren't even parking at the airport or as long as they used to. It seems as though people are having a third party, usually a friend or relative, drop them off at the airport. People are trying to save money both in parking fees, shuttle fees, or in bus fees. I guess that they feel that they take their private vehicle they can save some money. I think that is a side effect of the recession.

- 7) As far as you know, do airlines at your airport take any ground access considerations (e.g. periods of heavy congestion, times of shuttle operation) into account when scheduling flights?

Not that I am aware of. You may want to call some of the Station Managers of the airlines. From what I understand their concern is to service mainly the Business Traveller at least here at the Domestic Terminal. The International Terminal seems to be busy all of the time because they come in at all times. But in terms of our domestic carriers, their main concern is to serve the business needs. So I don't think that is something they take into serious consideration. If that has been requested before, I don't think it has had any impression on anything.

- 8) Do you see any possibility for airlines to increase their involvement with making ground access better at the airport? Explain.

In the short run I don't think so. I think they still feel that the airport is mainly responsible to provide the facilities for their passengers to access the airport. They may exert pressure on the airport to mitigate traffic but in terms of providing their own services or resources I don't think it will happen. The airport is thinking of building a transportation center for commercial ground transportation carriers as well as a people mover system. It will be another six or seven years before anything comes to be but it is in the works. It will relieve a lot of the congestion and the airlines will be happy with that and support that kind of a system. We may have some opposition from the shuttle van industry, they may not want to leave the curb area to a remote transportation center but that's probably what will happen.

In the long run, the green line will be coming in from the Norwalk area. It will come either to the transportation center or somewhere along the people mover system. That will at least get some of the employees out here without having to use their own vehicles or to pay for parking. That will be convenient for our employees. I don't know how many travellers will use it but we hope it will help at least for short trips.

The exact details of how the center will operate hasn't really been worked on yet because it is a long term project. But the way we envision it, the passengers will be picked up or get on the people mover at each terminal and will be taken to the transportation center to get on whatever mode of transportation they want to get into, whether it's a taxi, van, or limousine. I don't know about limousines yet. The limousine industry may definitely oppose having to go the transportation center because they want to be able to pick up their clients right at the door. So we may have some opposition to that from that industry. This will also apply to drop-offs. Again that is a long term project and I think the department is pretty committed to it. I do see it coming to be in a matter of time.

Another vision of the transportation center is to have ticket counters for the airlines to process the passengers out there to get their boarding pass, and maybe even to check in their baggage. It will be a lot easier for them to just be

transported to the upper level of the airport without having to deal with luggage. Our LAX shuttles are pretty large because of the baggage situation since people tend to carry a lot of luggage with them.

We are actually trying to get buses that are more in line with AQMD requirements in terms of air quality but those are really expensive. We were supposed to buy six new buses this year but management has made it to only two. Then they will be replaced two at a time.

I think the airport is definitely concerned about air quality and all those things. It is just that the amount of people coming through here is just amazing. We are definitely the busiest airport in terms of origin\destination type of travel. People don't tend to transfer to another airplane here, they start or stop here. Because Los Angeles is such a vehicle oriented city, we have even more. We probably have the most traffic of any airport in the country and probably the world because of the circumstances we find ourselves in.

- 9) What incentives or leverage points could you use to encourage airlines to increase efforts to reduce the ground access traffic they generate? What experience do you have in considering or implementing these strategies?

This is difficult to answer. We don't deal directly here with the airlines. Our bureau basically manages the ground transportation services at the airport. The bureau that basically deals with the airlines is the Property Bureau which deals with the leasing and things like that. It is hard to come with a policy answer like this. If I was in a position to create an incentive for the airlines to this, it is sort of difficult. Their perspective is probably, we can't tell people how to come into the airport. People have their own means of transportation, they chose what to do, they chose what to take. I think they [airlines] would throw it back at us and say that it's your airport and facilities. We are just leasing this space from you.

Recently they [airlines] started a public relations campaign to get the public to know what kind of economic impact they have on the Southern California area. They always come back with that sort of approach. The reason they are taking this approach this time is because there is a lot of talk of leasing

the airport and raising fees. So they want the public to know that they provide some sort of economic benefit to the area. But you also have to look at the negative impacts that come with it like pollution, noise, and traffic congestion. I think for the most part the airport does not think in terms of how we can require them to come up with more solutions, it's more the airport trying to solve things and make things better for the traveling public. I don't think that kind of approach has ever been taken by the airport.

- 10) How does your department interact with the individual airlines in matters pertaining to ground transportation at the airport?

Again, we don't have any direct interaction. We are thinking of getting some sort of decals for their crew transit. A lot of the times the airport police mistake some of their vehicles. But that is really the only contact in terms of ground transportation.

- 11) Do you perceive that different airlines display different levels of cooperativeness in working with you on ground access matters? If so, can you suggest any causes for these differences?

Again, there is no interaction.

- 12) Are you aware of any particularly interesting or unusual ground transportation services provided by airlines there at Los Angeles International Airport or at any other airport? If so, what are they and what do they involve?

There aren't any.

COMMENTS/ADDITIONAL INFORMATION:

We basically have three kinds of industries: the taxi industry, the charter party carrier industry, and passenger stage carrier industry or corporation industry. All of those industries are regulated by our office. All of the companies in these industries must obtain a permit before they come onto the airport. We have a Automatic Vehicle Identification that monitors the vehicles while they are in the CTA, it also helps us with our billing. For passenger stage corporations we charge them per circuit, so for every circuit they make they get charged according to type. For example, each shuttle van pays

\$1.00 for each circuit they make. But there is an incentive to make only three circuits because after the third circuit they get charged \$10.00 per circuit. This is per trip for each van they have. For example, we have a holding lot where all these vans are stationed. When a passenger wants to take a super shuttle to Van Nuys, the passenger goes to the island curb and requests the customer service representative to call for that van to be dispatched from the holding lot. Since the van is already in the CTA, they are allowed to make circuits and are charged for each circuit they make. If they make more than three circuits for that one trip they took out of the holding lot, they are charged \$10.00 per circuit. Most vans will not make more than three circuits.

The smaller vehicles are charged less, \$0.32, the larger vehicles \$0.48. But those fees are most likely going to go up to cost/recovery level. We've prepared recommendations to the Board to increase their rates. There are so many vendors out there now and limited curb space. Sometimes it gets dangerous out there. It is a safety concern for us. That's why we don't just allow them to park at any one curb for more than 45-seconds. They have to keep moving. The courtesy buses really don't cause customer complaint type problems. They are the ones that circulate the airport the most; hotel courtesy vehicles, rental car courtesy vehicles, and remote parking courtesy vehicles. They provide the bulk of the circuits but because they are always moving they don't stagnate the traffic.

Basically what we do here is to regulate the commercial ground transportation carriers at LAX and out AVI really helps us with that because it tells exactly how many circuits each company is making per month or per hour. It tells us how much they owe us and so it's a great system to analyze what's going on. We also have a ground transportation enforcement unit under the airport police and their function is to enforce rules and regulations. That is one way of making sure that commercial vehicles at the airport are permitted.

Each commercial vehicle is issued a decal and each year it changes colors. Each year that we decal we check that their insurance is up to date and they are in compliance with all of the requirements. The decal is placed on their windshield and also every time a vehicle leaves the holding lot they have to pick up a trip ticket which must be displayed. We don't have any problems with non-compliance in the shuttle industry or buses but there is a problem sometimes with the charter party carriers because they are a little more obscure. There's like 800 limousine carrier companies

here in Southern California that are permitted with us and sometimes they use a non-processed vehicle. We recently provided a list of limousine companies that have come in unauthorized to the airport police. The airport police have a right after the first offense to arrest the driver and charge them.

The airport has several ground transportation booths located outside between each of the terminals. There is a person providing information to anyone who inquires. The information booth has lists of various shuttle service companies going to particular locations. The lists also contain prices for the shuttle service to specific cities or hotels. LAX has a free shuttle service providing ground transportation to and from terminals and parking lots. A specific service is the FlyAway from Van Nuys to LAX. The FlyAway is a 24-hour scheduled bus service. Fares are: \$3.50 one way, \$6.00 round trip, free for children under two years old, and \$1.75 each way for children from two to twelve. There is a \$1.00 per day parking fee for the patrolled lot.

AIRPORT SURVEY

Date: Wednesday, August 4, 1993
Airport: San Francisco International Airport

- 1) What is your name, position, and department?

Name: Gail Staba
Transportation Planner
Landside Operations
San Francisco International Airport
P.O. Box 8097
San Francisco, CA 94128
(415) 876-2158

- 2) Do you feel pressure to reduce the vehicle traffic generated by your airport? If so, from what sources?

Yes, we are mandated by law. It's the Air Quality and it's our Master Plan Environmental Impact Report Mitigation Plan and it's also a memorandum of an agreement with all of the cities in the area. It is now the law and it will decrease trips to the airport by two percent per year for the first five years of the Master Plan and one percent a year for the remaining life of the Master Plan.

There's a group called C-CAG which is essentially the council of governments for San Mateo County, so it's all of the cities in the county itself. They are monitoring it and we are required to meet with them on a regular basis.

- 3) Does any particular airline provide ground access services for their passengers at the airport? If so, what do they do and does it appear to be successful?

Not that I am aware of. The only thing I am aware of they do is, all of their employees park in remote areas and they have shuttles which bring them to the terminal. Essentially, everyone who works in the terminals get bused in.

- 4) Do you monitor the contribution of airlines, either individually or collectively, to road traffic at the airport or in the region?

Not as a primary function. As a secondary function we do. For Instance, during peak holiday travel when we are expecting a lot of passengers and a lot of traffic we start out with passenger projection for the airline. That's how we determine what steps we need to take to disperse the traffic problem.

- 5) How would you describe the airlines' involvement with respect to providing ground access services to their passengers?

That's not a good question to ask me. It would be more of an operations person because I don't really deal with the airlines very much. But, I suspect that they sit on a number of committees and probably the person you would want to talk to is Don Whittaker of Airfield Operations and his number is (415) 876-2440.

- 6) In your opinion, what are the airlines' responsibilities in the ground access area? For example, should airlines be in any way involved with getting their passengers from their home or other location to the airport?

I don't feel strongly about that. I don't think I should have an opinion on that. I know that in Europe and in Chicago the airlines are getting interested in rail, particularly high-speed rail for short trips. In that respect I think it's important for them so they can free up some of the air space for things that make sense. But that's not necessarily ground access. Well, I think that if they're in some sort of situation where they could have their own right-of-way that might work. But as soon as they are involved with the right-of-way of everybody else, that's a problem with meeting schedules.

- 7) As far as you know, do airlines at your airport take any ground access considerations (e.g. periods of heavy congestion, times of shuttle operation) into account when scheduling flights?

I think they do it in the sense that they ask passengers to check-in an hour ahead of time. But I think they are perfectly cognizant. They schedule flights when people want to fly.

- 8) Do you see any possibility for airlines to increase their involvement with making ground access better at the airport? Explain.

At our particular airport because we are going through a huge Master Planning Process and a huge Capital Development Program they have quite a bit of input. Essentially we are going to have all new ramps from the highways, a new ground transportation center, and a light rail station and everything else. They are definitely in the loop. We have members from the airlines sitting in on the committees. I think this would probably be another question for Don Whittaker, his primary emphasis is Airfield Operations. There is a number of standing committees at the airport which are essentially involved with the managers of the airlines at the airport. I know he also sits in all of the Master Plan Implementation meetings.

- 9) What incentives or leverage points could you use to encourage airlines to increase efforts to reduce the ground access traffic they generate? What experience do you have in considering or implementing these strategies?

We are in the middle of drafting and asking for comments for trip reduction rules which is how we are going to get the two percent per year decrease in congestion to happen. Well, they kind of have to do it. There's a hole laundry list of things they can do. So in that respect they have many choices but they have to participate in the program as being able to do business here. It is a part of their tenant rules. It is similar to the air quality thing. Essentially they have to provide a point of contact and train the point of contact to put together a plan. I would imagine there will be an amount of revision. The idea that there's loads of things they can do and things they are going to try to do. Of course the first things they are going to do is with their employees because it is a captive market.

As a group we are going to get together and do passenger type of things. The type of easy passenger types of things we will do now or early on is provide passenger information to use high-occupancy ground transportation (share taxi or limousine, door-to-door vans). We also have hired a consultant to do a media campaign for air passengers. We are going to get together with the travel agent professional society to provide fliers to be able to put them directly into the

ticket envelopes. So it's not individual airlines that are going to be doing this. It will be a group effort because it is more locational than anything else.

What I've found in my dealing with airlines in a number of different schemes that we have wanted to do, because they deal with a number of different ground bases they are not that interested. It is the people who are affiliated with that piece of ground that really have to provide the direction for them. And that's what I have noticed historically been the way that it is done. They [airlines] have a really strong professional group that's really tracking all this ground transportation requirements on the airlines. What I have found in working with them is that typically the largest employer, the largest air transportation provider, at each location will be the point of contact. The organization is the ATA (Air Transport Association). The organization is just air carriers. That's how they split up their work load. At the airport I work at, United Airlines is the largest and American Airlines, I believe, is the second largest. So they are the points for all this traffic congestion schemes that are going on. As a group they get together to do some of their staff work and they decide how they are going to work at a particular location. One of their other interests is that because of all of the air quality requirements and other requirements, they have a tendency to want to do one thing for all of their bases. So United would try to make one scheme that would work the same in Los Angeles, San Francisco, Chicago, and everywhere else. In that respect they are not consistent, they prefer to have everyone get together at San Francisco. It is very possible that it will be the same thing for every airport in the country.

- 10) How does your department interact with the individual airlines in matters pertaining to ground transportation at the airport?

We typically work through Airfield Operations but now that we have this Trip Reduction Rule we have a single point of contact at each airline with which to interact. It is typically on a task by task basis.

- 11) Do you perceive that different airlines display different levels of cooperativeness in working with you on ground access matters? If so, can you suggest any causes for these differences?

I have no information to provide you with an answer on that. I could probably tell you that in six months.

- 12) Are you aware of any particularly interesting or unusual ground transportation services provided by airlines there at San Francisco International Airport or at any other airport? If so, what are they and what do they involve?

No.

COMMENTS/ADDITIONAL INFORMATION:

We have an AVI system. We have about twenty people in this department and everyone has their own little thing. One guy is the AVI guru and another deals with permits for two or three industries and another for the other two or three industries. So it's really pretty specific. The best way to find out about that is Geoffrey Gosling and my boss Janice's [Gendreau] extension course in October. Right now it is not a good time to find out about that because we are in our peak season so it's really hard right now to have a coherent conversation with say someone in permits. Right now we are involved in making sure everyone is doing what they are supposed to be doing.

We have such a problem here that we don't want to give any more permits. There's no more curb space. I don't want to put you off but I think you may know about bureaucracy.

We have information booths in the baggage claim areas which provide ground transportation information to anyone who inquires. The booths have real human beings which speak a number of languages with which to assist anyone on all sorts of things. That is what we have found works best. People don't trust screens or recorded messages. We also have the bulletin boards up with information and a courtesy phone.

We also have rental car agencies: five on the airport and about ten off. Some have booths inside and some just have phone numbers. That is downstairs on the baggage claim level. The rental car agencies have a maximum number of rotations through the airport that they can make in a month. Then they are charged \$25 for each additional one after their limit.

Door-to-door vans and limousines get charged on a per trip basis. Taxis get charged through the parking lot. They get queued up in the parking lot and get sent out.

It was determined that we could not permit all of the taxis coming through the airport so we spend an enormous amount of space on taxi cab overflow.

APPENDIX 6.

INTERMODALISM IN THE FREIGHT TRANSPORTATION INDUSTRY

In the transportation industry, intermodal movements in the freight transportation industry are similar in nature to the air transportation-ground access issue in the air passenger issue. Intermodal refers to movements in which the freight is transported by more than one mode. Intermodal movements are usually some combination of maritime, rail air and truck movements. A common example are truck train movements where freight is carried on rail (in the form of trailers on flat cars (TOFC), or containers) for the line haul portion of the trip and on trucks for the pick up and delivery (short haul consolidation and distribution). Another variation could be containers arriving in ports on container ships, transported to rail terminals in trucks, and then carried by trains (single or double stacked) to distribution points, from where trucks take them to their consignee. Moreover, the tradeoffs and decision processes influencing the adoption or non adoption of a bundling strategy in this industry present analogies to those in the case of the air transportation-ground access issue.

Ever since the development of the federal highway system and the truck industry in the fifties, service levels in the industry have been defined by trucking (Muller, 1989). In the domestic sector, rail and inland water transportation, limited to fixed guideways, have had to compete with the 'superior' door to door service offered by trucking.

Although, over the long haul (over 700 miles), these modes are significantly more economical than trucking (USGAO, 1992) the seamless door to door service provided by trucks has proved to be a very significant competitive edge. A substantial amount of

railway strategy since the advent of significant truck competition has been concentrated towards matching the door to door element of trucking.

Most elements of the freight transportation industry underwent deregulation in the period 1975 to 1985 (Staggers Rail Act of 1980, Airline Deregulation Act of 1978, Motor Carrier Act of 1980). Pre deregulation, for historical anti-trust reasons, to sustain intermodal competition, coordination between different modes was severely restricted. Cross ownership between different modes was specially limited. Deregulation brought about a much higher degree of flexibility in the operations of transportation carriers and relaxed most barriers on operations and ownership.

Intermodal coordination was limited and scarce until the mid fifties. Partially as the result of the regulatory process outlined above, and partially because for technological reasons. Firstly, before trucks evolved as a potential competitor for railroad traffic, Secondly, at each intermodal point (terminal), mode specific handling considerations (unloading, warehousing, loading, packing) subjected the freight to costly waiting and handling charges. At this time, a large percentage of freight movement went through freight forwarders (Cobert, 1983), middlemen, who coordinated different the modes responsible for different legs of the trip. These allowed for large reductions in the handling requirements for intermodal movements, and consequently greatly reduced losses from damage, pilferage etc of the cargo. After this a certain amount of coordination was observed between different modes in the transportation industry. In domestic freight transportation this cooperation manifested itself in the form of

piggyback or TOFC service as well as containerized service. Intermodal traffic grew rapidly for a period after that, but stabilized by the end of the seventies to about 3 million units. Deregulation sparked a new interest in the use of intermodalism and in the decade of the eighties, the number of intermodal units loaded in the United States doubled to 6.2 million (growth in the decade before that had been a more modest 29.5 percent), which represents about 6 percent of inter city freight (Harper et al., 1993).

The 1980's saw a flurry of activity as transportation companies restructured themselves to the new demands and opportunities brought forth by deregulation. As laws concerning inter modal ownership, entry barriers were relaxed, the industry has been going through a period of reorganization characterized by corporate alliances and takeovers. While a significant amount of this activity has been in the form of rail lines establishing trucking subsidiaries, a trend has emerged towards developing integrated multimodal partnerships, capable of providing intermodal services and 'door to door' transportation to the consumer. CSX corporation (the second largest railway company in the United States) purchased a shipping line (Sea-Land) in 1986, bought a barge line (American Commercial barge lines) in 1984, and started a motor carrier affiliate (CME) in 1980. Norfolk Southern, a railroad company, acquired North American Van Lines, a trucking company in 1984. Union Pacific Corporation, another railroad firm, purchased Overnite Transportation Company in 1987. It also established a partnership with Skyway Freight Systems, an airfreight forwarder and trucking company. Conrail corporation created an intermodal trucking subsidiary, Conrail Mercury. American President Lines, a shipping company acquired both a rail line and a motor carrier subsidiary. K-Line,

another shipping company, created a subsidiary to manage its land transportation divisions (Railbridge Corporation). The Santa Fe rail company and the J. B. Hunt trucking company formed a joint venture in 1989 whereby they would feed each other exclusively in areas where both were present (Muller, 1989, USGAO, 1992).