

shortage of capacity is apparent and frustrating to the user. An air passenger might accept a wait at the ticket counter, but not a "lot is full" notice for long-term parking. Consequently, at airports with parking capacity problems (as is currently the case at Kansas City and El Paso), the sponsor will hear about it . . . including unkind newspaper articles.

Regarding environmental concerns, resistance to the expansion of airport parking facilities by some state and community representatives was cited. Portland International (Oregon) and Dulles International Airports are examples. There is opposition to so-called "monuments to the automobile" because more airport parking appears to be inconsistent with community goals of increased transit to save fuel and improve air quality.

But placing limits on airport parking may not necessarily achieve environmental goals. If an air traveler cannot park at the airport for the trip duration and good commercial or public transit is not available, that traveler may choose to be dropped off and picked up at curbside by a family member. When this happens, automobile-miles traveled for airport access are doubled.

It also was stressed that localized air quality problems are a concern within and near garages. For example, Minneapolis-St. Paul International Airport has even undertaken wind-tunnel modeling of potential new airport parking facilities.

There is a real need for more data and further studies. To supply airport parking properly, it is first necessary to have a full understanding of demand. Because demand characteristics are different at each airport, hour-to-hour or day-by-day, information must be collected on:

1. Vehicle accumulations (spaces occupied),
2. Parking durations (lengths of time parked), and
3. Entrances/exits from parking (traffic volumes).

This information is typically obtained by computer processing of data from samples of processed parking tickets. "We, and other consultants, do our best to pick the best samples," Mr. Hall said, "but it would be desirable to have this information available on a routine basis at large airports. Capabilities of the new systems for parking revenue control (as discussed in the foregoing presentations) are encouraging in this respect."

Finally, there is a real need for comprehensive "before and after" case studies to improve the planning of airport parking (and to assist in "selling" these plans). Detailed activity measurements before and after a rate change, or before and after a new parking facility is opened, could address such fundamental planning questions as the following:

1. What differentials are necessary in parking rates to influence the use of various parking facilities at an airport? . . . particularly when different service characteristics are a factor (e.g., close-in versus remote parking facilities).
2. Does expansion of airport parking facilities cause changes in the mode of airport access?

Mr. Hall observed that the closest example of such a study was the Cleveland Hopkins Airport

Access Study in 1970, sponsored by the U.S. Department of Transportation. The study concerned airport access before and after rail transit was introduced, but even that detailed study did not fully describe parking impacts.

WORKSHOP MODERATOR'S COMMENTS

William M. Schoenfeld, Los Angeles Department of Airports, Los Angeles

When the new Los Angeles International Airport (LAX) terminal opened in 1961, 4,728 parking spaces were provided at a daily parking rate of \$2.00. Today more than 21,000 spaces are provided at LAX, at up to \$6.00 daily rates.

Lots	Spaces	Daily Rates
1 - 7 (Central Terminal)	6,214	\$6.00
A (Perimeter)	1,380	4.00
C (Perimeter)	5,343	2.00
VSP (Perimeter)	5,853	1.50
West Imperial Terminal	869	2.00/\$1 entry
Fly Away (Van Nuys Airport)	1,377	1.00 entry
	21,036	

To reduce curb space congestion, 264 metered spaces are now provided in the Central Terminal Area at LAX, with charges of \$.25 per half hour (with a one-hour maximum). The concept has been highly successful and additional meters will be installed.

The parking rate structure at LAX is designed to discourage long-term parking in the central terminal area, thereby making more space available for short-term parking. The current rapid growth in passenger activity may require another rate increase to shift more parkers to the underutilized perimeter facilities.

The perimeter lots (A, C, and VSP) have free tram service to and from the terminals. To increase the attractiveness of these facilities the Los Angeles Department of Airports recently purchased twenty new Argosy Airstream trams for some \$600,000 and negotiated an agreement with Airways Services, Inc. for tram operations and maintenance. The result has been a considerable upgrading of service.

Activity in the West Imperial Terminal Lot is highly seasonal. A cashier operation is used from May to October, and a dollar coin entry system is used during the slower months.

The FlyAway Lot, located some 25 miles from LAX, at the Van Nuys Airport, is actually a parking facility for LAX. High frequency bus transportation is provided between the FlyAway facility and LAX, subsidized by the Department at a rate which has decreased from \$2.45 to \$0.65 per passenger.

Statistics. Passenger activity at LAX grew from less than 10 million annual passengers (MAP) in 1963 to over 21 MAP in 1969. Various factors in the early 1970's slowed the growth rate; the 1975 total was 23.7 MAP. The growth since that time is as follows:

<u>Year</u>	<u>Passengers</u>	<u>Vehicles Parked</u>	<u>Gross Revenue</u>
1975	23,719,000	6,344,000	\$ 9,569,000
1976	25,983,000	6,639,000	10,878,000
1977	28,361,000	7,230,000	12,933,000
1978	*32,000,000	*8,000,000	*14,500,000

*Estimated

Parking Operating Agreements. A 1966 agreement requiring the parking operator to maintain the revenue control equipment, furnish signs, clean the lots, etc., was terminated in 1969 because the operator was unable to meet the lease requirements. Subsequent agreements from 1969 to 1977 clearly defined and limited the operator's responsibilities basically to furnishing cashiers, office personnel, and supplies. The Department assumed all other responsibilities. This concept was generally successful. A one-year contract was used with two one-year options on the part of the Department, and to avoid a "first year feast, last year famine" cycle, there were automatic percentage increases in the operator's compensation for the option years.

The Department finally discarded the traditional percentage of gross revenue bid item for a bid based on employee-hours worked in various categories. This concept eliminated what previously amounted to a conflict of interest for the operator built into the operating agreement. Under the former "percentage" approach, every additional hour an exit booth was kept open resulted in a reduction in the operator's profit. Under the current operating agreement, every additional hour an exit booth is kept open increases the operator's revenue.

Question and Answer Period

The audience was then invited to address questions to the panel. The following questions and answers were recorded:

1. James Gehring of Charleston:

- a. Question to Mr. Roth: Why retain a major parking operator at an individual airport when the experienced personnel brought in from "headquarters" seem to pass off management responsibilities to local people as soon as possible?
Answer: APCOA finds it very desirable to use local people for continuity and political reasons. APCOA's approach is to have experienced parking lot operator management personnel organize and train staff on-site for the first few months of operation, and then to provide management resources and checkups on a periodic basis.
- b. Question for Mr. Murphy: Does Metropolitan Washington Airports operate its airport parking facilities?
Answer: No.
- c. Question to Mr. Hall: Does your consulting firm make recommendations on the type of operation?
Answer: Yes. The pros and cons of various ways of operating an airport parking lot

for the particular case at hand are thoroughly examined. One reason for retaining a professional parking lot operator is to avoid civil service problems with firing personnel if questionable behavior is observed.

2. William Goodman, Airports International Magazine:

- a. Question to Mr. Roth: What percentage of parking lot gross revenues goes to the airport? If this percentage were decreased, wouldn't it be possible to hire personnel of higher quality in the parking lot facilities?

Answer: On the average, some 79 to 80% of gross from APCOA lots flows to the airport sponsors, including amounts for minimum guarantees. However, the actual level varies with the value of business. Better people could be provided if the percentage were decreased. About half of APCOA's contracts have been obtained by direct negotiations with airport sponsors and the other half by bid. Roughly 50% of the airports are concerned with the quality of service standards; the other 50% are concerned with revenue potential.

3. Question by (name unrecorded): Has anyone invented a mechanical or electrical signing system pointing out where individual spaces are available within a parking facility?

Answer: Mr. Bloom stated that Park-N-Fly maintains signs at the lot entrances which point out the areas where spaces are available. Park-N-Fly equips its circulating vehicles with radios to report available spaces. This information is displayed at the lot entrance.

Mr. Hall said that such a system would require electromechanical detection on a space-by-space basis and these detection systems have not yet proved to be fully reliable. He noted the frustration of parkers when the sign reads "parking lot full" but empty spaces can be seen.

4. Comment by Arthur Goldberg, R. Dixon Speas Associates: Parking is only one element of the total traffic management analysis that should be addressed at airports. There is often a problem of congestion on circulation roads and at the curb. Perhaps another session of the AOCI Workshop could be planned to cover traffic engineering and circulation questions.
5. Comment by Lawrence Donoghue of Ralph Burke Associates: In my studies, the road system and the parking lot are considered together; they are inseparable.
6. Comment (name unrecorded): To permit future terminal, curb, or roadway expansion, it is important not to locate parking structures too close to the terminal building.