Consumers Union

Publisher of Consumer Reports

September 21, 2000

Jane F. Garvey
Federal Aviation Administrator
Room 1010
800 Independence Avenue SW
Washington DC 20591

OST-97-2861-167
OST-97-3014-36
OST-98-4775-81

Dear Jane:

Enclosed is a copy of comments filed today by Consumers Union with the U.S. Department of Transportation regarding the Department's proposed revision of its rules governing airline Computer Reservation Systems. The comments are based in substantial part on an article in the October 2000 issue of *Consumer Reports Travel Letter*, which demonstrates that on-line travel agencies often do not provide consumers with information on all of the lowest-fare air tickets, may provide information that is inaccurate, and may be subject to bias.

Our comments request the Department to issue a revised Computer Reservation Systems rule that applies to all sellers of air travel tickets and that seeks to assure consumer receive accurate, useable information from all sellers.

We hope you will find this information useful. If you have any questions, please call me, or my colleague, Janell Duncan, at 202-462-6262.

Sincerely,

*Mark Silbergeld*
Mark Silbergeld
Co-Director
Washington Office

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Docket Management Facility
U.S. Department of Transportation
Room PL-401
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Washington, D.C. 20590-0001

September 21, 2000

**COMMENTS OF CONSUMERS UNION**
**to the**
**DEPARTMENT OF TRANSPORTATION**
**on the**
**COMPUTER RESERVATIONS (CRS) REGULATIONS**
**SUPPLEMENTAL ADVANCE NOTICE OF PROPOSED RULEMAKING**

Re: Docket No. OST-97-2881; OST-97-3014, OST-98-4775
Computer Reservations System (CRS) Regulations

## INTRODUCTION

These comments are submitted by Consumers Union[1] regarding the Supplemental Advance Notice of Proposed Rulemaking ("SANPR")[2] in the above docket. In 1997, the Department of Transportation ("DOT" or "the Department") issued an Advance Notice of

[1] Consumers Union is a nonprofit membership organization chartered in 1936 under the laws of the State of New York to provide consumers with information, education and counsel about good, services, health, and personal finance; and to initiate and cooperate with individual and group efforts to maintain and enhance the quality of life for consumers. Consumers Union's income is solely derived from the sale of *Consumer Reports*, its other publications and from noncommercial contributions, grants and fees. In addition to reports on Consumers Union's own product testing, *Consumer Reports* with approximately 4.5 million paid circulation, regularly carries articles on health, product safety, marketplace economics and legislative, judicial and regulatory actions which affect consumer welfare. Consumers Union began publication of *Consumer Reports Travel Letter* in 1985. *Consumer Reports Travel Letter* has a paid circulation of approximately 145,000, and provides information and advice to consumers on issues involving airlines, cruise lines, hotels, rental cars and other travel related products and services. Consumers Union's publications carry no advertising and receive no commercial support.

[2] 65 Fed. Reg. 45,551 (July 24, 2000).

Proposed Rulemaking ("ANPR"),[3] in order to determine if it should continue or modify its existing rules governing airline computer reservation systems ("CRS"). In its current SANPR, DOT has requested updated comments relating to its ANPR, and inquires whether it should adopt any rules covering the distribution of airline services through the Internet. In addition, DOT has requested comment on whether it should alter its CRS rules due to the diminishing control of CRSs by airlines.

## DISCUSSION

Below are the comments of Consumers Union relating to the above issues. Section I of these comments addresses the general need for additional regulation in this area. In Section II of these comments, we present responses to those specific questions within the SANPR for which we have information or views. The questions stated in the Federal Register are repeated in bold type.

## I. ADDITIONAL MEASURES NECESSARY TO INCREASE COMPETITION

It is crucial to air travelers that DOT promulgate new CRS rules that impose a non-bias requirement on all systems engaged in searching and booking passenger air travel arrangements. The ready availability of accurate and unbiased information on available air travel tickets is essential to price and service competition in the air travel industry.

[3] 62 Fed. Reg. 47,606 (September 10, 1997).

The passenger airlines industry is not a highly competitive industry. Many city-to-city routes are dominated by a single carrier. This is made possible by a hub and spoke structure of connections and a stranglehold by the one or two major carriers in each hub city that hold the long-term rights to the airport landing slots and boarding gates that are necessary to engage in the business of air passenger carriage. The lack of competition is further enhanced by the major carriers' opportunistic pricing practices and by aggressive responses to discount carriers that are inevitably followed by higher prices when these actions are successful in eliminating discount competition.

Existing competition is dependent on, among other factors, accurate and unbiased information regarding available air travel tickets. Biased or inaccurate information is a major barrier to price competition. Consumers Union views this DOT proceeding, if it is to be successful in promoting competition, as necessarily focused on improving the quality of consumer information. As indicated below, we view the Department as having ample authority to require that all parties that engage in the search, display and sale of airline tickets present such information in a manner unbiased by either search engine software design or other practices that may prevent consumers from obtaining accurate information in response to their inquiries about ticket availability and booking.

The travel agency market is integrally related to the air passenger carriage market. We urge the Department to reject any analysis suggested by carriers and/or travel agencies that would treat the travel agency market as separate and distinct from the air passenger carriage market, or that focuses on increasing competition (or the number of competitors) in the travel agency market as distinct from the air passenger carrier market.

The travel agency market does, of course, also serve consumers by identifying and booking non-airline travel services (hotels, resorts, rental cars and other transportation services, and entertainment). However, in the context of this proceeding, it is adjunct to and highly interactive with the airline passenger carriage market. As indicated below, modernized CRS rules must take into account the interdependency and economic interactions of these two markets.

Consumers Union does not accept the proposition that travel agencies that are free of air carrier investment should operate under more lenient rules than those imposed upon carrier-owned agencies. Furthermore, Internet agencies that seek freedom from rules fostering honest competition make a seriously flawed argument. The advertising revenues, rates of commission and special ticket availability arrangements all serve as potential economic incentives to bias the presentation of fare information to the consumer for the purpose of booking contracts of carriage. If information is not presented in an unbiased manner, price competition in air passenger carriage will be further suppressed, regardless of ownership and regardless of venue.

*Consumer Reports Travel Letter* Article and Study of On-line Travel Sites.

The October 2000 issue of *Consumer Reports Travel Letter* features the lead article "Travel Websites: look around before you book." A copy of the article is attached to these comments at Tab 1, and a summary of the underlying study and summary charts are attached at Tab 2.

The *Consumer Reports Travel Letter* study clearly documents that current on-line travel agencies do not easily, fairly, and thoroughly deliver the accurate, unbiased information needed to enhance competition in air travel bookings. The travel options

generated by these sites for the *Consumer Reports Travel Letter* study were incomplete, and *may* have been the result of bias resulting from economic incentives created by the carriers. Some fares listed were unavailable when booking was attempted, and many trips pulled up in the search were not in accordance with the requester's travel parameters. Others simply were not viable in terms of travel convenience. These results may be the result of website incompetence. Or they may reflect bias.

In an unregulated environment, consumers have no assurance that data on travel websites is not being omitted because of deals with the airlines. As the *Consumer Reports Travel Letter* article states:

> One key concern is that the low-fare, viable flights selected by [the DOT regulated CRS] in our tests were not offered at all by some web sites, regardless of ordering. *Travel Letter* at 7.

In either event, these omissions constitute an information barrier to competition. Offering low and convenient fares is not a viable competitive marketing strategy if consumers cannot readily compare carrier proposals and select the low, convenient offers. Unbiased *and* orderly placement of information is necessary and is key to the selection of competitively priced fares.

The conclusions reached by *Consumer Reports Travel Letter* are supported by the opinions of a vice president of Northwest Airlines,[4] Al Lenza, as quoted in the article. He indicates that what consumers see at on-line travel sites is "some low fares, but not all low fares." He also indicates that these websites seek preferential commissions in

[4] Northwest Airlines is one of five major U.S. carriers who are investors in Orbitz, a rival travel booking site scheduled to launch in June 2001.

exchange for preferential carrier status. Such arrangements may be to the mutual benefit of website and carrier, but certainly do not benefit consumers. Incomplete low-fare information and preferential information presentation is anticompetitive. It creates economic incentives that work against deep discounting of airfares. We urge the Department to take these concerns into account in promulgating its final, revised CRS rule.

We are also concerned with the potential for the presentation of biased information by off-line travel agencies. A ticket agent that serves as an intermediary between the CRS or airline in-house search system search results and the consumer also has the potential for biased presentation. Airline ticketing personnel and independent agency personnel have some of the same incentives as on-line agencies to present the search information in a biased manner if not subject to non-bias rules. As the *Consumer Reports Travel Letter* article states:

> Note, however, that a CRS is only as good as the travel agent who uses it: If the agent receives incentives for booking a particular airline, then his or her recommendations may not reflect the unbiased listing. *Travel Letter* at 6.

Consumers Union believes that all sellers of tickets, regardless of legalistic agency relationships, should operate under the same non-bias rules.

## II. RESPONSES TO QUESTIONS POSED IN THE SANPR

**1. Whether section 411 authorizes us to regulate the conduct of a system that is not owned, controlled, or marketed by an airline or airline affiliate?** 65 Fed. Reg. at 45,556.

Consumers Union believes that it is crucial to air travelers for DOT to promulgate new CRS rules that impose a non-bias requirement on all systems engaged in searching and booking passenger air travel arrangements. Furthermore, it is our belief that the only way in which the Department can prevent airlines from seeking *or obtaining* preferential displays is to impose a modernized CRS fairness rule on *all* sellers of tickets.

The Department clearly has the authority to regulate the conduct of systems that are not "owned, controlled, or marketed" by an airline or an airline affiliate, so long as the system serves as a "ticket agent." More specifically, as discussed below, DOT has the authority to prevent all ticket agents from engaging in unfair or deceptive practices in the sale of air transportation.

Under the Aviation Act, all sellers of tickets fall within the definition of "ticket agent," and may, as such, be regulated by DOT. The term "ticket agent" is broadly defined under the Act as:

> a person (except an air carrier, a foreign air carrier, or an employee of an air carrier or foreign air carrier) that as a principal or agent sells, offers for sale, negotiates for, or holds itself out as selling, providing, or arranging for, air transportation. 49 U.S.C. § 40102(a)(40).

Section 411 of the Aviation Act prohibits deceptive acts and practices in the sale of transportation. See 49 U.S.C. § 41712. Under this section, the Secretary of Transportation ("Secretary") may investigate and decide whether "an air carrier,

foreign air carrier, **or ticket agent** has been or is engaged in an unfair or deceptive practice or an unfair method of competition in air transportation **or the sale of air transportation**." (emphasis added). 49 U.S.C. § 41712(a). If the Secretary finds, after notice and the opportunity for a hearing, that the entity is engaged in an unfair or deceptive practice or unfair method of competition, the Secretary must issue a cease and desist order against that party. See 49 U.S.C. § 41712(a).

While section 411 specifically empowers the Secretary to issue cease and desist orders, section 204(a) of the Aviation Act, 49 U.S.C. § 40113(a),[5] gives the Secretary the authority to promulgate regulations prohibiting specific unfair or deceptive practices or unfair methods of competition in the sale of air transportation.

Section 204(a) of the Aviation Act, "General authority," states that:

> the Secretary of Transportation (or the Administrator of the Federal Aviation Administration with respect to aviation safety duties and powers designated to be carried out by the Administrator) may take action the Secretary or Administrator, as appropriate, considers necessary to carry out this part [49 USCS § 40101 *et seq.*], including conducting investigations, **prescribing regulations**, standards, and procedures, and issuing orders. (emphasis added) 49 U.S.C. § 40113(a).

Under section 204(a), the Secretary has the authority to issue regulations to enforce the prohibitions, found in section 411, against unfair or deceptive practices or unfair methods of competition in the sale of air transportation. See United Air Lines, et al., v. Civil Aeronautics Board, et al., 766 F.2d 1107 (7th Cir. 1985) (Court upheld regulations issued by the Civil Aeronautics Board (precursor to the FAA), pursuant to section 411,

[5] This is former section 1324(a) of the Title 49. The authority for this section was transferred to DOT from the now-defunct former Civil Aeronautics Board ("CAB"). Former Title 49 sections were revised by Acts on October 17, 1978, and January 12, 1983.

including a rule forbidding airlines to bias their computerized reservation systems). In United Air Lines, United Airlines and other carriers questioned how DOT rules prohibiting bias could be promulgated pursuant to section 411, a rule prescribing procedures for investigations and cease and desist orders. United Airlines argued further that the section that provided for the promulgation of regulations, section 204(a), allowed the Secretary to make only rules "'pursuant to and consistent with the provisions' of the Act." Id. at 1111. The Court disagreed, and explained that "Section 411 announces a policy against unfair or deceptive practices and unfair methods of competition, and while at the same time it creates an adjudicative procedure for enforcing that policy, nothing in the Act indicates that it is the exclusive procedure." Id. More importantly, the Court specifically stated that section 204(a) empowered the Board to make rules "designed to carry out policies set forth elsewhere in the Act – in section 411, for example." Id.

For these reasons, we view the Department as having ample authority to require that all parties engaged in the search, presentation and sale of airline tickets present such information in a manner unbiased by either search engine software design or other practices that may prevent consumers from obtaining accurate information in response to their inquiries.

**2. Whether our determinations that the system practices prohibited by our rules are unfair methods of competition are still valid, when those determinations relied on the systems' control by airlines that competed with airlines dependent on the systems for distribution.** 65 Fed. Reg. at 45,556.

CRS practices prohibited by the current CRS rules are unfair methods of competition, regardless of whether the systems are owned by the airlines or are

independent of airline ownership. Independent search engines and independent sellers of tickets, as well as airlines and airline-related sellers, may benefit economically at the expense of consumers when ticket information regarding proposed bookings is presented on a basis calculated to maximize a ticket seller or booking agent's revenues or profits, rather than to provide prospective travelers with the most economical contracts of carriage. The provision of search engine services and the booking of airline tickets are secondary (and often vertically integrated) service markets – they service the primary market of air carriage. Independent search engines' and sellers' presentation of information on any basis other than customer benefit can still be manipulated by the carriers through contractual arrangements with these secondary service providers. That is, the carriers can still manipulate the presentation of information through commission and advertising arrangements, so that the most competitive offers are not as easily found or selected by the prospective customer. In a market in which an effective information search is a major barrier to price/service competition, the presentation of biased information by any search engine or ticket sellers should be deemed to be an unfair practice.

**3. Whether CRS rules remain necessary and, if so, the basis for our maintenance of such rules as to systems that would have few, if any, affiliations with airlines?** 65 Fed. Reg. at 45,556.

CRS rules remain necessary. The evolution of Internet travel agencies, since the rules' adoption, has resulted in additional venues through which the major carriers can manipulate consumers to purchase contracts of carriage that are not the most competitive.

The October 2000 *Consumer Reports Travel Letter* article "Travel Websites: Look Around Before You Book" documents the difficulty that consumers have in using the Internet to identify and book the most competitive offers. An analysis of the search and booking markets as separate markets may suggest that this is not an issue of competition in the air carriage market. However the analysis, suggested above, of these markets as closely interrelated with the passenger carriage market shows that because the rules do not require all sellers of tickets to present unbiased information, consumers will not find the most competitive offers and the cost of an effective information search will remain a barrier to competition. When consumers cannot readily identify and book the most competitive offers, the anticompetitive effect of the information problem is clear.

**4. Whether the rules, if any, should be the same for each system regardless of the degree of its ties with one or more airlines?** 65 Fed. Reg. at 45,556-57.

The Department should adopt rules that govern all CRSs, regardless of the degree of a given system's ties with carriers. Carriers remain able to influence the bias of information presentation through advertising and commission practices. In the case of information presentation influenced by rates of commission or other carrier-determined incentives, it will be even more difficult for consumers to detect the bias that influences the presentation of ticket information. Consumers Union believes that, in order for competitive pricing to discipline the air carriage market, the information presentation must be unbiased, and that this outcome is only partly related to whether carriers control

any or all search engine or reservations systems. We further believe that the elimination of bias will not occur without a regulation equally applied to all systems.

**5. Potential problems could perhaps be alleviated by barring airlines from seeking or obtaining preferential displays or discriminatory fees. If justified by the record, we could impose a similar ban on airlines with respect to system services provided travel agencies. We ask whether such a regulation would adequately resolve any potential problems that might arise from the operation of systems that have no airlines or airline affiliates as owners or marketers? Conceivably certain types of contract clauses in agreements between travel agencies and a system could also be prohibited as agreements analogous to contracts that unreasonably restrain trade in violation of section 1 of the Sherman Act.** 65 Fed. Reg. at 45,557.

The only way in which the Department can prevent airlines from seeking *or obtaining* preferential displays is to impose a modernized CRS fairness rule on *all* sellers of tickets. Otherwise, airlines will continue to receive preferential displays based on advertising, preferred rates of commission and other economic incentives, regardless of whether they seek such treatment explicitly. The Department clearly indicates in its SANPR, and in this particular question, that it is reluctant to impose broad and comprehensive regulations. However, Consumers Union does not believe that incremental measures, such as banning or regulating particular incentives for favored treatment given by carriers to reservations systems, will suffice. As quickly as the Department can identify and address existing incentives for preferential displays, the major carriers will develop new forms. The October 2000 *Consumer Reports Travel Letter* article indicates a failure on the part of travel booking sites, unaffiliated with airlines, to find and present information on some of the most economical consumer options. Whether this is due to faulty search technology or to incentives from particular

carriers is impossible to discern. However, economic incentives cannot be discounted as a motive. The quickest, most certain, and most pro-competitive measure possible is to impose, from the outset, a clear rule requiring unbiased displays, and to apply that rule to *all* search engines and booking agents. The entire non-competitive history of the air passenger transportation industry suggests that promises, informal guidelines and bland promises made by air carriers to do well by travelers will not accomplish the goals of competition and fair treatment for consumers.

**6. Whether there is a significant risk that some practices associated with the use of the Internet are likely to reduce competition in the airline industry or result in consumers obtaining incomplete or misleading information? The relevant questions may include the following: whether airlines are able to participate in on-line services on reasonable terms, whether consumers have a reasonable opportunity to obtain non-deceptive information on airline services and to make bookings, and whether the Internet's use presents questions about the competitiveness of the airline and distribution industries?** 65 Fed. Reg. at 45,557.

The results of the October 2000 *Consumer Reports Travel Letter* article indicate that consumers do not reliably get the information they need to select the most competitively-priced air travel tickets through Internet searches. To the extent this is true, the inaccuracy of the information impedes price competition. We cannot state with certainty the degree to which the misinformation stems from poor search and data presentation programs or the degree to which it may be influenced by incentives for biased display, such as advertising and rates of commission. Certainly, to the extent that advertising and rate of commission practices may influence the presentation of ticket search results, they adversely affect competition. The information reported in the *Consumer Reports Travel Letter* article justifies Departmental measures to correct this

situation, based on the Department's authority to promote competition and to prevent unfair and deceptive practices in the airline industry.

**7. Various parties have alleged in their comments that the operation of websites by travel agencies and the systems creates a potential for abuse, since the site operator may be induced to bias its displays of airline information. Our CRS rules currently apply to system services provided to websites operated by travel agencies . . . but, as noted above, do not govern the use made by travel agencies of the information and displays made available by a system. Commenters should also state whether any travel agency websites are currently biased or provide deceptive information and, if so, provide supporting evidence.** 65 Fed. Reg. at 45,557.

As discussed above, Consumers Union believes that all rules governing CRSs should apply equally to on-line ticket sellers. The October 2000 *Consumer Reports Travel Letter* article highlights the likelihood that some travel websites bias their displays in favor of certain airlines in exchange for advertising revenue. In addition, some travel web sites use CRSs to provide them with flight data, and then reorder the information. See *Travel Letter* at 9.

Searches on all four on-line sites failed to list certain airlines with viable itineraries. On Lowestfare, many TWA flights with inconvenient itineraries (obtained through a contract fare deal) repeatedly were listed first. On the Travelocity site, advertised airlines dominated flight listings. See *Travel Letter* at 8. The Travelocity site also promoted "featured airlines," for which links were provided within full-page advertisements. However, testing revealed that the flights provided through these links

usually did not provide the lowest fare. See *Travel Letter* at 9. Al Lenza, vice president of Northwest Airlines,[6] addressed this issue when interviewed for the article. He stated:

> The effect is, you will get some low fares, but not all low fares. We're very concerned about that. They want to charge us overrides [bonus commissions]. They claim they can give us more business. That means some of it is biased.... [Airlines] are getting more than just banner ads for their money. *Travel Letter* at 9.

**8. Parties contending that additional rules are necessary for Internet services should explain why on-line agencies should be treated differently than traditional agencies.** 65 Fed. Reg. at 45,557.

Consumers Union does not contend that additional (*i.e.*, different) rules should obtain for on-line travel agencies. It argues only that the same conceptual rules, updated, that apply to airline-owned CRS systems should apply to all travel agencies, whether or not on-line and whether or not owned by airlines. The reason, very simply, is that there are economic incentives in the system for the presentation of biased information regardless of venue and ownership, and biased presentation reduces competition and constitutes an unfair and deceptive practice that harms consumers.

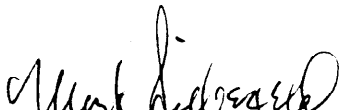
## CONCLUSION

Consumers Union is concerned with the potential for the presentation of biased information by *all* sellers of airline tickets -- both on and off-line travel agents. Despite the declining ownership of CRSs by airlines, biased or inaccurate information is a major barrier to price competition in this market, because competition depends, in part, upon

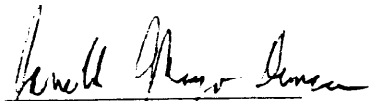
[6] See footnote 4, *supra* page 5.

accurate and unbiased information regarding available air travel tickets. As discussed above, DOT has the clear authority to prohibit unfair or deceptive practices in the sale of air transportation. Consequently, we believe it imperative that DOT exercise this authority to promulgate new CRS rules that impose a non-bias requirement on *all* systems engaged in, or used for, searching and booking passenger air travel arrangements.

Respectfully submitted,



Mark Silbergeld
Co-Director
Washington Office



Janell Mayo Duncan
Legislative Counsel
Washington Office

**CONSUMER REPORTS TRAVEL LETTER/October 2000**
**"Travel Web Sites: Look Around Before You Book"**

TESTING:

- Nine test sessions were conducted during the week of 31 July 2000, at various times of the day and week.
- Testing was done simultaneously on all four web sites (Cheap Tickets, Expedia, Lowestfare, and Travelocity) and on the Apollo Galileo computer reservations system.
- Identical itineraries were scripted for each route, with departure times varying from 24 hours in advance to four months in advance.

SPREAD SHEET KEY:

- All amounts rounded to nearest dollar.
- All results represent first flights listed on each route.
- The lowest fare for each route indicated on chart was selected from multiple itineraries (due to three major airports in New York and two major airports in Chicago, there were a total of 19 possible itineraries for the six routes).
- X indicates tests that did not produce conclusive results.
- CANNOT PROCESS indicates tests that could not be processed due to ticket mailing restrictions (on Cheap Tickets).
- Semicolon indicates two or more airlines with tie fares.
- Ampersand indicates interline itineraries on two or more airlines.

| SESSION #1 ROUTING | APOLLO RESULTS | WEB SITE | AIRLINE | FARE | VIABLE FLIGHT? | VIABLE AND LOWER THAN APOLLO? |
|---|---|---|---|---|---|---|
| New York-Los Angeles | America West/ $1.218 | CHEAP TICKETS | X | X | | |
| | | EXPEDIA | National | $450 | NO | NO |
| | | LOWESTFARE | Americ[illegible]st | $31[illegible] | NO | NO |
| | | TRAVELOCITY | Frontie[illegible] American Trans Air | $1.22[illegible] | NO | NO |
| New York-Fort Lauderdale | JetBlue/$269 | CHEAP TICKETS | X | X | | |
| | | EXPEDIA | Continental | $195 | NO | NO |
| | | LOWESTFARE | TWA | $219 | NO | NO |
| | | TRAVELOCITY | Delta | $1.121 | NO | NO |
| New York-Orlando | US Airways/$161 | CHEAP TICKETS | X | X | | |
| | | EXPEDIA | Continental | $129 | YES | YES |
| | | LOWESTFARE | TWA | $129 | NO | NO |
| | | TRAVELOCITY | US Airways; JetBlue | $443 | NO; NO | NO |
| Chicago-Denver | United/$596 | CHEAP TICKETS | X | X | | |
| | | EXPEDIA | American Trans Air | $560 | NO | NO |
| | | LOWESTFARE | TWA | $297 | NO | NO |
| | | TRAVELOCITY | American Trans Air | $800 | NO | NO |
| Chicago-Las Vegas | National/$309 | CHEAP TICKETS | X | X | | |
| | | EXPEDIA | America West: National | $309 | YES; YES | SAME |
| | | LOWESTFARE | [illegible]ational | $254 | YES | YES |
| | | TRAVELOCITY | American; Southwest | $523 | YES | NO |
| New York-Chicago | American Trans Air/ $613 | CHEAP TICKETS | *CANNOT PROCESS* | *CANNOT PROCESS* | | |
| | | EXPEDIA | AirTran | $524 | YES | YES |
| | | LOWESTFARE | AirTran | $564 | NO | NO |
| | | TRAVELOCITY | American Trans Air; US Airways | $777 | NO | NO |

| SESSION #2 ROUTING | APOLLO RESULTS | WEB SITE | AIRLINE | FARE | VIABLE FLIGHT? | VIABLE AND LOWER THAN APOLLO? |
|---|---|---|---|---|---|---|
| New York-Los Angeles | America West/ $1,215 | CHEAP TICKETS | X | X | | |
| | | EXPEDIA | National | $450 | NO | NO |
| | | LOWESTFARE | America West | $548 | NO | NO |
| | | TRAVELOCITY | American Trans Air | $662 | NO | NO |
| New York-Fort Lauderdale | JetBlue/$289 | CHEAP TICKETS | X | X | | |
| | | EXPEDIA | Midway | $232 | YES | YES |
| | | LOWESTFARE | TWA | $219 | NO | NO |
| | | TRAVELOCITY | JetBlue | $269 | NO | NO |
| New York-Orlando | US Airways/$161 | CHEAP TICKETS | X | X | | |
| | | EXPEDIA | Continental | $129 | YES | YES |
| | | LOWESTFARE | TWA | $124 | NO | NO |
| | | TRAVELOCITY | AirTran | $157 | YES | YES |
| Chicago-Denver | United/$596 | CHEAP TICKETS | X | X | | |
| | | EXPEDIA | Frontier | $491 | YES | YES |
| | | LOWESTFARE | TWA | $341 | NO | NO |
| | | TRAVELOCITY | Vanguard | $359 | YES | YES |
| Chicago-Las Vegas | National/$309 | CHEAP TICKETS | X | X | | |
| | | EXPEDIA | America West; National | $309 | YES; YES | SAME |
| | | LOWESTFARE | National | $254 | YES | YES |
| | | TRAVELOCITY | American; National | $309 | YES; YES | SAME |
| New York-Chicago | American Trans Air/ $613 | CHEAP TICKETS | *CANNOT PROCESS* | *CANNOT PROCESS* | | |
| | | EXPEDIA | AirTran | $464 | YES | YES |
| | | LOWESTFARE | AirTran | $484 | NO | NO |
| | | TRAVELOCITY | Pro Air & AirTran | $449 | NO | NO |

| SESSION #3 ROUTING | APOLLO RESULTS | WEB SITE | AIRLINE | FARE | VIABLE FLIGHT? | VIABLE AND LOWER THAN APOLLO? |
|---|---|---|---|---|---|---|
| New York-Los Angeles | National/$964 | CHEAP TICKETS | *CANNOT PROCESS* | *CANNOT PROCESS* | | |
| | | EXPEDIA | X | X | | |
| | | LOWESTFARE | American Trans Air | $662 | NO | NO |
| | | TRAVELOCITY | American Trans Air | $662 | NO | NO |
| New York-Fort Lauderdale | Spirit/$269 | CHEAP TICKETS | *CANNOT PROCESS* | *CANNOT PROCESS* | | |
| | | EXPEDIA | X | X | | |
| | | LOWESTFARE | TWA | $265 | NO | NO |
| | | TRAVELOCITY | Continental | $269 | NO | NO |
| New York-Orlando | AirTran/$140 | CHEAP TICKETS | X | X | | |
| | | EXPEDIA | X | X | | |
| | | LOWESTFARE | TWA | $124 | NO | NO |
| | | TRAVELOCITY | US Airways; TWA | $161 | NO; NO | NO |
| Chicago-Denver | Vanguard/$359 | CHEAP TICKETS | X | X | | |
| | | EXPEDIA | United | $695 | YES | NO |
| | | LOWESTFARE | TWA | $341 | NO | NO |
| | | TRAVELOCITY | Vanguard | $359 | YES | SAME |
| Chicago-Las Vegas | National/$309 | CHEAP TICKETS | X | X | | |
| | | EXPEDIA | Continental | $309 | NO | NO |
| | | LOWESTFARE | National | $254 | YES | YES |
| | | TRAVELOCITY | America West; National | $309 | YES; YES | SAME |
| New York-Chicago | American Trans Air/ $613 | CHEAP TICKETS | *CANNOT PROCESS* | *CANNOT PROCESS* | | |
| | | EXPEDIA | AirTran | $524 | NO | NO |
| | | LOWESTFARE | American Trans Air | $662 | NO | NO |
| | | TRAVELOCITY | Pro Air & AirTran | $449 | NO | NO |

| SESSION #4 ROUTING | APOLLO RESULTS | WEB SITE | AIRLINE | FARE | VIABLE FLIGHT? | VIABLE AND LOWER THAN APOLLO? |
|---|---|---|---|---|---|---|
| New York-Los Angeles | National/$764 | CHEAP TICKETS | *CANNOT PROCESS* | *CANNOT PROCESS* | | |
| | | EXPEDIA | American Trans Air | $535 | NO | NO |
| | | LOWESTFARE | Frontier | $710 | NO | NO |
| | | TRAVELOCITY | American Trans Air | $532 | NO | NO |
| New York-Fort Lauderdale | Spirit/$269 | CHEAP TICKETS | *CANNOT PROCESS* | *CANNOT PROCESS* | | |
| | | EXPEDIA | X | X | | |
| | | LOWESTFARE | TWA | $232 | NO | NO |
| | | TRAVELOCITY | X | X | | |
| New York-Orlando | AirTran/$140 | CHEAP TICKETS | Continental | $129 | NO | NO |
| | | EXPEDIA | Midway | $129 | YES | YES |
| | | LOWESTFARE | TWA | $124 | NO | NO |
| | | TRAVELOCITY | X | X | | |
| Chicago-Denver | Vanguard/$359 | CHEAP TICKETS | TWA | $334 | NO | NO |
| | | EXPEDIA | Northwest | $482 | NO | NO |
| | | LOWESTFARE | TWA | $341 | NO | NO |
| | | TRAVELOCITY | Vanguard | $359 | YES | SAME |
| Chicago-Las Vegas | National/$309 | CHEAP TICKETS | American Trans Air | $260 | YES | YES |
| | | EXPEDIA | X | X | | |
| | | LOWESTFARE | National | $254 | YES | YES |
| | | TRAVELOCITY | America West; National | $309 | YES; YES | SAME |
| New York-Chicago | American Trans Air/ $613 | CHEAP TICKETS | *CANNOT PROCESS* | *CANNOT PROCESS* | | |
| | | EXPEDIA | AirTran | $524 | NO; NO | NO |
| | | LOWESTFARE | American Trans Air | $613 | NO | NO |
| | | TRAVELOCITY | Pro Air & AirTran | $479 | NO | NO |

| SESSION #5 ROUTING | APOLLO RESULTS | WEB SITE | AIRLINE | FARE | VIABLE FLIGHT? | VIABLE AND LOWER THAN APOLLO? |
|---|---|---|---|---|---|---|
| New York-Los Angeles | National/$384 | CHEAP TICKETS | America West | $421 | NO | NO |
| | | EXPEDIA | America West | $416 | YES | NO |
| | | LOWESTFARE | America West | $299 | NO | NO |
| | | TRAVELOCITY | National | $384 | YES | SAME |
| New York-Fort Lauderdale | Spirit/$289 | CHEAP TICKETS | *CANNOT PROCESS* | *CANNOT PROCESS* | | |
| | | EXPEDIA | Continental | $215 | NO | NO |
| | | LOWESTFARE | Midway | $169 | YES | YES |
| | | TRAVELOCITY | Continental | $249 | NO | NO |
| New York-Orlando | Spirit/$129 | CHEAP TICKETS | Continental | $129 | NO | NO |
| | | EXPEDIA | Midway | $129 | YES | SAME |
| | | LOWESTFARE | TWA | $124 | NO | NO |
| | | TRAVELOCITY | US Airways; TWA | $161 | NO | NO |
| Chicago-Denver | Vanguard/$359 | CHEAP TICKETS | TWA | $296 | NO | NO |
| | | EXPEDIA | Frontier | $297 | NO | NO |
| | | LOWESTFARE | TWA | $297 | NO | NO |
| | | TRAVELOCITY | Vanguard | $359 | YES | SAME |
| Chicago-Las Vegas | National/$309 | CHEAP TICKETS | Continental | $309 | YES | SAME |
| | | EXPEDIA | Continental; National | $309 | YES; YES | SAME |
| | | LOWESTFARE | National | $254 | YES | YES |
| | | TRAVELOCITY | American; National | $309 | YES; YES | SAME |
| New York-Chicago | American Trans Air/ $637 | CHEAP TICKETS | *CANNOT PROCESS* | *CANNOT PROCESS* | | |
| | | EXPEDIA | AirTran | $524 | NO | NO |
| | | LOWESTFARE | AirTran | $524 | NO | NO |
| | | TRAVELOCITY | Pro Air | $434 | NO | NO |

| SESSION #6 ROUTING | APOLLO RESULTS | WEB SITE | AIRLINE | FARE | VIABLE FLIGHT? | VIABLE AND LOWER THAN APOLLO? |
|---|---|---|---|---|---|---|
| New York-Los Angeles | American/$429 | CHEAP TICKETS | America West | $423 | NO | NO |
| | | EXPEDIA | Northwest | $422 | YES | YES |
| | | LOWESTFARE | TWA | $325 | NO | NO |
| | | TRAVELOCITY | American; Continental | $429 | YES; YES | SAME |
| New York-Fort Lauderdale | Spirit/$289 | CHEAP TICKETS | *CANNOT PROCESS* | *CANNOT PROCESS* | | |
| | | EXPEDIA | Continental | $252 | NO | NO |
| | | LOWESTFARE | Continental | $269 | NO | NO |
| | | TRAVELOCITY | Continental | $269 | NO | NO |
| New York-Orlando | Spirit/$129 | CHEAP TICKETS | Continental | $129 | NO | NO |
| | | EXPEDIA | Midway | $129 | YES | SAME |
| | | LOWESTFARE | TWA | $124 | NO | NO |
| | | TRAVELOCITY | US Airways; TWA | $161 | NO | NO |
| Chicago-Denver | Vanguard/$469 | CHEAP TICKETS | TWA | $334 | NO | NO |
| | | EXPEDIA | Frontier | $297 | NO | NO |
| | | LOWESTFARE | TWA | $341 | NO | NO |
| | | TRAVELOCITY | Vanguard | $469 | YES | SAME |
| Chicago-Las Vegas | America West/$309 | CHEAP TICKETS | America West; American Trans Air | $309 | YES; YES | SAME |
| | | EXPEDIA | America West; National | $309 | YES; YES | SAME |
| | | LOWESTFARE | America West | $309 | YES | SAME |
| | | TRAVELOCITY | America West; National | $309 | YES; YES | SAME |
| New York-Chicago | American Trans Air/ $637 | CHEAP TICKETS | *CANNOT PROCESS* | *CANNOT PROCESS* | | |
| | | EXPEDIA | AirTran | $524 | NO | NO |
| | | LOWESTFARE | AirTran | $564 | NO | NO |
| | | TRAVELOCITY | Pro Air | $434 | NO | NO |

| SESSION #7 ROUTING | APOLLO RESULTS | WEB SITE | AIRLINE | FARE | VIABLE FLIGHT? | VIABLE AND LOWER THAN APOLLO? |
|---|---|---|---|---|---|---|
| New York-Los Angeles | National/$484 | CHEAP TICKETS | America West | $471 | NO | NO |
| | | EXPEDIA | American Trans Air | $492 | YES | NO |
| | | LOWESTFARE | America West | $299 | NO | NO |
| | | TRAVELOCITY | American Trans Air | $434 | NO | NO |
| New York-Fort Lauderdale | Spirit/$289 | CHEAP TICKETS | *CANNOT PROCESS* | *CANNOT PROCESS* | | |
| | | EXPEDIA | Continental | $215 | NO | NO |
| | | LOWESTFARE | Continental | $249 | NO | NO |
| | | TRAVELOCITY | Delta | $294 | NO | NO |
| New York-Orlando | Spirit/$129 | CHEAP TICKETS | Continental | $129 | NO | NO |
| | | EXPEDIA | Midway | $129 | YES | SAME |
| | | LOWESTFARE | TWA | $124 | NO | NO |
| | | TRAVELOCITY | US Airways; TWA | $161 | NO | NO |
| Chicago-Denver | Vanguard/$342 | CHEAP TICKETS | TWA | $334 | NO | NO |
| | | EXPEDIA | Northwest | $441 | NO | NO |
| | | LOWESTFARE | TWA | $341 | NO | NO |
| | | TRAVELOCITY | Vanguard | $469 | YES | NO |
| Chicago-Las Vegas | America West; National/$309 | CHEAP TICKETS | American Trans Air | $260 | YES | YES |
| | | EXPEDIA | America West | $309 | YES | SAME |
| | | LOWESTFARE | National | $254 | YES | YES |
| | | TRAVELOCITY | America West; National | $309 | YES; YES | SAME |
| New York-Chicago | American Trans Air/ $388 | CHEAP TICKETS | *CANNOT PROCESS* | *CANNOT PROCESS* | | |
| | | EXPEDIA | American Trans Air | $388 | YES | SAME |
| | | LOWESTFARE | American Trans Air | $313 | NO | NO |
| | | TRAVELOCITY | American Trans Air | $313 | NO | NO |

| SESSION #8 ROUTING | APOLLO RESULTS | WEB SITE | AIRLINE | FARE | VIABLE FLIGHT? | VIABLE AND LOWER THAN APOLLO? |
|---|---|---|---|---|---|---|
| New York-Los Angeles | National/$484 | CHEAP TICKETS | America West | $471 | NO | NO |
| | | EXPEDIA | Frontier | $472 | NO | NO |
| | | LOWESTFARE | America West | $321 | NO | NO |
| | | TRAVELOCITY | National | $444 | YES | YES |
| New York-Fort Lauderdale | Spirit/$289 | CHEAP TICKETS | *CANNOT PROCESS* | *CANNOT PROCESS* | | |
| | | EXPEDIA | Continental | $215 | NO | NO |
| | | LOWESTFARE | Continental | $249 | NO | NO |
| | | TRAVELOCITY | Continental | $249 | NO | NO |
| New York-Orlando | Continental/$129 | CHEAP TICKETS | Delta | $163 | NO | NO |
| | | EXPEDIA | Midway | $129 | YES | SAME |
| | | LOWESTFARE | TWA | $124 | NO | NO |
| | | TRAVELOCITY | US Airways; TWA | $161 | NO; NO | NO |
| Chicago-Denver | Vanguard/$422 | CHEAP TICKETS | *CANNOT PROCESS* | *CANNOT PROCESS* | | |
| | | EXPEDIA | Northwest | $441 | NO | NO |
| | | LOWESTFARE | TWA | $341 | NO | NO |
| | | TRAVELOCITY | Vanguard | $378 | NO | NO |
| Chicago-Las Vegas | National; America West/$309 | CHEAP TICKETS | America West | $309 | YES | SAME |
| | | EXPEDIA | America West; National | $309 | YES; YES | SAME |
| | | LOWESTFARE | National | $254 | YES | YES |
| | | TRAVELOCITY | America West; National | $309 | YES; YES | SAME |
| New York-Chicago | American Trans Air/ $261 | CHEAP TICKETS | *CANNOT PROCESS* | *CANNOT PROCESS* | | |
| | | EXPEDIA | American Trans Air | $313 | YES | NO |
| | | LOWESTFARE | American Trans Air | $261 | YES | SAME |
| | | TRAVELOCITY | American Trans Air | $261 | YES | SAME |

| SESSION #9 ROUTING | APOLLO RESULTS | WEB SITE | AIRLINE | FARE | VIABLE FLIGHT? | VIABLE AND LOWER THAN APOLLO? |
|---|---|---|---|---|---|---|
| New York-Los Angeles | National/$444 | CHEAP TICKETS | America West | $471 | NO | NO |
| | | EXPEDIA | National | $444 | NO | NO |
| | | LOWESTFARE | America West | $321 | NO | NO |
| | | TRAVELOCITY | National | $444 | YES | SAME |
| New York-Fort Lauderdale | Spirit/$289 | CHEAP TICKETS | "CANNOT PROCESS" | "CANNOT PROCESS" | | |
| | | EXPEDIA | Continental | $215 | NO | NO |
| | | LOWESTFARE | Midway | $169 | YES | YES |
| | | TRAVELOCITY | Continental | $249 | NO | NO |
| New York-Orlando | Continental/$129 | CHEAP TICKETS | Continental | $129 | NO | NO |
| | | EXPEDIA | Midway | $129 | YES | SAME |
| | | LOWESTFARE | TWA | $124 | NO | NO |
| | | TRAVELOCITY | US Airways; TWA | $161 | NO; NO | NO |
| Chicago-Denver | Vanguard/$422 | CHEAP TICKETS | "CANNOT PROCESS" | "CANNOT PROCESS" | | |
| | | EXPEDIA | United | $785 | YES | NO |
| | | LOWESTFARE | TWA | $341 | NO | NO |
| | | TRAVELOCITY | Vanguard | $378 | NO | NO |
| Chicago-Las Vegas | National/$309 | CHEAP TICKETS | American Trans Air | $260 | YES | YES |
| | | EXPEDIA | America West; National | $309 | YES; YES | SAME |
| | | LOWESTFARE | National | $254 | YES | YES |
| | | TRAVELOCITY | America West; National | $309 | YES; YES | SAME |
| New York-Chicago | American Trans Air/ $388 | CHEAP TICKETS | "CANNOT PROCESS" | "CANNOT PROCESS" | | |
| | | EXPEDIA | American Trans Air | $313 | YES | YES |
| | | LOWESTFARE | American Trans Air | $313 | YES | YES |
| | | TRAVELOCITY | American Trans Air | $313 | YES | YES |