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A strategic approach for improving rural air transport in the United States

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ABSTRACT

Commercial air transport in rural and remote areas of the United States has a long history. After the Airline Deregulation Act of 1978, carriers were free to serve any cities and routes they wished. In anticipation of carriers gravitating toward large urban markets, the Essential Air Service (EAS) program was created to maintain commercial service in smaller and more geographically isolated locales throughout the United States. EAS has been continuously funded since 1978, but has recently attracted the attention of many fiscal hawks. Serving only six passengers per flight, on average, with costs approaching $200 million, there are long held concerns that EAS is a poor use of federal monies. The purpose of this paper is to highlight costs of the EAS program and identify systemic inefficiencies in the allocation of EAS resources. We show that service redundancies exist, with EAS markets being cannibalized by both peer EAS airports and other commercial alternatives. Further, we highlight strategic consolidation possibilities for EAS allocations and services, facilitating federal appropriations reduction without sacrificing existing geographic service needs.

1. Introduction

After nearly five years of extensions, delays and negotiations, the United States Congress recently authorized four years' worth of appropriations to the Federal Aviation Administration (FAA) through the FAA Modernization and Reform Act of 2012 (*2012 Act*). The *2012 Act* allocates $15.8 billion per year to "streamline programs, create efficiencies, reduce waste and improve aviation safety and capacity…" (HR 658). Among other things, funding includes $3.35 billion per year to support airport planning and development and noise compatibility planning programs, along with a $199 million dollar combination of mandatory and discretionary funding for the Essential Air Service (EAS) program during fiscal years 2012–2015.

The EAS program has a long history in the United States, which makes these additional appropriations to the program interesting. EAS was originally developed to offset the impacts of the commercial air transport carrier exodus associated with the Airline Deregulation Act of 1978, providing airports in rural and remote communities a financial bridge to operational sustainability (USDOT, 2009). Initially authorized by Congress for ten years of funding, EAS has now been continuously funded for 37 years (through 2015).

Renewing appropriations for the EAS program has not been without controversy. Although proponents of the program argue that EAS is vital for rural economies (NG, 2006; Rockefeller, 2011), critics routinely cite negative environmental impacts associated with aircraft operations, low utilization rates of EAS routes and bloated subsidies as major problems with its continued funding (Semmens, 1981; Gillies, 2004; Frank, 2007; Sparks, 2007; Hiar, 2011). There are merits to these arguments. For example, in fiscal year 2010, of the 27 million people within the primary EAS airport catchment areas, only 664,006 passengers boarded EAS flights (via 103,291 aircraft operations), with the government spending an average of $245.49 per passenger.[1] Interpreted somewhat differently, if one assumes that each of these passengers is unique, only 0.21% of the US population used EAS in 2010.[2] To put this in perspective, Indianapolis International Airport, which is considered a "medium" sized hub by the FAA, served 7.5 million passengers in 2010 and had 197,202 aircraft operations. Also of note is that an average of $1578 was allocated to commercial carriers for each EAS flight in the continental United States (Grubesic and Wei, 2012). Further, considering that EAS routes averaged six passengers

[1] Details on how primary airport catchment areas are calculated are provided later in the paper.

[2] Common sense would suggest that not all of the passengers are unique, nor are EAS airports a draw for many potential passengers in large urban areas. More details about EAS markets and their geographic structure are provided later in the paper.

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per flight nationally in 2010, with many EAS airports averaging only a single paying customer (BTS, 2010), questions about program utilization are understandable. Beyond this, the U.S. federal government has raised concerns about the Essential Air Service program (White House, 2006), such as rising costs associated with air carrier service, the use of antiquated and costly equipment and a relatively steep decline in the number of carriers willing to serve EAS routes (GAO, 2009).

The rising costs highlighted in the GAO (2009) report are obvious targets. The entire global air transport industry grapples with these challenges (Doganis, 2006; Hanlon, 2007). However, what is not recognized are hidden costs and inefficiencies in the EAS system, including significant problems in the spatial provision of service. Thus, the purpose of this paper is to evaluate systemic inefficiencies in the allocation of EAS resources. It is shown that service redundancies exist, with EAS markets being cannibalized by both peer EAS airports and other commercial alternatives. Further, strategic alternatives for consolidating EAS allocations, facilitating reductions in federal appropriations without sacrificing existing geographic service needs are illustrated.

2. Rural air transport and United States Essential Air Service

The challenges associated with rural air transport are not unique to the United States. Issues of access and accessibility are prevalent in Europe, Asia and elsewhere. For example, Lutter et al. (1992) explore issues of accessibility and peripherality in Europe, emphasizing how road and long distance railway systems compliment, compete and interact with the air transport system. Specifically, by determining which mode offers the fastest travel alternative between O-D pairs, a more complete picture of access and accessibility within the region is structured. In China, recent work details regional transport dominance (Jin et al., 2010), highlighting the numerous gaps in both accessibility and quality of Western China's infrastructure and emphasizing the negative implications that a polarized transport system has on socio-economic development for the country. In related work, more tightly focused on inter-airport accessibility, Reynolds-Feighan and McLay (2006) detail an accessibility metric that delineates the importance of airports in varied regional contexts using data on route capacity and route diversity for each location.

Again, the problems associated with air transport access and accessibility in Europe and Asia are not unlike those found in the United States. As noted previously, one result associated with connecting rural and remote communities with air service in the United States is the Essential Air Service program. EAS was implemented to offset the effects of airline deregulation in the United States in 1978. Specifically, there were fears that smaller rural and remote communities would be abandoned by carriers once the airlines were free to serve any routes they desired. In other words, smaller, less profitable routes would be dropped and the larger, most profitable routes (e.g. New York to Los Angeles) would be the first choice for commercial carriers. This remains a concern for smaller communities.

Echoing its genesis and related guidelines from the late 1970s, community eligibility for the EAS program remains relatively straightforward (USDOT, 2009).[3] First, a community must be located more than 70 highway miles from a medium or large hub, as defined by the Federal Aviation Administration (FAA). Large hubs are characterized by boarding 1.0% or more of all passengers, per year, in the United States. Examples include Atlanta (ATL), Chicago (ORD), Phoenix (PHX), Philadelphia (PHL), and Los Angeles (LAX) among others. Medium hubs are those that board at least 0.25% of all passengers in the U.S., per year, but not more than 1.0%. Examples include Columbus (CMH), Milwaukee (MKE) and Austin (AUS) among others. Second, communities are not eligible if subsidies exceed $200 per passenger, unless they are more than 210 highway miles from a medium or large hub. Third, the *2012 Act* also stipulates that for communities to remain eligible, existing EAS locations must have at least 10 enplanements per service day, unless they are 175 miles or more from a large or medium hub.[4] Finally, only communities receiving funds in 2011 are eligible to receive funds during 2013–2015.

Once a community is determined to be eligible for EAS, carriers enter a bidding process to acquire the rights to serve a route. Once the route is awarded, carriers are expected to schedule a minimum of 12 weekly round trips between the EAS community and a medium or large hub, with a maximum of one intermediate stopover (Matisziw et al., 2012). Planes serving the route are also required to have at least 19 seats. In 2010, 107 communities in the contiguous United States were served by the EAS program, with additional locations in Alaska, Hawaii and Puerto Rico (Fig. 1).

Although connecting rural areas with air transport options is generally viewed in a positive light, the EAS program remains broadly controversial for several reasons. In addition to service utilization being extremely low on many routes, there are concerns about the geographic benefit of some locations. Specifically, numerous EAS subsidized airports are viewed as being too close to each other, or are too close to viable commercial air hubs. For example, consider Macon, Georgia and the Middle Georgia Regional Airport (MCN). As a member of the EAS program, federal subsidies for FY 2010 at MCN were $1.386 million. MCN was served by Georgia Skies Airlines, providing service between Macon and Atlanta. On paper, this may seem to be a reasonable investment as eligibility criteria are generally met. However, significant problems with both the operational and geographic structure of this subsidized route can be observed. First, Macon is located only 81 miles from Atlanta (ATL), a relatively easy drive to the largest and busiest airport in the United States. Second, MCN served 1242 passengers in 2010. As noted by Grubesic and Wei (2012), MCN registers a $1116 per passenger subsidy, greatly exceeding the $200 rule set forth by the USDOT. Third, airfares on the MCN to ATL route were rarely more than $40 during 2010. Thus, not only did this type of fare structure fail to justify costs associated with the EAS subsidies, its inability to entice passengers with inexpensive flights is indicative of problems. Fourth, if MCN service levels are considered with respect to use, Grubesic and Wei (2012) find that the load factor for Macon is among the lowest in the EAS system (8.82).[5] Fifth, in an investigation by the Atlanta Journal Constitution, it was determined that many flights between MCN and ATL were completely empty, except for the pilots (Yamanouchi, 2010). Finally, during 2010 Groome Transportation offered shuttle service to/from Macon for $34 one way and $63 per round trip. This may help explain the lack of interest in $40 airfares from MCN to ATL. Ultimately, the lack of passenger interest in the MCN to ATL segment caught up with the route provider, Georgia Skies. Service was terminated in July 2012, officially ending *all* commercial passenger service in Macon. However, cargo services and

[3] It is important to remember that the United States has a poorly developed domestic passenger rail system. Although the Northeastern corridor (Boston–Washington) is relatively well connected, the remainder of the United States rail system is largely underdeveloped. Thus, unlike most of Europe, passenger rail travel in non-metropolitan communities is difficult, at best.

[4] This requirement can be waived for a period of one year if the USDOT believes the lack of passenger boardings is temporary and will again increase to 10 or more passengers.

[5] Passenger load factors are a measure of how much passenger carrying capacity is used. Specifically, it tracks the number of passenger miles flown as a percentage of seat miles available.