Air Service/Air Cargo Leakage and Expansion Analysis

Duluth-Superior International Airport

April 2013
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Background

The Arrowhead Regional Development Commission/Duluth-Superior Metropolitan Interstate Council (ARDC/MIC) selected Trillion Aviation to conduct an Air Service/Air Cargo Leakage and Expansion Analysis for the Duluth International Airport (DLH). The kick-off meeting occurred on October 29, 2012 and a series of meetings have been held with the consultant team and the Study Advisory Committee. Copies of the meeting summaries are attached as Appendix G (pages 54-61).

Historically, the DLH catchment area has experienced “leakage”, almost exclusively to the Minneapolis St. Paul International Airport (MSP). The level of leakage has been impacted by the fundamental changes in the commercial aviation sector since 2001. Prior to that time, DLH experienced a lower percentage of leakage because the market was serviced principally by larger, mainline jet aircraft. This was in-part due to the Northwest Airlines Airbus maintenance base in DLH, allowing for more frequency, which made making connections easier. Tied to this, the mainline fleet offered a first class product which is very popular for business travelers who are upgraded through the airline loyalty programs. This amenity sometimes becomes a significant element in passenger decision-making on flying options.

Since 2008, when the industry, facing unprecedented losses, began to rationalize supply and demand through capacity and pricing discipline, service to communities like Duluth-Superior has been impacted by increased leakage. Also impacting this increased leakage was the significant increase in low cost carrier options at MSP, including expanded service from Sun County and the introduction of service from Midwest Airlines, AirTran Airways, Southwest Airlines, and Spirit Airlines. These options did not exist previously and with an effective marketing campaign drove passengers from throughout the region to MSP.

Another factor that led to additional leakage was the expansion of ground transportation shuttle services (to MSP) from most of the outstate Minnesota airports. Shuttle services were introduced as a low cost alternative versus driving to MSP on their own or flying out of the regional airport. These included passengers that were ultimately flying out of MSP on the network airlines serving DLH and the low cost carriers operating out of the Humphrey Terminal (Terminal 2).
Leakage from DLH is primarily driven by two factors: MSP nonstop service options and (typically) the perception of relatively lower air fares at MSP. While other issues factor in (particularly frequent flyer loyalty), these explain 90%+ of the drivers behind DLH leakage.

The DLH market (including northeastern Minnesota and northwestern Wisconsin) leakage experience is not unique, particularly in the State of Minnesota. Most spoke airports in the State have leakage rates in excess of 80%. Like DLH, when there is convenient highway access available to MSP and lower cost shuttle options, as is the case with Rochester, St. Cloud, and Brainerd, the traveler will tend to think of MSP first when making travel decisions under the premise that if there are more options it must be cheaper.

Since 2008, airline service across the U.S. has declined sharply, particularly among network carriers, while air fares have increased substantially. The good news is that this has financially stabilized the U.S. airline industry, making it more stable than at any time since de-regulation in 1978. Results at DLH are similar. While network airlines have sharply reduced DLH capacity over the past decade and air fares have increased, airline service at DLH also appears more stable than at any time since de-regulation. In addition, DLH just experienced their second highest passenger volume year in its history. Finally, Delta Air Lines has almost completed eliminating the majority of their 50-seat regional jets. Subsequently, Delta plans to start adding larger 76+ seat regional jets and 114-seat 717’s later in 2013, with additional growth coming in 2014-15. DLH is likely to see some of these larger jets.

While network carriers (mostly Delta) have reduced DLH air service, Allegiant Air entered the DLH market in January 2006, adding 2 times weekly Las Vegas service. In addition, United introduced service from DLH to Chicago O’Hare during this period and has actually grown the service in 2012, adding a third daily flight. Subsequently, Allegiant started DLH-Orlando/Sanford service in November 2009 and later added DLH-Phoenix/Mesa service in October 2011. The DLH market has responded well to Allegiant service, as noted by increased passenger demand in Allegiant-served markets: Las Vegas +144%, Phoenix +329% and Orlando + 287%. While it is extremely important to continue to stabilize and attempt to grow network carrier service, Allegiant should be a key foundation of any future DLH air service development plans.

From a cargo perspective, air cargo has seen a reduction at DLH as has been the case throughout the nation. Previously FedEx had operated a 757 freighter to DLH and this has been eliminated and the cargo service in DLH has reverted to regional feeder aircraft that ship smaller loads to MSP. As a Port of Entry, DLH enjoys a designation that few
comparable airports have. Typically larger aircraft are supported by key clients that either must deliver larger amounts of time sensitive materials such as perishables or items used in a “just in time” manufacturing environment. Absent these types of business, the two major remaining United States cargo companies, FedEx and UPS, have shifted a great deal of air cargo to over the road shipping to save on cost. To restore narrow body air freight service to DLH, there will need to be a concerted effort on behalf of the freight forwarders and the manufacturing community to aggregate enough time sensitive product to provide sufficient volume to entice the major operators. This exercise should also focus on international opportunities tied to the Port of Entry.

Objectives and Work Plan

The primary goal of this study is to understand current air service conditions and to provide the basis for developing the foundation for future Duluth International Airport air service growth. To accomplish this, there are four primary objectives:

1. Analyzing booking data to identify what the actual demand for both Duluth and the region are
2. Conduct multiple forecasts on new airline/route opportunities, in order to determine the economic viability of potential new service
3. Analyze and benchmark current air service to determine the long term viability of current and potential DLH air service
4. Assess current cargo activities for both DLH and surrounding airports, projecting cargo activity in future years

In addition to the base objectives and work plan, there were numerous discussions on additional related subjects that it was agreed would be included in the final report:

1. Likely causes of leakage
2. Identification of potential service incentives
3. Vacation and charter travel packages and the potential for synergy with a Great Lakes cruise network
4. The potential of air taxi service in the future
5. The impact of the current Essential Air Service (EAS) program on DLH and other out state Minnesota airports
Summary of Findings

The following represent findings from the study and should be considered in developing the future Strategic Plan from this report:

1. The current leakage rate from Duluth proper is 58%. Leakage is exclusively to MSP.
2. Additionally, there is significant leakage from other northern Minnesota airports that could use DLH, as opposed to driving to MSP.
3. Leakage to MSP is disproportionately getting on airlines other than regionally dominant Delta. This would appear to indicate that most of leakage is being driven by price concerns and not relative service differentials.
4. The DLH market appears to respond well to lower air fares, as noted by Allegiant’s success in DLH and new market demand (stimulation), as illustrated earlier. Allegiant has a strong draw into southern Canada because of the avoidance of ticket taxes and international ticketing.
5. Delta’s DLH-MSP service performs solidly. This route will likely see aircraft upgrades (larger aircraft with potentially a first class product) going forward.
6. Delta’s DTW-DLH service needs to improve in order to ensure its long term success.
7. United’s service to ORD has met expectations to date; however additional focus needs to be made to continue to market and grow this service.
8. As noted earlier, the reduction of 50 seat regional jets by all airlines starting in 2013 will have a positive impact on DLH. This will for the most part result in larger aircraft being flown to DLH in 2014-15 and beyond. This downsizing of the 50 seat regional fleet by Delta is consistent with indications from all network carriers going forward. While some contract carriers such as SkyWest, who currently operates the United flights on a “pro rate” basis (where the operator takes the financial risk), this opportunity will be somewhat reduced in the future as the fleet of 50 seat aircraft is drawn down.
9. To expand network airline (United, Delta, and potentially American) service, air travel demand from DLH needs to increase. This will occur through reducing leakage from the region and keeping passengers at DLH. This would also be a key component in order to solidify current services.
10. Importantly, the fastest growing segment of the U.S. airline industry is from Low Cost Carriers (LCC’s). Specifically, Allegiant Airlines has been the fastest growing airline in the U.S. and most profitable. This is expected to continue into the foreseeable future. Furthermore, Allegiant has stated that in 2014 they will start and grow significantly over time, service to Mexico and the Caribbean.
Allegiant’s service from DLH is profitable and forecasts indicate that additional Allegiant routes from DLH would also be profitable. These routes include Cancun, Los Cabos, Punta Gorda, and St. Petersburg. Allegiant, and these services, will work as a portion of the foundation for the development of a strategic air service development plan.

11. There appears to be an opportunity to work with local travel companies who arrange charter operations to select popular destinations. As service has been cut back by the network airlines, these types of “low risk” charters have provided alternatives for communities through the coordination of local travel agencies.

**Recommended Air Service Strategic Plan**

The primary purpose of this air service development plan is to grow DLH air service, both in terms of traffic and capacity. To accomplish this, DLH will need to understand key industry trends that could influence this direction and subsequently leverage DLH advantages, while minimizing weaknesses. Many of these were summarized on the proceeding page.

The foundation for near and intermediate term passenger air service growth from DLH is a two pronged approach: 1) stabilize and build opportunities for potential incumbent network carrier growth and 2) capitalize on leisure growth, primarily through Allegiant Air and to a lesser degree, other charter opportunities. While no network airlines have major growth plans, Allegiant is planning significant growth in coming years and DLH is in a position to accommodate this growth. Specifically, DLH has both a Federal Inspection Services (FIS) facility and Customs and Border Protection (CBP) staffing to facilitate Allegiant’s international service plans. Few airports within the Allegiant system have both FIS and CBP capabilities which puts DLH in a very advantageous position with regard to Allegiant’s international route plans. Furthermore, forecasts indicate that DLH could profitably support both Cancun and Los Cabos service. Besides Mexico, Allegiant also plans to target additional spots in the Caribbean, such as Punta Cana (Dominican Republic), which DLH’s FIS/CBP staffing could also accommodate. The FIS and CBP services are also strong marketing tools for additional international charter opportunities.

In addition, forecasts indicate that DLH could profitably support Allegiant service to both St. Petersburg and particularly Punta Gorda (Fort Myers area). As Allegiant is currently in the process of growing Punta Gorda, it is believed that this service could also take place within the three years.

There is a better than 50/50 chance that Allegiant Airlines could add most of the above routes within three to five years. DLH needs to position itself to accommodate this
growth. The air service strategic plan should continue to develop stimulation models and catchment area marketing plans, with a particular emphasis on Canada, in addition to the U.S. These plans should then be presented to Allegiant officials on an ongoing basis.

As a part of DLH’s efforts to support Allegiant growth from DLH, DLH will need to keep airport costs low, develop selected marketing programs, and institute a variety of incentive and marketing programs.

First, DLH’s airport-related costs are roughly “average”, although they have improved over the past year. As airport-related costs are a key component behind Allegiant’s air service decisions, it is critical that DLH aggressively manage cost drivers behind all air carrier costs at DLH. Airlines are always concerned that the development of new terminal facilities drives up costs significantly. Through a very aggressive funding plan that did not require that debt be charged in airline rates and charges, cost containment, and an aggressive non-airline revenue generation program, DLH terminal costs are stable and are projected to remain that way for the foreseeable future. This will be a strong selling point in developing the message for airlines going forward.

Second, selected marketing programs, particularly seasonally, could be used to both generate traffic demand support for Allegiant, other charter opportunities, and also generate some inbound tourism travel to Duluth-Superior. Specifically, the plan would be to develop targeted Fly/Drive travel packages focusing on some extended stay time in Duluth-Superior. These packages would be directed throughout Northern Minnesota and southern Canadian, with an emphasis on Thunder Bay. These packages would typically include 1-2 night hotel stays in Duluth, potentially on both the outbound and inbound Allegiant (or charter) trips. These hotel stays would be part of a broader travel package of air, destination hotel and destination entertainment, while at the destination market. Longer-term this could even incorporate a ground transportation component from the consumer’s (city) residence, bringing that consumer to Duluth-Superior.

For example, a person living in Ely could buy a package that includes ground transportation from Ely to Duluth, staying at a local hotel for 2 nights. As part of this same travel package, this consumer would then fly to Las Vegas, where this person might stay at a Las Vegas hotel for four nights and have tickets to a concert. All part of the same travel package. This consumer would then travel back to Ely, all part of the same travel package.

There are four advantages to this sort of vacation packaging: 1) Allegiant and other charter package operators would likely be part of the packaging, profiting from such activity, 2) This would generate inbound tourism traffic into Duluth-Superior, likely
during softer mid-week periods, 3) It would work over time to make DLH the regional airport of choice, and 4) This sort of tactical marketing would be relatively inexpensive – particularly from the airport’s perspective. There are potentially other marketing programs that could be incorporated, but this would be a major component. In Appendix E (pages 51-52) we have summarized some ideas pertaining to potential (additional) charter and vacation packages.

Third, DLH will need to incorporate incentives for new service on Allegiant, as well as other network carriers. As air service reductions across the U.S. have taken place over the past decade, almost every airport offers some sort of incentive offer. In fact, there are numerous airports that are waiving all fees for up to two years, which is the maximum allowable under FAA guidelines. Obviously these very aggressive offers are impacting airline decisions and are factored in when DLH is competing with these cities for service. In Appendix C (pages 47-48) we’ve illustrated some of these potential incentives. For DLH, we would recommend a more traditional set of offerings that include: Landing Fee waiver (6 months), discounted fuel flowage fee, international arrival passenger fee (FIS fee) waiver, and pre-determined advertising support. These sorts of incentives are important, as they lessen any new service risk.

The above is a summary of a proposed first phase of an air service development strategic plan that would be utilized to support airline growth. The second phase of DLH’s air service plan should take place over the following 2-3 years, focusing upon reversing leakage and building a business passenger base large enough to support additional network service. This would be an aggressive marketing/advertising plan created to begin positioning DLH as the northern Minnesota/northwestern Wisconsin airport of choice.

The message would be simple: Nonstop, low fare service to “popular” destinations – Las Vegas, Orlando, Phoenix, Cancun, Las Cabos, Punta Gorda and possibly others as new service is added. These sorts of destinations will catch a consumer’s eye and at a minimum, get a person to at least check out DLH before their next trip. That is our goal for consumers from northern Minnesota and northwestern Wisconsin before they book a trip. Despite the marketing message being focused upon the popular leisure destination markets identified, that same message will also promote DLH’s service to Minneapolis-St. Paul, Chicago, and Detroit – with connections to the world. From similar marketing campaigns we have been involved with, once the consumer perceives that low fares are available for leisure trips, they are also more likely to check the local airport for business trips.

While specifics will need to be determined, we would envision this marketing and advertising plan to start immediately and span the next 24 months, as planned Allegiant
growth starts to take place and gives DLH something exciting to market. It should also start to lessen DLH’s leakage issues, creating more demand that will eventually result in the potential for additional network airline service, with a focus upon service to Denver on United Airlines.

Finally, the third part of the strategic air service development plan for DLH would be three years and beyond. This phase is tied to potential changes in the Essential Air Service (EAS) program that is spoken to in Appendix D (pages 49-50). Should changes take place, DLH and the State should seriously consider the development of a multi-modal ground transportation network plan to make it convenient to transport passengers from targeted areas to regional airports. Conceptually, this would make DLH a regional ground transportation hub where consumers could be brought to DLH by shuttle and then flown out of DLH. Again, this will depend upon the direction that the future EAS takes, but it needs to be understood that this potentially creates a very large opportunity for DLH and their longer term air service prospects.

**Additional Recommendations**

In the prior section, a strategic air service development plan was presented. This plan should be implemented over the coming years and was laid out in such a way as to have some level of flexibility as future events play out. Below are specific recommendations that DLH should incorporate as part of an ongoing, annual air service development strategy that would be a part of the air service strategic plan:

1) **Apply for Small Community Air Service Development Grant (SCASD).** DLH has not applied for these funds before and should be in a good position to attract some near-term funding. Specifically, these funds would be used for:

- Marketing of the airport regionally, along the lines of those initiatives discussed previously. Specifics would need to be determined as part of proposal. This should include input from various DLH groups and the airport.
- To fund any air service development support that would be required, such as in the form of sales presentations, data and/or consulting support. The near-term targets would focus upon service to markets identified earlier. There would be a local match required for this grant and traditionally the higher the local match, the higher the grant application is ranked by the DOT increasing the probability of securing the grant.
- Recommended amount: $500,000 - $1,000,000.
2) Meet and present to incumbent airlines on an ongoing basis. DLH has not done a lot of this and should plan to meet with all airlines on an annual basis. The focus would initially be:

- Upgrades of MSP service on Delta
- Discussion on DTW and what can be done to improve results
- Meet with United on potential DEN service and to continually review ORD results
- While a recent meeting was just held with Allegiant, regular dialogue needs to continue taking place as a part of strategic plan, DLH needs to start the development of fly/drive programs, with an emphasis on Thunder Bay, to assist in the support of current Allegiant service and help cultivate DLH for future Allegiant growth

3) Develop presentation and meet with Sun Country Airlines and other charter operators to determine if any charter-type opportunities exist.

4) Meet with FedEx and UPS to discuss what would be required to reinitiate narrow body aircraft for freight. In addition, educate the airlines and freight forwarders on the port of entry capability of DLH and how that might fit into their networks.
Industry Overview: Historical Industry trends

Since de-regulation in 1978, through 2009, the airline industry cumulatively lost approximately $40 billion dollars. This was primarily a function of overcapacity in the industry, where the supply of seats was greater than demand. The result was that airlines had to price airline seats below cost to fill up aircraft. The charts below illustrate: 1) the widening gap between the supply of seats known as Available Seat Miles (ASM’s) and demand (GDP – indicative of economic growth) that took place during this time period, and 2) the resulting decline in airline price (yield).

Exhibit 1

Exhibit 2

After nearly thirty (30) years of overcapacity, the airline industry had amassed massive financial losses, numerous airlines had gone out of business or merged, and airline balance sheets consisted of heavy debt levels. These financial results had been generated despite the fact that the one of the primary cost inputs (oil prices) had been fairly tame during this time period, ranging from about $20-$50 per barrel.

Then, beginning in 2007, oil prices spiked, eventually peaking at around $150/barrel. The airline industry’s very survival depended upon a significant transformation. The key component would be to sharply reduce capacity, particularly with regard to fuel inefficient aircraft fleets such as 50-seat regional jets, DC9 and MD-80 aircraft. The effect of improved supply/demand balance would allow the airline industry to increase pricing to the point where airlines could become profitable.

The graphs below illustrate what has occurred since 2009: airlines cut capacity 13%, while unit revenue increased 26%, through moderately higher load factors and mostly in
the form of sharply high revenue (prices increases and ancillary fees). Most importantly, airlines have been profitable since 2009 – despite operating at fuel price levels of 3 times above levels generated as recently as 2005 when the airline industry was unprofitable.

Exhibit 3

Key Industry Revenue Metrics
% Change: 2011 vs 2009

Exhibit 4

Airline Operating Profits (in billions)
Domestic Entity

The most impacted segment of the industry from this reduction in service was small airports such as Duluth. Seats and frequencies to these small airports were reduced, and fares were increased. The graph on the next page illustrates lost air service since the beginning of the last decade for smaller airports. Nearly half the airports lost 25% or more of service while twelve percent (12%) lost all air service. Airports that lost all their service did not qualify as Essential Air Service (EAS) airports thus the airlines had the ability to eliminate service without government intervention. EAS airports are protected from service loss under the current legislation in that if an airline is planning on ceasing service, there must be a replacement airline committed to the market before the airline may leave. An example of an airport that lost service that was not an eligible EAS city is St. Cloud, where Delta ceased operations. Hibbing, Thief River Falls, International Falls, Bemidji, and Brainerd are examples of airports in Minnesota where replacement airlines had to be solicited before Delta could cease Delta service. In all cases, SkyWest, who also operates United and some Delta service in DLH, was selected through a DOT solicitation.
Going forward, it is expected that 2012-13 will likely mark the bottom in terms of industry capacity reductions (key point: assuming stable oil prices). This is likely from three different perspectives: 1) Most fuel inefficient aircraft, such as DC9’s, MD80’s and CRJ200’s are in the process of being eliminated from carrier fleets; 2) Network airlines, particularly American (AA), Delta (DL), and United (UA) will transition from 50-seat regional jets to larger jet aircraft, ranging from 76-115 seat jets. These increases are being driven by less restrictive labor contracts which allow these airlines to add more flying from these economically advantageous aircraft. These larger aircraft will substantially replace many of the 50 seat aircraft; and 3) Scheduled Low Cost Carriers (LCCs), such as Allegiant and Spirit are expected to continue growing at double-digit rates of growth. Sun Country also is projected to increase its fleet in the next five (5) years and provides an opportunity in the charter area.

As will be seen later, DLH has experienced very similar results as the general industry results just referenced: declining capacity, higher airfares, and increasing airline unit revenue. As with the industry in general, airline service at DLH is much more economically stable, from an airline’s perspective, than it has ever been. Furthermore, given current DLH results and industry trends of shifting from smaller (50-seat) to larger (76+ seat) regional jets, DLH air service will likely grow in the future. This will be discussed in more depth shortly.
Industry Overview: By Carrier Review
The U.S. airline industry is typically broken into two categories: 1) Legacy/Network Airlines such as Delta (DL), American (AA), United (DL), and US Airways (US). These airline brands are the most recognized and make up the vast majority of airline capacity within the U.S. and from the U.S. to foreign countries, and 2) Low Cost Carriers (LCC’s). LCC’s are primarily made up of Allegiant (G4), Spirit (NK), JetBlue (B6), and Southwest Airlines (WN). The table below shows the primary differences between the two carrier types.

Exhibit 6

<table>
<thead>
<tr>
<th>Legacy Airlines</th>
<th>LCCs</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Large networks, with the ability to carry passengers on a connecting-basis to most cities in U.S. &amp; world</td>
<td>1) Typically focus upon large metro areas (exception: Allegiant)</td>
</tr>
<tr>
<td>2. Multiple hub cities</td>
<td>2) Focus upon point-point traffic</td>
</tr>
<tr>
<td>3. Have been shrinking domestic capacity since 2008</td>
<td>3) Typically don’t offer networks/connectivity</td>
</tr>
<tr>
<td>4. Multiple fleet types, allowing these airlines to fly to both smaller &amp; larger markets</td>
<td>4) Fewer fleet types</td>
</tr>
<tr>
<td>5. Relatively higher cost structures, although gap versus LCCs has been shrinking</td>
<td>5) Lower cost structures although fuel generates a higher %</td>
</tr>
<tr>
<td>6. Fuel makes up a smaller % of cost structure</td>
<td>6) Generally in higher growth mode</td>
</tr>
<tr>
<td>7. Legacy carrier fares typically much higher than LCCs</td>
<td>7) Airport-related costs much up a much higher % relative to legacies</td>
</tr>
<tr>
<td></td>
<td>8) Typically offer much lower fares than Legacy airlines for most services (Allegiant &amp; Spirit)</td>
</tr>
</tbody>
</table>

Outlined below is a brief review by airline, focusing upon past/future strategic plans, summarizing what, if any effect they will have upon DLH. As a part of this will be a broader discussion on airline consolidation.

Legacy/Network Airlines

Delta: Delta is, and likely will continue to be DLH’s largest airline for the foreseeable future. Since 2008, Delta has cut more airline capacity system wide than any other airline. This has been accomplished by the absorption of Northwest Airlines (merger) and the grounding of most of the DC-9 fleet, as well as aggressively cutting uneconomical CRJ200 flying. Most of Delta’s capacity reductions are likely winding down. Going forward, as Delta adds larger regional jets and the 717 aircraft, Delta is expected to show moderate capacity growth in late 2013 and into 2014-15. Delta has an extensive, worldwide network. Delta’s major hubs are at Minneapolis-St. Paul (MSP), Detroit (DTW), and Atlanta (ATL) – Delta’s ATL operation is 2 times the size of MSP and DTW combined. Delta also has a smaller domestic hub at Salt Lake City (SLC) and through a recent slot swap with US Airways, has a significance presence at New York’s LaGuardia (LGA) airport. Delta is also in the process of growing its operation in Los Angeles (LAX). Delta has a large presence to Asia and to a lesser degree, Europe. Delta is part of the SkyTeam Alliance, whose members provide service throughout the world. From a network perspective, Delta has almost no weaknesses.
United: United currently serves DLH with 3 times daily CRJ service to Chicago O’Hare airport. This flying is done under a pro rate flying agreement with SkyWest. Under this agreement, SkyWest flies as a United flight but takes the financial risk on expenses and revenues. The new United is a combination of a merger between United and Continental Airlines, which is currently in the final stages of integration. United has not been as aggressive in cutting CRJ flying to date as Delta, primarily due to longer term aircraft leases and less flexibility in expanding flying with more efficient 76+ seat aircraft (due to pilot contracts). This is beginning to change and ultimately United is expected to have a similar model as Delta with regard to 50 seat aircraft. United has major hubs at Chicago O’Hare (ORD), Denver (DEN), Newark (EWR), Houston’s Bush Airport (IAH), and San Francisco (SFO). United also has a smaller hub at Cleveland (CLE), although many believe that United will eventually reduce service at CLE. United is the largest carrier between the U.S. and Asia (Delta is second). United is a part of the Star Alliance, whose member airlines, like SkyTeam, provide service throughout the world. As with Delta, United’s network/alliance has almost no weaknesses throughout the world.

American/US Airways: The recently announced merger will result in the largest airline in the U.S. Currently there is little overlap between the two airlines. The new American would initially have major hubs at Philadelphia (PHL), Charlotte (CLT), Dallas Ft.-Worth (DFW), Miami (MIA), New York’s JFK (JFK) airport, Los Angeles (LAX), and Chicago O’Hare (ORD). The merged airline will primarily create synergies between US Airways’ east coast strengths and American’s Midwest hubs/network throughout the U.S. Furthermore, through a recently negotiated labor contract, American will start growing their 76 seat regional jet flying throughout the U.S. American is part of the Oneworld Alliance, whose primary strengths are throughout Europe, the Caribbean, and South America. Even after the American/US Airways merger, American will still have a major void to the fast growing Asia market, where United and Delta have a stronghold.

Airline consolidation has primarily been driven by consolidation within legacy airlines (DL/NW, UA/CO & US/AA). After consolidation, the three airlines above will now make up approximately 80% of the U.S. airline industry. Each airline will have vast networks across the U.S., although American will still have a void to Asia. As noted earlier, airline fares have increased significantly since oil price spikes. While airline consolidation has contributed to fare increases, most of increases were driven by oil-price induced capacity reductions – as noted earlier, the airline industry’s economic survival depended upon it.

From DLH’s perspective, most of fare increases over the past few years (on Legacy/Network airlines) have been a function of market-driven capacity reductions as well as the Delta/Northwest merger which contributed to some degree. The
United/Continental merger has likely only had a marginal effect upon DLH air fares going higher – less so than the effect from the Delta merger. The fares for DLH-ORD are set by SkyWest and are not currently reflecting a fully burdened mainline cost structure. Finally, any near-term effect upon air fares impacting DLH from the American/US Airways merger will likely be minimal.

It should be noted, though, as airline capacity is constrained in future years, as it is likely to be, the trend will without doubt be higher air fares across the U.S. The earlier noted historical imbalance of the supply of seats being greater than demand (resulting in lower prices) will be reversed in favor of potentially excess demand, which will result in higher air fares in the coming years. Airlines now have pricing power, which they never have had before.

Exhibit 7

Low Cost Carriers (LCC’s)
The above discussion focused upon Legacy/Network airlines which historically made up approximately 80% of the industry. The LCC component of the industry, while smaller, has been growing at much faster rates of growth (as noted by graph above). This sector of the industry has been (and likely will be) the most dynamic part of the industry from an air service perspective. Below is a brief overview on each of the primary LCC carriers.

Southwest Airlines: Southwest has traditionally been known as the industry’s primary low cost carrier and has been consistently profitable since its inception in the 1970’s. Southwest initially operated out of Texas under the Wright Amendment that defines how Southwest can operate, primarily in the southwestern states and they have historically...
followed a point to point type system. The Wright amendment is set to expire in 2014 which could have an impact on its overall route structure. In 2011, Southwest acquired LCC rival AirTran Airways. Now Southwest is far and away the largest LCC as they incorporate AirTran into their system. While Southwest has historically been highly regarded by customers, Southwest has numerous challenges going forward that include: rising costs, particularly labor, that are now getting close to legacy carrier levels; a route structure that is becoming more of a network like system which necessitates higher air fares than has historically been the case for Southwest; and limited growth options in major metro cities (which drove AirTran acquisition) which has been the basis of the traditional Southwest model. Southwest will likely have some challenging years ahead of it. Outside of serving MSP (leakage), Southwest Airlines will likely have little effect upon DLH and the upper Midwest in the foreseeable future.

Spirit Airlines: Spirit has been one of the fastest growing U.S. low cost airlines over the past few years. Spirit typically targets large point to point markets, generally with a focus toward leisure-oriented destinations. Counter to Allegiant, Spirit typically targets larger metropolitan areas and flies newer aircraft at a high aircraft utilization rate. Spirit has aggressively unbundled their product offerings, by inducing consumers with extremely attractive base air fares, then charging for almost every conceivable service (checked luggage, seats, carry-on luggage, beverages, etc.). Spirit has a high profit margin by industry standards and has aggressive growth plans. Spirit has indicated that they will be targeting Mexico for growth in 2014. Although Spirit’s growth will typically be directed at larger markets, Spirit has indicated that they are looking at options in the upper Midwest.

Allegiant Airlines: Allegiant has many similarities to Spirit in the way of profitability, growth, low base fares, add on charges, and a new emphasis of growth for Mexico and the Caribbean similar to what is outlined above. As noted earlier, Allegiant has traditionally flown MD80 series aircraft that have not been fuel efficient and have had limited range to reach some of the popular markets from the upper Midwest. Allegiant is in the process of adding Airbus A319 and A320 aircraft into their fleet which will improve performance and range for cities such as DLH. That said, there are some major differences that separates Allegiant from other LCC’s as it relates to DLH:

- Allegiant’s focus is on smaller markets
- Allegiant has significant growth plans to Mexico and the Caribbean, mostly from smaller markets – unlike Spirit who already has a significant presence to the Caribbean (although not Mexico) and mostly targets larger markets
• Spirit flies new aircraft at 11+ hours per day; Allegiant flies older aircraft at roughly 6 hours per day, although they spike up aircraft utilization during peak season to generate additional capacity.
• Allegiant does not overnight crews in spoke locations so all flights originate in a focus city and return there each night.

Frontier Airlines: Frontier has recently begun to convert some of their flying patterns to emulate the Allegiant model in offering service limited days per week to selected destinations. Frontier has been very aggressive in their pursuit of subsidies from airports to support air service. Although some routes have developed to the stage where they are self-sustaining, numerous routes have been eliminated because, without the subsidy, they were not profitable.

Sun Country: Sun Country has traditionally been a low cost alternative primarily out of MSP. They currently operate scheduled routes supplemented by a charter operation, based on aircraft availability. Sun Country has stated a plan to increase their fleet significantly by 2015 and has shown a willingness to explore charter opportunities during the growth phase. Sun Country operates a fleet of efficient Boeing 737 aircraft that have adequate range to reach popular leisure destinations, including Mexico and the Caribbean.

In summary, with regard to DLH, there are a few key points when considering industry trends:

• LCC’s, particularly Allegiant, are growing much faster than the rest of the industry. This is expected to continue.

• Sun Country offers an opportunity to increase the number of charter flights to targeted destinations as aircraft availability increases.

• LCC’s such as Allegiant put a great deal of emphasis on airport-related costs when making air service decisions. This is because airport costs make up a much higher percentage of a low-frequency carrier’s operational costs (like Allegiant) than it does for legacy carriers such as Delta.

• Legacy carrier capacity reductions are mostly over. Incremental increases, primarily in the form of larger aircraft, are likely in the future.

• Air fares will continue increasing going forward, in large part due to capacity growth constraints.
DLH Air Service Review: Historical Perspective

DLH has historically been a market where Northwest Airlines (now Delta) has been the primary carrier. For many years, Northwest was the only commercial airline and offered non-stop service only to MSP. When the Airbus maintenance facility was operating, Northwest would use Airbus aircraft to cycle them up to the DLH hangar for maintenance. It was very good for the Duluth market because the Airbus was a narrow body aircraft that offered first class seats and because the aircraft was larger than the market required. There was ample room in coach for passenger comfort. These Airbus aircraft somewhat distorted the number of seats that DLH was served with.

When the maintenance base closed, Northwest changed the aircraft fleet for DLH and started the 50 seat regional jet flying that was more aligned with passenger demand. The loss of a first class product had an impact on the market appeal of DLH for the business traveler. At about the same time, lower cost alternative ground transportation in the form of shuttles started operating between DLH and MSP which offered an alternative for passengers.

The Airport was successful in attracting additional carrier service at periods over the past five years. The chart below tracks enplaned passengers by airline and shows the impact on enplanements when additional carriers entered the market. Since 2010, DLH has maintained service from three airlines and is now experiencing real growth in enplanements.

Exhibit 8

[Diagram showing DLH enplaned passengers by airline from 2007 to 2012]
American Airlines attempted to serve Chicago O'Hare on two difference occasions, going back to the 1980’s. Both times the market did not support the service. Midwest Express (Skyway) attempted flying to Midwest’s Milwaukee (MKE) hub in 2007. This also was terminated when the market did not support the service. During this time, Northwest/Delta was the dominant carrier and passenger volume was consistent, growing moderately. This was until aforementioned oil price spikes. Subsequently, Northwest significantly reduced service, with Northwest traffic volumes falling from 140,000 annually.

When analyzing Load Factors and taking a closer look at longer-term traffic and capacity trends, it becomes apparent why Northwest reduced service. The following slides show the correlation between seats and passengers.

Exhibit 9

Exhibit 10

Going back to 1990, DLH has consistently generated enplaned passenger activity in the range of 125,000-150,000 annually (with one quick jump to about 175,000 in 2007). DLH passenger activity held steady despite departing seat volumes that were more volatile because of fleet decisions. Put another way, DLH passenger volumes were stuck in a range, regardless if seat capacity increased or decreased.

DLH Load Factors (percentage of seats filled) historically were only about 50%, and dropped into the forties early last decade. Historically, airlines flying short-haul routes (which at the time was primarily Northwest outstate Minnesota service to MSP) wanted Load Factors in the 60%+ range. Today, that result is expected to be in the 70%+ range, dependent upon yields (prices). The Load Factor results early in the 2000’s necessitated
capacity reductions to achieve the desired level which occurred. The result was that Load Factors began trending higher to more desirable ranges.

As carrier Load Factors and revenue production improved at DLH, airlines looked at adding capacity back into DLH. DLH was successful in recruiting a second network airline, again with nonstop service to Chicago, this time on United Express, operating 50-seat regional jet service. Part of the reason that United service was successfully recruited was because SkyWest was willing to take the risk on the economics of the flights under their pro rate model. In addition, Delta has added 9% more departing seat capacity to their MSP flying since 2010 and also has added service to Detroit. DLH is one of the few markets during this time that have seen added service from Minneapolis and/or Detroit.

Before Northwest/Delta capacity cuts, Allegiant Air started service to DLH in January 2006. Service has expanded from the original twice weekly Las Vegas service to now include Phoenix and Orlando-Sanford (seasonal service). Allegiant has a significantly different model than other airlines in that they offer services as a “travel package” and only operates flights on a limited number of days per week. Allegiant virtually breaks even on airfare alone. Allegiant generates their profit from selling hotels, rental cars, tickets, etc. as a travel company through partners with whom they have volume purchase agreements. Allegiant considers a 90% load factor at the stated airfare as the benchmark for breakeven. If a flight is not selling to achieve the 90% load factor, Allegiant will drop prices as the date draws near and seats are available to drive up the load factor. If Allegiant does not sell the required percentage of packages, they have been known to terminate service. Allegiant is also becoming more strategic in offering service on a seasonal basis versus their original year round model as they have developed some history of performance. This is impacting DLH as Orlando-Sanford service and Phoenix-Mesa service has been converted to seasonal. This will ultimately help stabilize route performance since it will eliminate marginal months that take the annual performance down.

**DLH response to low fare Allegiant Service**

As noted previously, Allegiant Air entered the DLH market in January 2006, initially starting with 2 times weekly Las Vegas service. Subsequently Allegiant has added Orlando-Sanford (November 2009) and Phoenix-Mesa service (October 2011). Today, Allegiant’s share of the DLH market is 23% and is expected to grow over time. The table and graph on the next page summarize market demand changes (stimulation) that occurred as a result of Allegiant’s low fare service offerings.
The DLH market has obviously responded well to Allegiant’s low fare service as traffic volumes are up almost 150% to Las Vegas, 329% to Phoenix, and 287% to Orlando. In the cases of Phoenix and Orlando, fares also dropped moderately, although airline revenue was up significantly. While these markets can be a bit seasonal, the overall demand response has been impressive. Typically when Allegiant enters a market, demand increases significantly (in line with results identified above), while the average fare paid typically drops by roughly half, with a subsequent, sharp increase in airline revenue. It appears that the DLH-LAS route is performing very well, as the average air fare paid is surprisingly high (for Allegiant). This may be due to the spread versus MSP, where the average fare paid has gone up 50% since 2005 and is now $50 higher than Allegiant round-trip.

**DLH Air Service Review: Assessment of current air service**

Over time, DLH has experienced consistent traffic levels, despite fluctuating capacity. The result has been load factors that were historically low, but as capacity was reduced, load factors improved dramatically and subsequently air service followed. Today, load factors are at historical highs for DLH. So that begs the question, is load factor enough and how is air service from DLH performing today?
Exhibit 13

<table>
<thead>
<tr>
<th></th>
<th>Depart</th>
<th>Passengers</th>
<th>Load Factor</th>
<th>Profitable?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allegiant</td>
<td>AZA</td>
<td>91</td>
<td>12,745</td>
<td>88%</td>
</tr>
<tr>
<td></td>
<td>LAS</td>
<td>109</td>
<td>15,136</td>
<td>90%</td>
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<tr>
<td></td>
<td>SFB</td>
<td>51</td>
<td>6,422</td>
<td>84%</td>
</tr>
<tr>
<td>Delta</td>
<td>DTW</td>
<td>574</td>
<td>19,308</td>
<td>69%</td>
</tr>
<tr>
<td></td>
<td>MSP</td>
<td>1,713</td>
<td>62,297</td>
<td>74%</td>
</tr>
<tr>
<td>United</td>
<td>ORD</td>
<td>815</td>
<td>30,470</td>
<td>76%</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>3,353</td>
<td>146,378</td>
<td></td>
</tr>
</tbody>
</table>

DLH Air Service Overview: YE August 2012

One important aspect is making sure that existing service is meeting the financial expectations for the airlines. The metric most used by the industry is Revenue per Available Seat Mile (RASM). Outlined below is a summary of DLH’s current service:

**Allegiant:** Allegiant Airlines overall is performing well from DLH. Both the Phoenix-Mesa (AZA) and Las Vegas (LAS) routes are profitable year-round, particularly seasonally. Orlando-Sanford (SFB) is similar, although it is much stronger on a seasonal basis, resulting in Allegiant schedule changes. Also, DLH is among the longest haul markets in the Allegiant system. Historically-served by inefficient MD80 aircraft, DLH is currently being transitioned to fuel-efficient A319 aircraft. These aircraft will lower operating costs, making DLH a more profitable market for Allegiant and may translate into increased service over time. Our expectation is that Allegiant will be growing their operation from DLH over time.

**Delta:** The graphs on the next page show Delta’s revenue production from both their Minneapolis-St. Paul and Detroit hubs, for all markets under 1,500 nonstop flight miles. To read the chart, the y-axis illustrates Delta’s unit revenue and the x-axis the nonstop flight miles. The line represents the mileage-adjusted average for any given nonstop flight. This mileage-adjusted unit revenue benchmarking is the best indicator of relative performance for a market.
Delta’s MSP service outperforms comparable markets, in some cases by a wide margin. The MSP service operates at an above average 74% Load Factor, but yields (prices) are very strong. These results are probably in part why Delta has added more MSP service over the past couple of years. It should be noted that Delta operates MSP service for the beyond traffic it generates, not for MSP O&D demand. This is typical for short-haul markets like DLH-MSP. See Appendix A, on pages 43-44 for more on this comparison.

The Detroit service isn’t performing as well as DLH-MSP and may be the reason that Delta has (seasonally only) eliminated Detroit service this past winter. Of all the routes flown today from DLH, this is the one that could benefit by increased passenger demand.

**United:** The graph on the next page illustrates DLH’s relative performance within United’s Chicago O’Hare hub flying compared to fully burdened United flights. To understand the economics of this route, one needs to have an understanding of contracts to split revenue between mainline (United Airlines) and the regional affiliate flying the route (SkyWest Airlines). Mainline airlines typically offer service to smaller communities through two different arrangements: 1) capacity purchase agreements where the mainline airline takes all financial risk for the flight and simply contracts the use of the airplane/crew from a flying partner; and 2) pro-rate flying where the flight is marketed and sold as a “mainline” flight, but the financial risk is actually taken by the flying partner. The contract carrier will set fares and typically offer lower air fares in the nonstop flight leg (in this case DLH-ORD). Pro-rate flying is usually implemented in markets where the mainline airline is not sure of taking the financial risk but the flying
partner is willing. Typically, if the market proves sustainable, the mainline airline will step in and convert it to a capacity purchase contract with the flying partner and assume the future risk. When this happens, it is a significant message to the particular community that the airline believes the route has a future.

Exhibit 16

As noted previously, the DLH-ORD service is provided through SkyWest Airlines, a regional contract carrier, on a pro-rate basis where SkyWest takes the financial risk and the route is flown as a United-branded flight. To date, service has shown steady growth and fares, which are set by SkyWest are modestly increasing, but are not yet at levels that United mainline would consider sustainable to support a fully burdened route. In discussions with SkyWest executives however, they are pleased with the performance of the service which has resulted in SkyWest adding a third daily flight in 2012.

Delta has eliminated their fleet of Saab turboprop aircraft that served a number of airports in Minnesota and has announced that they are going to reduce their 50 seat jet fleet from over 375 to approximately 125 by the end of 2013. This will likely have an impact on DLH since most of the current flights are served by this fleet type. These aircraft will (mostly) be replaced in the MSP and DTW hubs with 76 seat regional jets and/or 717 aircraft (approximately 114 seats). The larger regional aircraft are a positive improvement over the 50 seat jets from a passenger convenience perspective and offer a first class product. This can be a marketing tool in trying to retain local frequent fliers that qualify for upgrades that may be driving to MSP. The risk with the larger aircraft is that they offer a challenge to the financial performance of the route since there are obviously more seats that have to be filled. If additional passengers are not generated to fill the larger
aircraft, one potential outcome could be fewer frequencies which would negatively impact connectivity convenience through MSP and could adversely impact leakage and the plans to reverse that leakage. Additional local enplanements will need to be generated to reduce this risk.

United has not announced a similarly aggressive plan to reduce 50 seat jet flying at this time, primarily because they have aircraft contracts in place until 2015 and don’t have the flexibility to expand their 76 seat aircraft flying as much as Delta at this point. In one-on-one discussions with a number of airline sources, it is anticipated that United will eventually implement a similar model to Delta. This potential increases the importance of improving the performance of the current service to ORD through growing passenger volume and revenues.

Having multiple legacy airlines and a low cost carrier serving DLH is critical to the long term success of the airport and to the ability of the Authority to reduce the current leakage to MSP in order to maintain and grow service in DLH.

**DLH Air Service Review: Analysis of Top DLH Origin and Destination Markets**

In order to understand the air service opportunities in DLH, it is important to understand the flying patterns of the customer. This is identified through analyzing Originating and Destination (O&D) passengers. O&D is defined as the actual origin and destination point for a passenger. For example, a person flies from DLH to MSP and connects to a flight going to Los Angeles (LAX). In this example, the O&D market is DLH-LAX. MSP is simply the connecting point.

Outlined on the table on the next page are the top O&D markets from DLH. This chart represents people that actually travel to/from DLH, not those that book and leak to another airport.

What stands out is that three of the top four markets are Allegiant Airlines markets, each with a strong leisure bias. These leisure markets in aggregate generate almost 30% of DLH’s overall traffic volume. In addition, traffic in these markets is overwhelmingly driven by northern Minnesota and northwestern Wisconsin origin traffic. This is illustrated by the right hand column that shows that 90% of Las Vegas traffic, 83% of Phoenix-Mesa traffic and 95% of Orlando-Sanford traffic originates from Northern Minnesota.
Given the nature of these markets, this should not be a surprise. Because of the emphasis of these leisure-oriented markets, with a northern Minnesota, northwestern Wisconsin, and southern Canada origin bias, 70% of DLH air traffic originates from the Duluth market, while only 30% is inbound traffic. Most markets are closer to a 50/50 split. It should be noted that when factoring out Allegiant-served markets which are focused on taking local passengers to specific destination points, that DLH is also a 50/50 (percentage of inbound versus outbound traffic) market.

Normally, when legacy/network airlines consider starting new nonstop, regional jet service in relatively smaller markets like DLH, they are looking for sufficient traffic demand in the nonstop market flight leg (example: United in the DLH-Chicago market). While this can vary, dependent upon yields, for relatively shorter-haul markets of approximately 500 miles, carriers will typically want a minimum of 20 daily passengers. On longer-haul routes, carriers typically want to see a minimum of 30 daily passengers and preferably 40+ passengers. Currently, no DLH markets are close to these levels. This is when “leakage” needs to be considered. By limiting leakage demand will increase to/from DLH. Once airlines see this, they are more apt to add more air service.

**DLH Air Service Review: Catchment Area “Leakage” Analysis**

The DLH catchment area consists of northeastern Minnesota, northwestern Wisconsin, and southern Canada. The DLH catchment area identified below consists of an approximate 90 mile radius around the airport. This is larger than for most airports due to DLH’s relative isolation. This is an advantage when considering LCC service as traffic...
would tend to gravitate to MSP once you get about 60 miles south of DLH. The area noted below denotes the area from which bookings were analyzed. It should be noted that bookings from Canada are not available, although it is realized that a significant amount of DLH Allegiant booked traffic comes from this area. The area noted below is comprised of 483,000 people and 206,000 housing units.

Exhibit 18

It is important to understand an airport’s catchment area as this will be critical in the development of an aggressive marketing plan that will be instrumental in reversing long-term DLH/regional leakage trends and market potential. Because of the geography, DLH has the highest potential to reverse leakage by focusing upon an area within 60 miles to the south, into southern Canada, to the west to central Minnesota, and to the east into northwestern Wisconsin. For the northern Minnesota market, it must be recognized that efforts may run into conflict with commercial service airports in Hibbing and International Falls. It should be noted, however, that there is a significantly higher leakage rates to MSP from those markets, so some of their leakage can potentially use DLH without impacting the local traffic at these airports.

The graphs below demonstrate that for the U.S. market DLH is more of a northern Minnesota and northwestern Wisconsin airport as opposed to an airport serving only...
Duluth-Superior. 48% of DLH air travel demand comes from the Duluth-Superior metro area. Twenty nine percent book their travel from northwestern Wisconsin and another 23% book from the rest of northern Minnesota. Some of the largest markets utilizing DLH include Grand Rapids, Rice Lake, Hayward, Ashland and Amery. From a mileage perspective though, about 70% of DLH bookings take place from within 30 miles of Duluth-Superior, while another 17% take place within 60 miles (for a total of 87% of bookings taking place within 60 miles of DLH).

Given the size of the U.S. market within northern Minnesota/northwestern Wisconsin and the lack of similarly situated airport alternatives (outside of MSP), it would appear that a real opportunity exists. This opportunity would be to recapture some of the leakage, growing enplanements, and potentially service, to DLH.

The chart at the top of the next page identifies the airport of origin and the mileage increment. Up to about 60 miles, the loss of traffic to MSP has stabilized. Once you get beyond 60 miles, the loss increases by about 10% for each 30 mile increment. These are likely passengers who live increasingly close to MSP and likely perceive the drive and cost of parking to be a reasonable trade-off for having direct service and lower fare options.

DLH’s total “leakage” translates to potentially 120,000 passengers that drive to MSP annually, which when coupled with those who are using DLH, indicates that roughly 267,000 passengers annually book air travel from the DLH catchment area. This does not
include traffic bookings from other areas of northern Minnesota, northwestern Wisconsin, and southern Canada.

**Exhibit 21**

Duluth Bookings by Airport of Origin
And Mileage Increment

![Bar chart showing Duluth Bookings by Airport of Origin and Mileage Increment]

DLH currently captures 42% of those passengers that live within 30 miles of DLH. This is a group that still has at least a 2 1/2 hour drive to MSP, depending on the time of day. While it is not realistic to think that DLH can recapture all of these passengers, this is where the low hanging fruit is. DLH should be able to garner a higher percentage of locally ticketed passengers than 42%. If the non-hub premium is held in check and good connection times are maintained, the time value of money for flying local can be quantified which should be of relevance to the business customer and developed into an effective marketing program.

As noted previously, the potential passenger base for DLH’s catchment area is 267,000 annual passengers. This assumes 100% retention of DLH-Superior ticketed air passengers. While this is likely unrealistic, each 10% increase in recaptured leakage would result in an additional 20,000 enplanements per year at DLH – and this is just from the Duluth-Superior metro area.

The chart on the next page identifies historical leakage trends at DLH. Leakage tends to accelerate as capacity from a market is reduced and when air fares increase. This is particularly true when relative change (compared to the market that passengers are driving to) occurs. During most of the past decade, DLH has experienced declining capacity and increased air fares. Over this same time period, MSP has also attracted more LCC service, mostly in the form of Southwest Airlines, AirTran Airways (now part of
Southwest), Frontier Airlines, Sun Country Airlines and more recently Spirit Airlines. The result has been more and more passengers driving to MSP over the past decade because of increased LCC alternatives. But more recently, as relative capacity at DLH has improved, particularly with regard to LCC Allegiant Airlines, DLH’s “leakage” has actually stabilized and subsequently slightly improved. Tied to this, the addition of United Airlines service to DLH from Chicago has helped support lower fares, particularly with regard to Chicago and connections to the east coast.

Exhibit 22

Leakage can occur for a number of reasons, although airlines estimate that about 95% of the reason can be accounted for in #1 and #2 below. For a more detailed write-up, see Appendix B on pages 45-46.

1. Lower air fares from a competing airport within a reasonable driving distance
2. Nonstop service and/or more airline alternatives, particularly LCC, with more convenient times
3. Frequent flier loyalty
4. Comfort of aircraft and availability of a first class/upgraded economy product
5. Parking costs
6. Corporate travel contract limitations
7. Long connecting times that make driving easier
8. Lack of reliability of the airline flying the flight during irregular operations
9. The availability of reasonably priced shuttle service to a larger airport
10. Long security lines
11. Inferior terminal features

There is a perception that once a passenger goes to a hub, there is a strong likelihood that the passenger will choose the hubbing airline. The chart below identifies the share DLH leakage by airline (regional traffic that is driving to MSP).

DL’s share of MSP Origin-Destination (O&D) passengers is 57.5%, yet DL only retains 40% of DLH area passengers driving to MSP. This may indicate that passengers are driving to MSP for lower air fares relative to nonstop service.

Another interesting indicator is that UA is attracting 23% of passengers “leaking” from the DLH area to MSP to originate air travel, yet UA only attracts about 7% of MSP O&D traffic. This may indicate that UA is becoming the preferred airline from the DLH area with more market recognition and an increase in enrollment in the United frequent flier program.

Again, these are passengers that live within 30 miles of DLH. This reinforces the strong opportunity to reverse a portion of this leakage through an effective, comprehensive marketing program.

**Exhibit 23**

![Airline share of DLH “ Leakage” Bookings w/i 30 miles](chart)

In addition, carriers other than Delta generate higher shares of DLH traffic driving to MSP than they do from the MSP O&D market in general. The disparity is greatest from those airlines (outside of United) that are typically associated with relatively low air
fares. This is particular true for Frontier Airlines and to a lesser degree, US Airways. Even carriers such as American do better than would otherwise be expected.

This would appear to substantiate the perception that most passengers are driving to MSP for relatively lower air fares than what they can get from Duluth-Superior and northern Minnesota/northwestern Wisconsin. Note: The chart on the prior page does not include Canadian bookings.

Outlined below is an analysis of O&D traffic from DLH and related O&D level leakage. In general, DLH retains a high percentage of traffic in markets that have nonstop service. These include Las Vegas, Phoenix, Chicago, Orlando-Sanford, Detroit and Orlando. It should be noted that these are all DLH nonstop served markets, and they all offer relatively competitive fares.

Overall, as can be seen, DLH suffers pretty high leakage on connecting passengers. The lion’s share of the leakage traffic is driving to MSP. At a high level, it would appear that the highest leakage takes place to markets in the western half of the U.S and that fare levels are a meaningful factor.

**Exhibit 24**

<table>
<thead>
<tr>
<th>Rank</th>
<th>Market</th>
<th>Psgrs</th>
<th>Fare</th>
<th>Revenue</th>
<th>Leakage</th>
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<tr>
<td>1</td>
<td>Las Vegas</td>
<td>46</td>
<td>$137</td>
<td>$6,350</td>
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<td>2</td>
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<tr>
<td>3</td>
<td>Chicago O’Hare</td>
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This phenomenon is somewhat typical for markets in the Midwest, as there are more limited connecting options going west than there are going eastbound. This essentially forces traffic over one of three hubs: MSP, ORD, or DEN. Without nonstop service to DEN, air fares are typically disproportionately higher as there are fewer network connecting options. This is particularly true for Delta at the MSP hub as compared to ORD. The result is driving more people to the perceived cheapest form of feed to MSP – the highway.

As noted earlier, legacy/network airlines typically look for at least 20-30 daily passengers when considering new nonstop service to a hub. Even with leakage, only Delta’s Atlanta (ATL) hub falls into this category, and given both the stage-length (nonstop flight mileage) and gate availability at ATL, is not likely that this level would be sufficient to convince Delta to add nonstop service to ATL. Also, legacy/network airlines do not like to overfly a nearby hub (such as MSP). No other hub markets have a sufficient base number of passengers flying out of DLH currently to support additional hub service, although over time, both Dallas Fort Worth (DFW) and Denver (DEN) can be options if more daily passengers utilize DLH as their airport of choice.

Two Allegiant markets standout: Fort Myers/Punta Gorda generates 37 daily passengers and Cancun generates 25 daily passengers as potential leisure markets that could support additional service short term. Based upon historical Allegiant Airlines stimulation patterns, both of these markets appear viable short term. Potential for these new services will be detailed in the next section when the Financial Analysis of potential new routes is described.

Leakage is by no means solely an issue for DLH. The chart on the next page outlines the leakage that is occurring at other Northern Minnesota airports within reasonable proximity to DLH. While it is not the intent of the Authority to divert passengers from neighboring airports, there is a significant amount of traffic that is leaking from them today, virtually all to MSP. Once again, if some of this leakage could be reversed to use DLH rather than having it primarily go to MSP, this would be a benefit for DLH and not have a detrimental impact on the neighboring airport or MSP. These potential passengers represent a significant opportunity for DLH that is achievable.
Currently from the region, excluding Brainerd (BRD), there are approximately 360,000 passengers driving annually to MSP. This is also in line with the regional population base. Most of the air traffic from the region is driving to MSP, creating the opportunity for a regional northern Minnesota “hub” should the opportunity present itself. Appendix D (p. 49-50) takes a closer look at the northern Minnesota opportunity.

While DLH could never expect to garner a majority of the regional leakage (a certain segment will always drive to MSP for reasons beyond the control of the Airport), based upon current levels of leakage, there is good upside should DLH be able to garner even a share of this traffic.

For example, each 10% point increment in DLH leakage alone equates to about 20,000 annual enplaned passengers. When including leakage from nearby Hibbing (HIB) and International Falls (INL), and on a limited degree Bemidji (BJI), each 10% point increase is worth 36,000 annual enplaned passengers. At a 10% point increase, regional leakage for the area would still be high – in excess of 60% (retention of 39%, excluding BRD).

In summary, there is a significant opportunity for DLH in capturing regional leakage from the U.S. While Canadian bookings are not available from public sources (and weren’t included in the prior analysis), they potentially constitute an additional meaningful passenger base for DLH. In particular, this is true for low fare services, such as those offered by Allegiant Airlines.
The map below illustrates the DLH traffic demand (on Allegiant) that is booked from southern Canada, particularly Thunder Bay, Canada. While the majority of DLH’s booking demand comes from the Duluth-Superior area, for Allegiant, a significant portion also came from Thunder Bay and other points in southern Canada. This is actually a strategy utilized by Allegiant to attract traffic from Canadian points to the United States, as some of Allegiant’s most profitable points are near the Canadian Border and include: upstate New York; Bellingham, Washington; Minot, North Dakota; Grand Forks, North Dakota; and Fargo, North Dakota. The Wall Street Journal actually has done a story on this very subject. Effectively there is a significant tax burden that is built into a ticket for service originating out of Canada as well as the requirement to clear customs at the airport. Under the Allegiant model, they can capture the Canadian passenger by having them drive to the U.S. and avoid additional cost and overhead.

**Exhibit 26**

Thunder Bay generates approximately 360,000 annual enplaned passengers and obviously has a good population base. With the right service and fare levels, this is a market that DLH could target for additional growth to current destinations as well as new destinations in Florida and Mexico. Any strategic air service marketing plan should incorporate tactics to address this potential traffic source and make it even more convenient to fly out of DLH.
Forecasted Financial Results of Potential New Service

Earlier a financial analysis was conducted upon current air services being flown from DLH. These estimates relied heavily upon mileage-adjusted Revenue per Available Seat Mile (RASM) benchmarking to ascertain economic performance. These analyses were done on pages 25-27.

To estimate the potential for new DLH service, forecasts needed to be conducted, utilizing a variety of scenarios. These scenarios include: 1) Current DLH O&D level demand in conjunction with expected demand stimulation, based upon peer market experience (for regional jet markets, demand growth would be in line with other new market growth – the example would be DLH-ORD and DLH-DTW) and 2) Growing current DLH demand in conjunction with demand growth stimulation, based on improving leakage in 10% point increments, as in the table below.

For potential new Allegiant markets, the forecast will be conducted using: 1) Current demand, including leakage, 2) Current demand in conjunction with potential stimulation, utilizing historical Allegiant stimulation when initiating service to Las Vegas and Phoenix-Mesa, and 3) Estimating DLH demand based upon per capita demand estimates, utilizing other regional markets per capita demand as a gauge.

Below is a summary of forecast results based upon varying leakage sensitivities for legacy/network carrier service and utilizing forecast methodology #2 for Allegiant (current demand times historical Allegiant stimulation/market demand growth from the DLH market).

**Exhibit 27**

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The results above make two points clear. First, Allegiant Airlines has the demand to grow DLH. Based upon historical stimulation and current demand, DLH should be able to profitably support seasonal service to Cancun (CUN), Los Cabos (SJD), Punta Gorda (PGD) and Tampa-St. Petersburg (PIE). This will be particularly true with fuel-efficient, longer-range A319/A320 aircraft, which have incrementally lower fuel & maintenance costs by as much as 25%. In addition, the graph shows the Load Factor forecast for each of proposed new routes.

![Load Factor Graph]

**Exhibit 28**

The second point is that the DLH does not generate enough traffic demand currently (before leakage) to profitably support new nonstop service on legacy/network airlines to the primary U.S. airline hubs. Traffic need to grow to support these potential new services. The amount of overall growth needs to be in the range of 30%. This would occur through lowering DLH’s leakage rate by approximately 30%. Over time, this is possible. At these levels, DEN service would be borderline profitable and is likely the next legacy/network carrier service that could potentially be considered. But to get to this level will likely take some time and would more than likely take place as DLH’s position as the northern Minnesota/ northwestern Wisconsin airport of choice improves. This would occur over time, through a targeted marketing program throughout northern Minnesota and northwestern Wisconsin with the goal of increasing DLH’s presence throughout the region.

**Air Cargo Analysis**

While the primary focus of this study has been on passenger air service, it also requested some analysis of the regional air cargo market. Since freight is not easy quantified like passengers, stimulation projections cannot be made. Currently, air cargo service in DLH is performed by Bemidji Air Service for UPS and Mountain Air Cargo for FedEx. These routes are flown with small regional aircraft and are feeders to larger “conduit” routes flown from their regional hubs. Air cargo has evolved to the point where the need is driven by a customer to respond to demand for perishables and products that must be shipped quickly in order to maximize the shelf life of the product or to be used in a process where timing of receipt of a product is required in order to be competitive or meet manufacturing timeline requirements.
As the cost of fuel skyrocketed, the network cargo carriers have shifted their operations away from air cargo to ground transportation. This is less expensive since much of the mid-range fleet used by FedEx and UPS was made up of highly inefficient 727 and DC-10/MD11 aircraft. While there is a conversion occurring in the aircraft type, the new system is more truck focused with fewer larger aircraft transporting to hubs form larger airports such as MSP. The largest companies such as FedEx and UPS have developed intricate and efficient ground networks that have provided similar responsiveness at a fraction of the cost of air freight. For Mountain Air and Bemidji Air, they are merely flying routes as solely determined by FedEx and UPS and are paid for performance. They have no input into the routes flown, rates, destinations, or the amount of product that would be transported.

Freight forwarders are key players in determining the amount of cargo that gets shipped by air. The other important element is to get the support of the local business community to dedicate their products that would be appropriate to ship by air to make that commitment so that the frequency may be increased or larger aircraft deployed. That will take a grass roots effort to make the change.

One appealing feature that a few airports have used to stimulate air cargo is to provide a multi-modal sortation facility on the airport so that it becomes the central collection and distribution point between the air and ground operations. In addition to providing the most economical deployment of resources for the cargo companies by having one central facility, it could also be viewed as a multi-modal transportation hub for the airport. It should be noted, however, that the cargo companies likely would look to have the facility developed by the airport and would only commit to a limited term lease which would translate into financial risk for the Airport/developer. A risk that was experienced by one airport that developed such a facility is that the cargo company did not assign a value to its location on the airport and was considering turning it into strictly a ground transportation sortation facility and eliminate the air component and negotiate a discounted rate.

Finally, one feature DLH does have when it comes to cargo potential is location as a processing point for international freight. DLH has a sufficiently sized runway to support large freighters, a staffed customs function that would translate into a quick turn, and a central location that would prove beneficial to distribution into the United States.
Summary/Closing Comments

Although DLH is experiencing a higher leakage rate than would be desired, the study will serve as a tool in reversing this trend. The last five years have been a period of unprecedented change in the aviation industry with mergers, capacity management, fare rationalization and fleet mix changes. DLH has managed through this highly volatile period to post the second highest level of enplanements in history in 2012. This occurred at a time when most similarly situated airports have lost enplanements and air service.

Going forward, the quantification of the challenge identified in the study will allow DLH to position itself for even more success going forward. Some of the major factors that will be the key in that success include:

1. An affordable and passenger friendly terminal with enhanced customer service features
2. A new flexible and financially responsible airline Use and Lease Agreement
3. Non-airline revenue contracts that implement industry best practices terms
4. A strong relationship with all incumbent airlines
5. An international arrivals facility that opens the door to increased international traffic
6. A Broad market catchment area in northern Minnesota, northwestern Wisconsin, and southern Canada that is balanced between business and leisure demand
7. A focused marketing campaign designed to reduce DLH leakage and potentially make DLH the regional airport of choice
8. The introduction of the longer range more efficient Airbus aircraft by Allegiant which will open more market opportunities
9. A Port of Entry designation for the potential processing of international flights and freight
10. Potential changes in the EAS program

There is no single factor that will stop leakage from occurring when there is a major hub located within three hours. Duluth does, however, have the ability to impact the amount of leakage that takes place by effective marketing, education, and community support. As identified in the paper, even a relatively minor reversal of leakage will have the impact of bringing tens of thousands of passengers back to DLH. This will have a significant impact on the financial self-sufficiency of the airport through significant increases in Passenger Facility Charges (PFC’s) that are assessed on each ticket to fund capital improvements, parking revenue, rental car revenue, and concession revenue. These additional sources of revenue allow the airport to keep the rates, fees, and charges to the airlines lower which is a factor used by airlines in determining their willingness to add or enhance service.
The Duluth International Airport is entering a key period where there is an opportunity to build on its strengths and increase activity. The potential is now quantified and the opportunity to succeed in reversing leakage is achievable with the support of the community.
Appendix A: Benchmarking DLH Versus Other Similar Regional Airports

One of the measures used in predicting the financial viability of a currently served airline route is to benchmark versus comparable markets. In particular, this is true of short-haul markets where the primary purpose of service is to generate beyond traffic and revenue. This benchmarking exercise is limited in this study to Delta service to MSP and DTW. United expects DLH-ORD to be profitable on its own merits and is not scheduled as a beyond market, due to its proximity to Chicago and this route is flown at risk by SkyWest. Hence this sort of benchmarking analysis for that market is not relevant.

For this study, the airports that have been selected for benchmarking include:

- Lacrosse Wisconsin (LSE)
- Appleton Wisconsin (ATW)
- Central Wisconsin (Wausau) (CWA)
- Cedar Rapids Iowa (CID)

Exhibit 29

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<th>DLH vs other regional airports: Key Revenue Metrics</th>
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These airports all have similar stagelengths (flight miles) and service as compared to DLH. These airports also have similar airport cost structures. It should be noted however that none of these airports have an international arrival facility similar to DLH.
DLH outperforms other comparable short haul markets feeding the MSP hub. DLH has higher RASM’s than all others except LSE. This supports earlier conducted RASM benchmarking of MSP hub and validates Delta capacity growth in the MSP-DLH market over the past two years.

DLH-DTW underperforms compared to these other markets. The load factors and yields are lower which drives less service.

Again, this essentially validates the earlier mileage adjusted analysis on pages 25-27, where similar conclusions were reached.
Appendix B: Issues Associated with Leakage

While potential reasons for leakage were summarized earlier, below is a more complete analysis. While leakage can be the result of a number of factors, it is typically a function of better (nonstop) service nearby and/or better relative air fares. Potential reasons that a passenger might choose to drive to a hub or another city, and fly from there include:

1. High fares- Often there is a perception that fares from a spoke city versus a hub are significantly more expensive. Where there are numerous LCC’s available from that hub airport, the likelihood of that being the case is increased. Legacy/network airlines generally take the position that fares from a spoke city versus a hub should be about $75 each way more expensive. Airports typically monitor this and alert airlines when they are seeing variation. Airlines have tended to respond positively when this has been pointed out to them but do not appear to proactively monitor.

2. Connection times- As is the case with DLH, when you have a good highway connection between the spoke and hub airports, if the connection times are long, passengers will tend to drive to/from the hub rather than wait in the hub for a connecting flight. Having properly timed flights for the business traveler is essential to the higher demand destinations.

3. Reliability- Another factor that can influence passenger choices is if there is a perception that the service is not reliable and is either regularly delayed or cancelled. Historically, if there is weather in MSP and there has to be some “thinning” of service, Northwest would tend to cancel “close in” service first under the premise that the people could still drive and make their connection. Delta appears to have maintained this approach and has a higher cancellation rate than United. United is running a 97% completion factor at DLH and does not appear to cancel DLH service in the event of ORD weather. Allegiant rarely cancels flights and will tend to run them late even if a disruption is experienced. Allegiant originates virtually all of their flight from their hubs daily so it is essential that the plane return every night.

4. Marketing- In some cases, consumers simply do not realize the service that might be available from a local airport versus a hub or how much it really does cost the passenger to take the highway when factoring in such real costs as time, fuel, vehicle wear and tear, parking, food, and potential overnight lodging. An effective marketing program is essential to educating regional passengers about the
opportunities that exist. There will be a separate section on marketing addressed later in this report.

5. Availability of MSP shuttles - One of the growing services from outstate airports that directly compete with local flying decisions is the availability of shuttles from the local airport to MSP. These have flourished and, in most cases, are picking people up at the front door of the local airport and delivering them to MSP for originating service. In the case of DLH, this shuttle service has increased from 1,632 trips per year in 2008 to 4,857 in 2012. MSP charges an AVI fee for each trip that uses the airport’s infrastructure to make this shuttle service a revenue stream at the hub. This added cost tends to balance the cost between the shuttle/fly cost analysis. More and more smaller airports that are being impacted by this cannibalization and are implementing licensing/AVI fees to the shuttle operations.
Appendix C: Incentives and Air Service

As air service has been reduced since 2008, small airports have tended to develop very aggressive incentive programs to offer airlines in order to maintain or attract service. Incentives can take many forms and can range widely in value. Outlined below are the more common incentives with a high level assessment of their probability of risk and reward.

1. Revenue guarantees- Probably the most aggressive form of incentive is the revenue guarantee. This is effectively a backstopping by the community for a sufficient amount of revenue to the airline to make the route financially successful. Typically the airline will benchmark a revenue stream requirement and if that level is not achieved through ticket sales, the airline will draw down against the guarantee so that they are “made whole”. Unfortunately when the money runs out and the service has not become self-sustainable, the service typically ends and both the airline and the community feel the disappointment. This is also risky in that from a pricing and marketing standpoint, the airline has little to lose and typically do not put the same emphasis on these markets because they know they have financial protection. Revenue guarantees tend to be rather substantial in value and if the service is not successful long term and the guarantee amount used up, there tends to be a negative feeling on the part of all parties. Revenue guarantees cannot be provided from airport funds. They tend to be offered and administered by third parties such as visitor and tourism groups or foundations set up to support the airport. The intent of the guarantee is to support service as demand grows. Unfortunately, more often than not, the guarantees tend to be applied against routes that had little probability of success. ORD service from DLH is a positive exception to the norm in that the service has grown and sustained itself. Revenue guarantees tend to be expensive and their success rate is low.

2. Marketing funds- As stated earlier, marketing is an essential ingredient for small airports to educate the public about the benefits of the airport and to promote the service that is available. It is a standard practice to provide marketing funds to airlines and/or to arrange for advertising/media coverage in the local community. A targeted marketing campaign does tend to produce results. The program will need to highlight the benefits from flying local and educate the potential customer of the convenience and cost effectiveness.

3. Waiver of airline fees- This is also a very widely used incentive for airports. The most popular waivers include rents and landing fees. There has been a wide
variety of incentive periods offered. About two years ago, the FAA issued incentive guidelines that quantify the maximum amount of incentives that may be offered which now may not exceed two (2) years. The guidelines now also allow discounting of fuel, which was not allowed in the past. The three primary components of an airline’s cost structure at an airport are: 1) rates and charges (rents and landing fees); 2) ground handling costs; and 3) fueling fees. To the degree the airport can impact any and all aspect of these costs will improve the probability of success. This is particularly true with regard to LCCs like Allegiant Airlines.

4. Passenger amenities- One of the emerging trends for airports is to offer passengers amenities if they fly from a local airport. Amenities include frequent parker programs where parkers are rewarded with free days when a certain number of days are purchased, discount coupons for airport concessions, raffles for free tickets or day memberships for priority clubs at hubs, and preferred locations for pre-paid corporate parking positions. These programs are typically sponsored by the airport and generate additional non-airline revenue and often will include participation from airport vendors.

5. Crew costs- Legacy airlines have a model that places aircraft overnight in spoke cities for an early morning departure. When this happens, the airline has to absorb the cost of lodging and meals for that crew. Some innovative airports have served as “negotiators” with the hospitality industry to broker the lowest costs possible. Once again, this cost impacts the profitability of the flight and provides a service to the airline that they no longer have to worry about.

6. Allegiant travel packages- Allegiant primarily makes their money by selling travel packages rather than just airline tickets. One concept that has been proposed at other airports is to purchase from Allegiant various ancillary package elements (rental car, show tickets, etc.) by an airport and use them as promotional items in the advertising program for Allegiant passengers only. This incremental revenue will benefit Allegiants financial performance and becomes a rock solid way to make sure people who would “win” them would fly from DLH.
Appendix D: Northern Minnesota and the Essential Air Service (EAS) Program

The United States Department of Transportation (DOT) funds the Essential Air Service Program (EAS) whereby the government provides a subsidy to the airlines to fly to certain communities. In Minnesota, all airports except DLH, Rochester (RST), and MSP are designated as EAS cities. The current subsidies range from approximately $1.5-3.0 million annually per airport. During the last FAA reauthorization bill negotiations, there was a debate on the ability of the government to continue to fund this program. Ultimately the program was funded but there is a strong probability that funding may be eliminated or the program significantly changed in the future to be less costly. If this were to happen, this could impact the market catchment area for DLH.

Outlined below is a summary of the performance of EAS cities in Minnesota. The challenge will be to return these airports to a level that can eliminate or substantially reduce the EAS subsidy

Historically, Northern Minnesota airports (EAS-served) produced about 160,000 annual enplanements at their peak. Today that number is below 80,000. This has resulted in the EAS subsidy increasing significantly. In conjunction with the retirements of Saab turboprop aircraft and the transition to high cost 50-seat regional jets in some markets, these EAS subsidies have in some cases tripled over the past few years. Given these trends, EAS funding is becoming an ever larger issue going forward, particularly given the debate currently raging over Federal Government deficits.

There have been discussions at a State level about Minnesota taking a lead in defining potential future changes of the EAS program, so that the impact on the State would be
minimal. These discussions are not advocating the elimination of service; rather the focus has been on how to maintain commercial service in a cost effective form in the event of a cutback. One of the options that exist is a multi-modal model where there is a combination of air and ground service provided- all under the aviation heading. A similar program was implemented in the mountain states where ground shuttle service was sold as a “flight” with all of the flight-related benefits extended. This may be an option if frequency and connectivity become more challenging as a way to make the local air service more attractive to communities.

Under the EAS model in Minnesota, some of the lower volume cities have flights that are making two stops in order to have enough passengers to operate the flight. When operations are running well, that is a model that works even though there is additional time for the flight because of the intermediate stop. When there is a weather problem at either of the spoke cities, the disruption turns into a nightmare. As an example, if Hibbing and Thief River Falls are “tagged” and either has a weather problem or there is a mechanical problem with the airplane and one of the cities is cancelled, you end up with a passenger from Hibbing landing in Thief River Falls with no apparent means to get back to their destination. The passenger is totally frustrated, particularly business travelers, and is more likely not to fly from the local community because they were significantly disrupted.

If EAS is modified to include a multi-modal alternative, coordination needs to be transparent among the impacted cities. Coordination to devise the broadest based customer experience should be the goal. In the event, that the DOT eliminates/reduces EAS funding and service is cut back or cancelled from other cities in the region because of the loss of the subsidy, DLH should seek collaborative ways to work with those communities to devise alternative programs with either commercial airlines, air taxi operators, or luxury ground transportation companies.
Appendix E: Vacation and Charter Travel Packages

As airlines have right-sized, one of the areas that has experienced a reduction from the network/legacy carriers (United, Delta, American/US Airways) is unprofitable flying to high volume vacation destinations. Network/legacy airlines make the most revenue from their business customers. Leisure travel is either discounted or a high number of frequent flyer free tickets are applied so that the actual yield on the flight is depressed. While the network/legacy airlines still need to offer this service, it has not expanded even though demand remains high.

Niche airlines such as Allegiant have helped fill this gap with a new model that has limited frequency per week to high volume destinations such as Las Vegas, Phoenix-Mesa, and Orlando. This service is popular but there is still some seasonality because of a broader segment Allegiant serves throughout the year.

This remaining gap is important to address and a growing way this is being accomplished is through vacation and charter travel packages. Historically, DLH has had Sun Country flying periodic charters to destinations where the tour operator effectively guarantees a profitable return for the flight in exchange for Sun Country flying it. This is particularly true for Laughlin, Nevada where the Riverside Casino has a sophisticated data base of customers and can readily predict demand and is willing to take the risk on funding the flight in exchange for the gambling revenue that the customers will generate.

More recently, Sun Country has decreased the number of charter vacation flights from DLH. Part of this was dictated by Sun Country’s recent build-up of its scheduled service and the lack of availability of aircraft (except for selected days). Sun Country has indicated that they are going to double their fleet from 17 aircraft to 35 aircraft in the next 5 years. This expansion will include a combination of additional scheduled service and an expansion of vacation travel charter service to more destinations than Laughlin. There are a number of other areas of the country that they have identified that have similar characteristics that they believe will provide them a similar profitable model as the Laughlin service and are prepared to pursue those opportunities.

Sun Country is not the only provider of such vacation travel packages. Other airlines offer similar packages to other destinations. Other potential providers include Apple Vacations, Delta Charter, and Mark Travel. There are a number of ways to garner additional outbound and inbound vacation travel service:

1. For inbound service, organize a coalition of Duluth-Superior hospitality industry participants and develop a package that could bring visitors to Duluth for key
events with a focus on periods where demand is not at peak such as midweek. Effectively, this group would need to be the guarantor of the cost of the flight to the airline with the benefit of generating tourism revenue from the inbound customer. Since the new terminal has international passenger processing capability, this would be an excellent opportunity to market this charter vacation travel package internationally.

2. For outbound travel, work with the potential airline operator to identify cities where packages could be developed. This will likely involve collaboration between the travel industry in DLH and the destination point to “sell” the airplane and eliminate the operator’s financial risk. Coordination with travel agency industry in DLH will be important to determining potential destinations and assembling a potential data base for solicitation.

3. Cruise ship charters- During the study, there have been discussion about cruise ships on the Great Lakes. One potential option to enhance that service would be to work with the cruise lines to identify their pockets of marketing and coordinate a charter aircraft to bring the passengers from that point to DLH to board the ship. One of the downsides to charters in general is that people may miss fights for a variety of reasons and not connect in time to meet their cruise. This would offer an amenity to the cruise operator and provide a marketing tool for the community because of the coordination and reliability.

4. Air taxi- One of the areas that has been most affected by the right-sizing of the industry is travel between spokes. Because of loss of frequency, small volumes of passengers, and high fares, air taxi service is increasing because the economics and convenience are coming in balance compared to commercial service. This is an area that would need a coordinated effort on behalf of the community and airport. Key city pairs would need to be identified and coordinated with users and a service provider (could be a commercial operator or private charter operator) identified to develop a pro-forma and demand analysis. This has become a viable option in transporting segments of the business community to certain key locations.
Appendix F: Summary of Acronyms

ASM – Available Seat Miles; one seat flying one mile; metric for capacity (supply)
AVI - Ground transportation fees
CBP – Customs & Border Patrol; needed to staff FIS facilities for inbound international passengers
CRJ – 50-seat Canadair regional jet
DOT - Department of Transportation
EAS - Essential Air Service Program
FIS – Flight Inspection Services; used to process inbound international passengers
Leakage – Example: A person living in Duluth, who books air travel, then drives to another airport (MSP) to originate air travel
LF - Load Factor (% of seats filled)
O&D - Originating and Destination passengers
RASM - Revenue per Available Seat Mile or Unit Revenue; key revenue metric
RPM – Revenue Passenger Miles; one person flying one mile; one of industry metrics for traffic
SCASD - Small Community Air Service Development Grant
YE - Year end
Yield – Revenue per passenger mile. Industry metric for price; over time, as Load Factors have risen, this has become a key industry metric. This assumes high LFs, though

Airports
ATW - Appleton Outagamie County Regional Airport
AZA - Mesa- Phoenix Airport
BJI - Bemidji Regional Airport
BRD - Brainerd Regional Airport
CID - Eastern Iowa Airport- Cedar Rapids
CWA - Central Wisconsin Regional Airport- Wausau
DEN - Denver International Airport
DLH - Duluth International Airport
DTW - Detroit Metro Airport
HIB - Range Regional Airport- Hibbing
INL - International Falls Airport
LAS - Las Vegas International Airport
LSE - : LaCrosse Regional Airport
MSP - Minneapolis- St. Paul International Airport
ORD - Chicago O’Hare International Airport
SFB - Sanford- Orlando Airport
RST - Rochester International Airport

Airlines
DL - Delta Air Lines
G4 - Allegiant Air
UA - United Air Lines
Appendix G: Copies of Meeting Summary

Duluth International Airport
Air Service and Cargo Leakage and Expansion Analysis
Monday, October 29, 2012
10:30 A.M.
Kick-Off Meeting
MEETING SUMMARY

1. Introductions and background

All attendees introduced themselves. Trillion (TA) gave a brief overview of background and history of working with the Duluth Airport.

2. Outline of proposed study

TA went through the major components of the proposal and discussed each. One element that was discussed was that part of the leakage study will involve neighboring airports that are part of larger planning organization. This is also true for the component that will address the potential impact of the Essential Air Service (EAS) program. The study will be objective in this analysis and sensitive to the broader regional interests.

Discussion also centered on cargo and its role in this study. Clarification on intermodal forms of cargo transportation involving the Port and warehousing were provided and added clarity to the agenda item.

Great Lakes cruises were also discussed as they relate to air service. TA was educated on efforts to perform a study on cruise ship opportunities for DLH and TA will talk to that group as part of the process to determine the impact on the future marketing program.

3. Master schedule and meeting dates (please bring calendars)

The following schedule of dates was agreed to:
   - Monday November 26, 2012 10:30 am Advisory Committee
- Wednesday December 19, 1012 10:30 am Advisory Committee
- Thursday January 24, 2013 10:30 am Advisory Committee
- Tuesday March 19, 2013 1:30 MIC TAC
- Wednesday March 20, 2013 1:00 pm Advisory Committee
- Wednesday March 20, 2013 Policy Board

4. Determine benchmarking targets

Discussion centered on the type of airports that would be good comparables for the study. TA will review options and present at the next meeting for discussion and adoption. If possible, locations with aircraft maintenance facilities should be considered.

5. Expectations of MIC and Advisory Committee

The group is expecting the study to result in the identification of potential new opportunities to grow service short and long term and to develop a marketing plan that achieves that goal. Tourism, business travel, and package travel (cruise) are the passenger focuses and multi-modal cargo is the cargo focus. Northwest Wisconsin and southern Canada should be included to the greatest degree possible.

6. Air cargo analysis overview and industry trends

Discussion on the potential of air cargo growth, outside of specialty time sensitive products, was discussed and the group was advised of the limitations in that market.

7. Open forum

8. Next steps and meeting agenda items
   - Benchmarking comparables
   - The feasibility and role of incentives
   - Macro industry overview (power point)
   - Current DLH performance (power point)
   - Current performance of study area airports (power point)
   - Role of the community groups
   - Cargo- multi-modal options and capturing data
   - Open Forum

9. Adjournment
Duluth International Airport
Air Service and Cargo Leakage and Expansion Analysis
Monday, November 26, 2012
10:30 A.M.
Meeting 2
Meeting Summary

1. Review of meeting 1 summary
   a. New dates were noted with the exception of March 1. The March 1 meeting has to be rescheduled due to a conflict with a recent announcement by Allegiant for their annual conference being held on that date. New date will be confirmed and distributed.

2. Revenue Guarantee article discussion (attached)
   a. A discussion on revenue guarantees and their effectiveness took place. DLH has worked with them before and having that as a tool for United was successful. As the process moves forward this will be reviewed again to balance the delicate relationship to route success and the role a revenue guarantee needs to play to make a route successful.

3. Feasibility and role of incentives
   a. Incentives are more and more required in order to attract service. Typically they include a waiver or discount for a period of time of such things as landing fees, terminal charges, fuel flowage fees, etc. As part of the study, it is recommended that the current package be reviewed and updated and that a formal program be adopted by the Board.

4. Small Community Air Service Development (SCASD) grants
   a. The program is still available and it is recommended that DLH actively pursue putting a proposal together. This will evolve during the study as to the specific focus. There will a “local match” required so it might be good to start teeing that up sooner than later. Packages have been issued anywhere from May to August and response times are relatively quick.

5. Benchmarking comparables
   a. Great Lakes region airports will be used.

6. Macro industry overview
   a. An overview was provided to give the group the macro-economic condition of the industry. Airlines continue to throttle
down domestic service and use of the 50 seat jet is being significantly reduced. Airlines look at yield and not load factor. Smaller airports have been hit disproportionately heavy with domestic reductions. Consolidation of airlines has made the solicitation of new service more difficult because the pool of potential airlines is limited.

7. Current DLH revenue performance
   a. An overview was presented of current DLH city pair performance. DLH-MSP doing well, DLH-DTW could use some improvement, and DLH-ORD is lowest yield of the three. Although improving and the airport management continues to get positive feedback from SkyWest, part of the leakage study should look at ways to improve performance on that market.

8. Performance of study area airports
   a. On neighboring MN markets, the losses experienced by the airlines would not be able to be absorbed if the Essential Air Service subsidy would be removed or reduced. This will need to be factored into options.

9. Cargo- multi modal options and gathering data
   a. There does not appear to be any defined data to pursue this opportunity; rather, the idea is to pursue concepts and strategies. Contacts are to be provided to the Trillion.

10. Open forum
    a. Nothing added

11. Adjournment
Meeting Summary

1. Review of meeting 2 summary
   No corrections were made to the summary submitted.

2. Confirmation of rescheduled March 1 meeting
   The meeting on March 5 needed to be rescheduled because of a previous commitment of Mike Bown. The date was changed to Thursday February 21, 2013 @ 1:30pm to be held at the new DLH terminal.

3. Leakage data results
   a. Review
      Mike Bown presented a power point presentation outlining a historical review of airline economics; an overview of unit revenue, benchmarking, and profit/loss estimates for DLH, BJI, BRD, and INL; and activity summaries based on actual traffic (not leakage). A request was made to have more detailed information on the United service for the next meeting.
   b. Next steps
      The December meeting will be an analysis of regional booking and analysis of where longer term potential exists

4. Open forum

5. Adjournment
Duluth International Airport
Air Service and Cargo Leakage and Expansion Analysis
Thursday, January 24, 2013
10:30 A.M.
Meeting 4
Meeting Summary

1. Review of meeting 3 summary- No additional discussion regarding the summary was introduced.
2. Discussion on potential incentives pending determination of target markets and airline(s):
   a. Fee waivers
   b. Coop advertising
   c. Frequent parker programs
   d. Club passes
   e. Package purchases (Allegiant)
   f. Discounted crew hotels
   g. Other
   The Authority has adopted an incentive program that has traditionally included a waiver of fees and funding for advertising. Generally an incentive includes the waiver of fees for 6 months and $20,000 in advertising. Recently, the FAA had adopted “Incentive Guidelines” for airports to bring some consistency among airports. The maximum time period for any such incentives under these guidelines is 2 years. It was agreed that the consultant would meet separately with airport senior management to discuss incentives. The final report will include recommendations for consideration on incentives. Airport management will determine the right level of incentive and seek Board endorsement.
3. SCASD Grant- focus and process
   At the previous meeting the SCASD grant program was described and discussed. Generally speaking, applications that include a “local match” in actual cash commitments are rated higher in the ranking process than those that do not in that it demonstrates and financial commitment from the community to support the grant. Typically the minimum threshold that is considered meaningful is 10% of the total grant amount. Airport senior management feels strongly that DLH should pursue a grant in 2013 and the consultant concurs. There are many reasons why DLH should be ranked high. Tom Werner was
going to begin talking to local parties to discuss contributing. In 2012, the program hit the street in May versus the traditional period in late summer. It was agreed that the focus would be to have a package substantially complete by May 1 in order to be positioned correctly if the solicitation is early again this year. The specific grant requests will be determined by airport management in the coming weeks.

4. Analysis of regional bookings and analysis of where longer term potential exists
   An overview was presented showing the bookings and potential impacts if leakage were reversed. The bottom line is that a significant enplanement impact can be felt for DLH if we were able to reverse any of the leakage. Information was provided on the impact on shuttle vans and shows that there is a significant amount of shuttle traffic to MSP and it continues to grow, albeit at a slower rate for DLH. There was discussion on focusing on Canada more. There was also continued discussion about how air taxi service might fit into the system in the future.

5. Reverse flow traffic discussion (70% outbound/30% inbound)- would do we look for balance?
   This is of particular interest to the hospitality industry in DLH. One concept is to include some form of reverse marketing in the SCASD grant. Some discussion involved the use of advertising firms if this is a focal point in the grant.

6. Discussion on causes for leakage
   a. Shuttles- data was provided
   b. Fares- part of the information included in the presentation
   c. Timing of flights- frequency impacts connectivity.
   d. Reliability- There appears to be a strong completion factor for SkyWest out of ORD and DL still impacts DLH when MSP is experiencing weather.

7. Open forum
   There was discussion on vacation package travel. There will be a section in the final report addressing this at a high level.

8. Adjournment