AVIATION COUNCIL
OF PENNSYLVANIA

CALIBRATING FOR A NEW AVIATION FUTURE

AVIATION ROUND TABLE

SEPTEMBER 2021

BOYD GROUP INTERNATIONAL
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A Great 2021 Summer…

It might look like we're well on the way back to air transportation normalcy…

Let's take a look at the past summer…

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Wow! Security Lines… Just like the good old days!

Comforting! Line up and prove you're not carrying four ounces of hairspray!

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And give or take a silly mask, inflight service is back!

Snacks are Free… just like at Alcatraz….

Bread & water cleverly disguised as a tiny bag of pretzels and a bottle of Evian

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The Pre-Covid Consumer Perception of Passenger Service Is Back, Too!!

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Alas, Just A Perception…

The aviation changes in the next 18 months will be as dynamic as has ever been experienced.

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Another Sidebar…

Headline – Pittsburgh Post-Gazette, September 1..

"The long decline of the once-thriving Pittsburgh International Airport "

Say what?

"Long Decline?"

"Once-Thriving"

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We Start With Some Underlying Heresy…

The USA is not behind the globe in airport planning… *it's 50 years ahead*.

- *Our airport system – at all levels - is an economic advantage in the new global aviation industry.*
- *No other nation has built as effective a system*
- *Given the 21st century opportunities, this will be a huge advantage for America … and for Pennsylvania*

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The Goal of Every Region:

Assure *communication connectivity* with the rest of the nation and the globe… air service has new roles

- *Changes in airline operating economics…*
- *Changes in consumer options…*
- *Emergence of superior communication channels & options*

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Calibration Change # 1 :
Relying on The Past Will Keep You There

The New Future of Air Transportation

- Different Economics
- Shifting Consumer Structure
- Different Air Transportation Structure
- New – Internally-Driven - Airline Strategies

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Calibration Change # 2 :

The role & value applications of air travel as a communication channel have evolved…

Some applications are no longer competitively-efficient… some others will be materially spiked by new technology…

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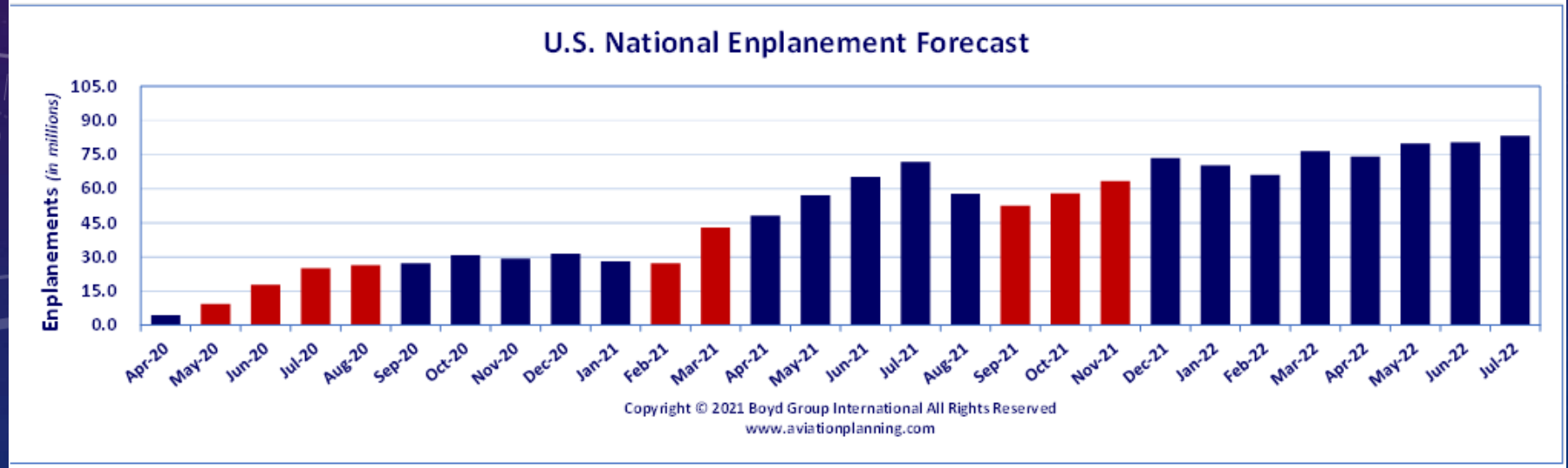
Let's Look At The National Near-Term…

U.S. National Enplanement Forecast

Airports:USA®

Period	January	February	March	April	May	June	July	August	September	October	November	December	Total	Percent Change
2015	60.9	57.2	71.8	70.0	73.6	75.8	79.8	77.1	68.2	73.3	68.9	70.8	847.5	-
2016	64.5	62.0	74.6	71.6	76.9	79.7	81.4	78.6	71.9	75.0	71.5	73.0	880.7	3.9%
2017	66.9	62.4	77.2	75.2	79.3	82.2	85.3	82.6	70.8	78.4	74.8	75.9	911.1	3.4%
2018	69.0	66.2	81.3	79.1	83.9	87.1	89.5	86.7	75.0	81.5	78.5	78.8	956.6	5.0%
2019	71.1	67.6	84.6	81.0	86.8	88.8	91.9	88.5	77.3	83.8	78.6	84.2	984.1	2.9%
2020	71.6	68.2	40.7	4.5	9.3	17.8	25.1	26.3	27.2	30.8	29.3	31.5	382.2	-61.2%
2021	28.0	27.3	42.9	48.1	57.1	65.2	71.8	57.8	52.5	58.0	63.3	73.6	645.6	68.9%
2022	70.2	66.0	76.5	74.1	79.9	80.3	83.2						530.3	

Trailing twelve months in the table above are forecast enplanements. Passenger counts reflected in the table above are based on US DOT filings made by the respective airline accounting departments. We have chosen to utilize this dataset because it represents a consistent reporting standard that is intertwined with other metrics we use in the forecast model. Furthermore, US DOT numbers are updated on a regular basis to correct for past reporting errors. For a number of reasons these enplanement numbers may vary from the numbers reported to you by airlines at your airport. The forecast trend itself takes into account capacity going forward as well as seasonality, historic enplanements, current industry conditions, and other factors.



Last Update: 08-30-2021

Air passenger generators have changed…

The applications of air travel as a communications channel were changing , pre CCP-Covid.

The pandemic accelerated the shifts, and caused the airline industry to re-fleet, re-strategize and re-structure

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The Future Will Be Fundamentally Different

Forecast: Enplanements from direct and indirect international demand will be down more that 50% in 2022 and beyond

<u>*International Traffic*</u> – was 31% driver… expected to be @ 15% in 2022 – at best

They're still doing business, but air travel will be a declining part of the process.

<u>*Business Traffic*</u> - air transportation has different – and smaller - roles as a communication channel

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Changing Communication Needs, Changing Modalities

- **The need for physical proximity to do business is much less…**
- **The time-efficiency has deteriorated**
- **Short haul modes have evolved:**

The Trend Is Clear – It's All About New Communication Channels – Business Relies Less on Short-Haul Air Travel

Market	2000	2019	Pct Chg	Pax Chg
SAT-Dallas/FW	425,537	248,908	-41.5%	176,629
Houston-Dallas/FW	1,071,005	474,950	-55.7%	596,055
LA/SF Basins	3,310,735	2,942,440	-11.1%	368,295
ATL-SAV	94,160	24,445	-74.0%	69,715
DTW-CHI	643,283	257,926	-59.9%	385,357
BOS/NYC	1,288,000	78,850	-93.9%	1,209,150
Total	**6,832,720**	**4,027,519**	**-41.1%**	**2,805,201**

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Geo-political & Covid – Materially Changed International

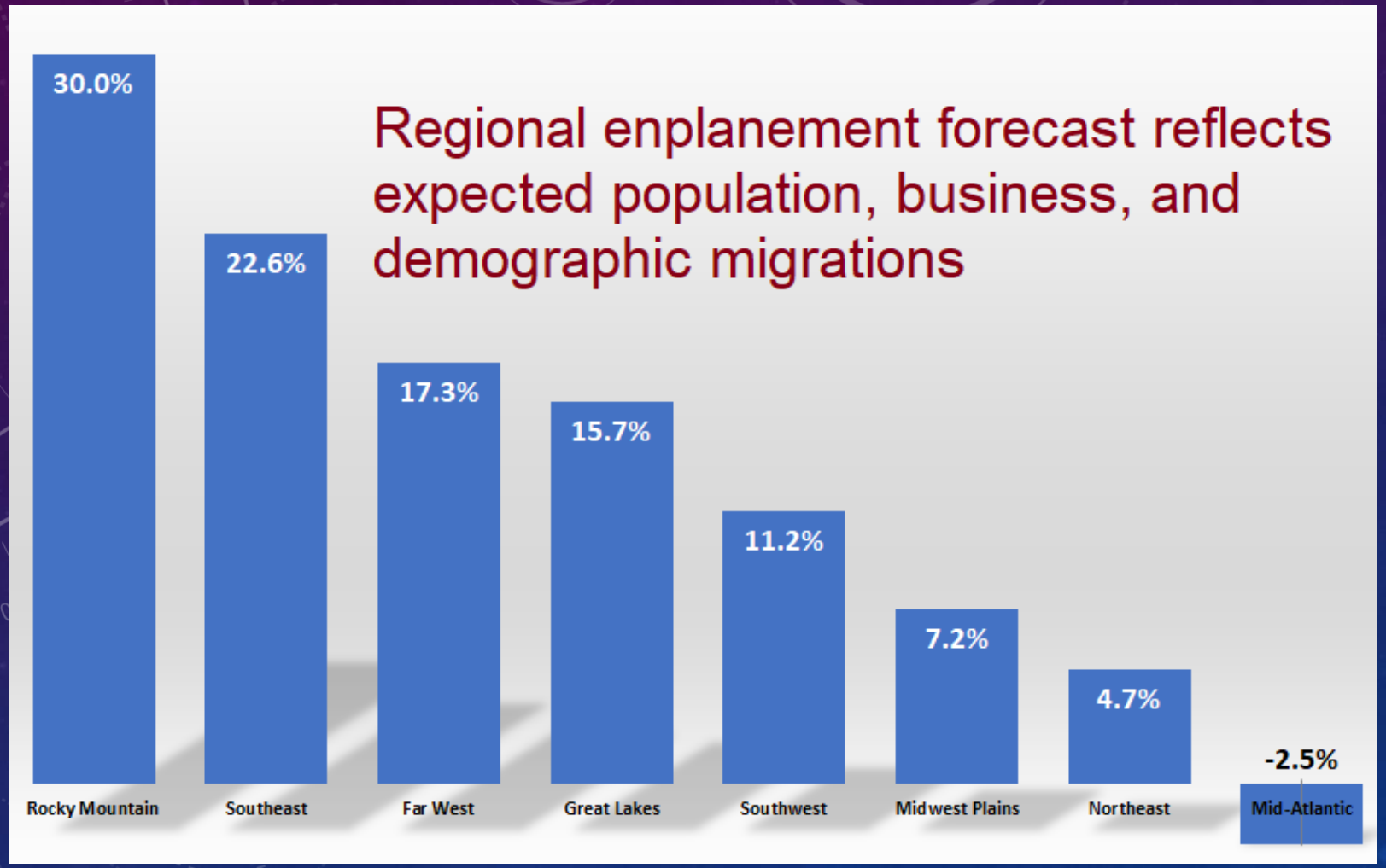
Trans-Atlantic:

- Moribund due total confusion
- Strong potential post Covid – When?
- Huge growth potential w/new airliners

Trans-Pacific

- Plan on fraction of 2018 traffic
- China traffic is dead – 8M down to <1M
- Pac Rim mostly business travel
- Huge danger of major disruption

Growth Patterns – Demographic & Economic Shifts
Regional Enplanement Growth 2025 v 2019



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Airports:USA

Top 25 U.S. Airports Ranked: Growth 2019-2025

Sorted by 2019-2025 Percent Growth

Rank	Airport	(in thousands) 2019	2020	2021	2022	2023	2024	2025	2019 v 2025 Growth
1	SRQ	967	617	1,692	1,863	1,886	1,895	1,903	96.7%
2	EYW	495	324	703	820	823	826	829	67.4%
3	COS	843	364	1,004	1,260	1,285	1,308	1,328	57.6%
4	BZN	786	446	1,524	1,150	1,173	1,194	1,212	54.2%
5	JAN	526	207	428	712	717	723	727	38.4%
6	PSP	1,287	632	906	1,434	1,689	1,723	1,752	36.1%
7	ACK	134	48	104	168	176	179	182	35.7%
8	FAT	989	495	919	1,099	1,292	1,318	1,338	35.3%
9	LIH	1,627	490	902	1,819	2,117	2,159	2,192	34.8%
10	KOA	1,919	619	1,340	2,105	2,476	2,524	2,564	33.6%
11	EUG	611	274	516	662	770	783	795	30.1%
12	BGR	300	117	241	344	375	381	387	28.9%
13	OGG	3,774	1,124	2,744	4,000	4,710	4,792	4,864	28.9%
14	ATW	381	179	334	421	473	481	488	28.2%
15	MYR	1,305	558	1,647	1,630	1,641	1,653	1,665	27.6%
16	VPS	806	449	933	978	981	998	1,014	25.7%
17	TVC	281	141	227	300	338	346	351	24.9%
18	MFR	523	243	382	537	625	637	647	23.8%
19	GJT	268	146	232	274	316	321	326	21.6%
20	SAV	1,499	598	1,272	1,463	1,717	1,758	1,785	19.1%
21	BIL	475	249	430	457	546	556	564	18.9%
22	AUS	9,308	3,233	7,218	10,436	10,648	10,842	11,011	18.3%
23	BUR	2,987	997	1,465	2,893	3,420	3,480	3,533	18.3%
24	RAP	351	186	331	354	400	407	413	17.7%
25	ONT	2,793	1,266	2,108	2,690	3,163	3,226	3,276	17.3%
	Total:	**35,234**	**14,002**	**29,602**	**39,869**	**43,754**	**44,510**	**45,147**	28.1%

Last Update: 08-12-2021

Subject to local & regional forecast factors…

EYW – accommodations expansion?

COS – I-25 Corridor business expansion going southward

Hawaii – CCP-Covid damage long term?

Myrtle Beach – tee-time availability? Emerging competition with Grand Rapids?

ONT – the LA Basin shifts may be only partially evident

MOB – an airport move will = a 15% enplanement jump in 2024

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Let’s Talk About The Structure & Future of The Airline Industry As They Affect Pennsylvania

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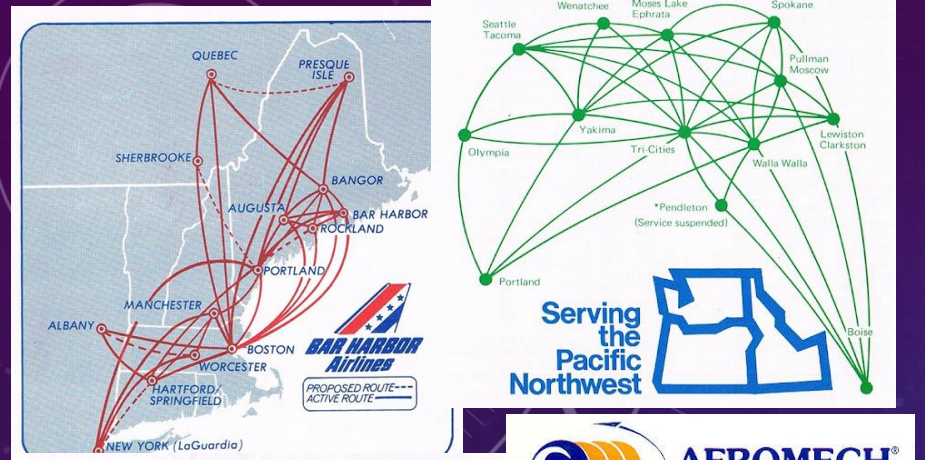
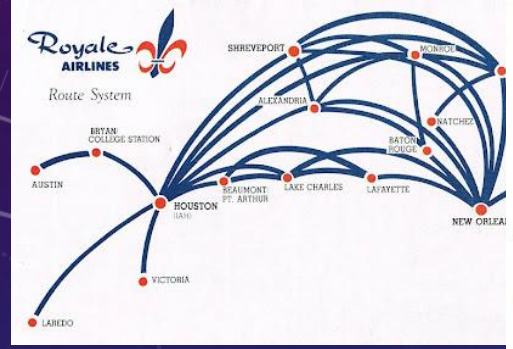
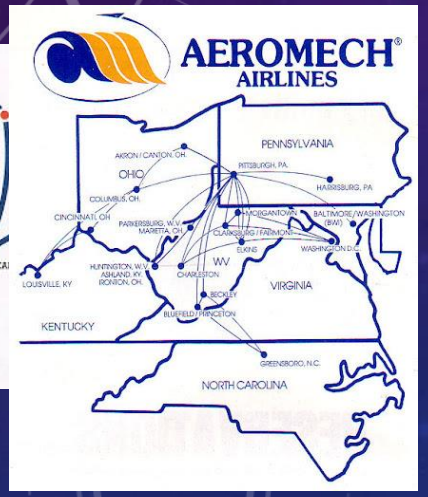
First… This Industry Is Gone…







Short-haul, intra regional service with independent commuter airlines is mostly dead…

- The economics have changed
- The consumer needs have changed
- The business communication needs have changed
- The time-efficiency is typically poor

Fact: just about every attempt at such service over the last twenty years has failed completely

There is no independent turf-based regional airline industry, anymore

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Airlines – Different Categories, Different Missions

Major Airline Systems. American, Delta, Alaska, United, Southwest, JetBlue

Impulse Traffic Airlines – Allegiant, Sun Country, Frontier, Spirit

Commuter Opportunity Airlines – Contour, Boutique, Cape Air, Southern Airways Express

Next Generation Model Carriers – Avelo, Breeze

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Let's Discuss

Major Airline Systems. American, Delta, Alaska, United, Southwest, JetBlue

Except Southwest and JetBlue, these carriers contract out substantial flying to small lift providers, once known as "regional airlines." Except for JetBlue, all focus substantially on connecting passengers (including Southwest)

Average aircraft size is growing – 50 seat jets being retired.

Watch United for innovative route system shifts

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Impulse Traffic Airlines, a.k.a. ULCCs

Impulse Traffic Airlines – Allegiant, Sun Country, Frontier, Spirit

Model is mostly generating net-new passengers from other discretionary spend patterns, with heavier emphasis on ancillary revenues, especially Allegiant

These do not “meet air service needs” but instead provide air service that attracts leisure-spend dollars.

Nomadic in nature – dependent on levels of discretionary dollars in the economy.

These do not provide connectivity to and from the national & global economies

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Back-Fill Airline Models

Commuter Opportunity Airlines – Contour, Boutique, Cape Air, Southern Airways Express

Provide lift at points major carriers find too small or not attractive, as well as EAS markets across the nation.

Excellent operators, very specific market opportunities

Value is where consumers have inferior alternative travel options.

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Captain Kirk Airlines – A Model Where No Airline Has Gone Before

New Model Carriers. These are airlines looking to take advantage of latent travel demand not met by existing carrier systems… Similar model – different M.O.

Breeze: How much personal traffic between SDF and CAK? Or Providence and Charleston? Couldn't really fly between a lot of cities like these before.

Avelo: Burbank as gateway to Los Angeles, New Haven as aggregation point for I-95 & I-91 Corridor populations. Demand beteen Los Angeles Basin and Ft. Collins?

Experimental… so was FedEx.

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The 500 Pound Air Service Question In The Room

Keeping Rural Areas of Pennsylvania Communication-Connected To The World

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Let's Define "Air Service"

It provides access to and from the rest of the globe…

… With service factors that meet consumer needs and is at least in most cases superior to alternatives

It does not necessarily need to be at the local airport, and in many cases, the local airport cannot support service the consumer will use instead of alternatives.

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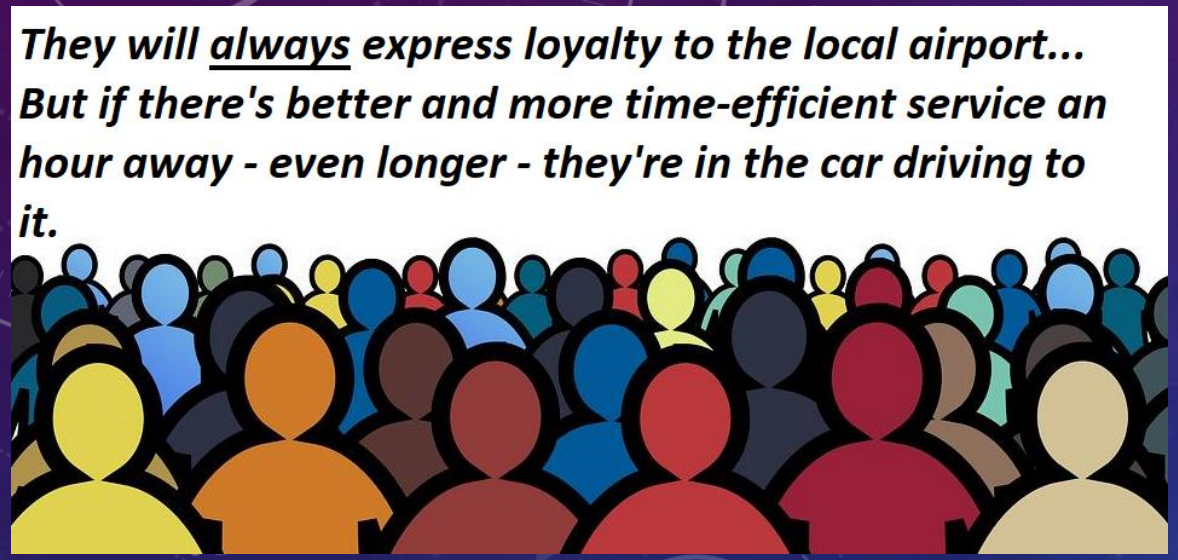
Certain Unpopular Realities – The Consumer



The local consumer will always say yes to using the local airport… typically when what the local airport might offer isn't described in the Survey Monkey questionnaire.

Often, the levels & structure of local air service that can be attracted are less time-efficient and consumer attractive than other options…

Examples: Youngstown (Pittsburgh), Naples (Ft. Myers), Muskegon (Grand Rapids)

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Extinct Bird Spotting…

The business base and consumer needs that supported small airliners like this 30 years ago have both disappeared.

This means the machinery that provided mainline airline connectivity to several Pennsylvania communities is gone, too.

Next on the block: 50-seat jets

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No, There Aren’t New Tech Aircraft On The Way

Any small airliners on the drawing board represent high costs, low capacity, and questionable long-term sustainability (read: battery technology.)

The Cessna 408 is essentially the state of the art – a very old state.

More “studies” and analyses won’t find a solution – the challenge is clear.

In a digital economy, with declining dependence on air as a business modality, what alternatives do such communities face?

The 1960s are over… what communication alternatives now are emerging?

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Okay, Let's Stop With Hypotheticals

There are communities in the lower 48 that are literally cut off from local or alternative commercially-viable air service…

The economics of air transportation and the levels of revenue they can generate are galaxies apart

The EAS system's abuses have poisoned the well for many such points.

The challenge is to have communication access --- options?

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Two Words, Benjamin, Regarding Pennsylvania Airports' Future

Air Logistics

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Air Logistics Is Not Your Father's Air Cargo

Historically, shipment of goods by air was relegated to high-value items that needed to be transported rapidly… time was the real commodity.

Today, that time commodity has become a consumer-imperative in the new retail chain. That coffee-maker, or blouse, or chain saw can be here tomorrow due to using aircraft for high-volume shipments.

Amazon was first, but will not be alone… the terminal sort center may well be the 737, or the ATR, or even the 777 that arrives, distributes the goods and leaves.

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These “Distribution Points” Can Take Advantage of Williamsport, or College Station, or Oil City…

The future of logistics is reducing time from production to consumer.

Rural airports can have huge advantages in shaving time & cost from future distribution…

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Starting Point Summary

The scheduled air transportation system will be structurally smaller in 2022 -2023 due to changes in the applications of air travel

Two dangers: Short term: more CCP-Covid confusion. Long term: massive inflation

New approaches need to be pursued to assure communications connectivity for truly rural Pennsylvania points. Just having “flights” won’t address this.

The PA airports system is well positioned for the new logistics/distribution future.

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Data Sources…

Airports:USA

On-going forecast reviews of 168 airports, 97% of enplanements

Reviewed monthly – capacity, local airline changes, economics

Completely independent – accomplished since 1992

www.Airports:USA.com

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Questions?...

This Presentation Will Be Available At

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