

ADS-B Constituent communications (and staff responses where applicable)

Hello Hardy,

I'm just writing to express my support for the construction of an ADS-B Tower at Truckee airport. It would be extremely beneficial to the safety of all who use the airport.

Thank you,

A handwritten signature in black ink, appearing to read 'Sarah Halas', written over the text 'Thank you,'.

Sarah Halas

Hardy Bullock

From: Dave Tranquilla <mountainflyer@yahoo.com>
Sent: Monday, June 03, 2019 5:33 AM
To: Hardy Bullock
Subject: ADS-B tower

Hardy, I am in favor of the ADS-B tower going in at KTRK. I see it as an aviation and safety benefit.

Thanks,
Dave Tranquilla

Hardy Bullock

From: Mark Shindel <markshindel@gmail.com>
Sent: Wednesday, May 29, 2019 11:27 AM
To: Hardy Bullock
Subject: ADSB

As a private pilot based at KTRK hanger A27 I would like to confirm my support of installation of a ground based ADSB station, to increase the towers operational capability.

While the tower operation has been a welcome addition, controllers inability to actually locate aircraft in their airspace limits their operational efficiency. Currently reliant upon pilot position reports that are often vague if not incorrect, the situational awareness of an ADSB ground station would compliment/complete prior investments made in the tower infrastructure and staffing levels.

Mark Shindel
N9296S

Hardy Bullock

From: Iain Mulholland <iain@iainmulholland.com>
Sent: Saturday, June 15, 2019 8:39 AM
To: Hardy Bullock
Subject: ADSB

Hardy,

I will unfortunately be traveling the week after ext and will be unable to attend the board meeting discussion on ADSB, so I'd like to share some written comment.

Firstly I would like to commend the Board on the decision to install a tower. As you may recall I was a vocal opponent however having now operated many many flights into and out of the airport under the tower's control I can say unequivocally I am a big proponent. The tower absolutely increases safety and improves the efficiency of the airport operations.

Of course the tower is still limited when the airport has IFR weather and as a locally based pilot I am all too familiar with delays caused by multiple aircraft attempting to get in and out during weather events. Any local pilot will tell you that we dread hearing Oakland Center tell us to "Hold at AWEGA for multiple inbound IFR aircraft". This can be particularly challenging when icing is a weather factor since holding over LEKYI or AWEGA inevitably means holding in conditions conducive to airframe icing which is a significant risk to aircraft.

ADSB will solve this as it will allow Oakland Center better visibility into the current radar hole that extends above KTRK until about 11k feet. This will also for more efficient traffic flows especially during weather events, increasing safety and decreasing unnecessary holding and vectoring.

So in summary I am very supportive of the ADSB project and see it as a good use of airport funds as I believe this will benefit the airport operations and continue to improve safety in the Truckee airport environment.

thanks
iain

Hardy Bullock

From: Sabrina Belleci <sabrina@remaxnorthtahoe.com>
Sent: Wednesday, May 29, 2019 8:19 PM
To: Hardy Bullock
Subject: ADS-B

Hi Mr.Bullock,

I am writing to you in support of the proposed ADS-B station form the perspective of an avid passenger at KTRK. My boyfriend is a pilot based out of Truckee and the additional safely measures provided through this technology would be a great addition to the community.

Thank you for your efforts and consideration.

Best,

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Hardy Bullock

From: Stewart Koch <stewart@srkinterestsllc.com>
Sent: Thursday, June 06, 2019 2:58 PM
To: Hardy Bullock
Subject: Public Comment - ADS-B

Hi Hardy,

I would like to voice my support of the installation of the ADS-B ground station at KTRK. This would be a great improvement for safety and situational awareness in the area. I am a pilot and I base my place and personal flight operations out of KTRK and I am a resident of Tahoe Pines.

Thank you for your efforts to make this happen.

Best regards,

Stewart Koch

Hardy Bullock

From: David Achiro <david@waste101.com>
Sent: Friday, May 31, 2019 9:23 AM
To: Hardy Bullock
Subject: RE: ADS-B Ground Station

I appreciate it Hardy. I think since we have the opportunity for the ADS-B in our area it would be a ++. I realize some pilots are not for it. I have nothing to hide in the air and if the tower can help me avoid something bad. I am all for it. By the way I do like having the tower here in Truckee. I believe that is a win win also.

-David

From: Hardy Bullock [mailto:Hardy.Bullock@truckeetahoeairport.com]
Sent: Friday, May 31, 2019 8:15 AM
To: david@waste101.com
Subject: RE: ADS-B Ground Station

Thank you for your support of this initiative. The Board will discuss ADS-B at the June 26th, 2019 meeting at 4:30 PM. They will most likely take action to approve or deny the program and direct Staff on the next potential steps. You are welcome to attend. Either way this letter will be passed along to the Board of Directors.

Sincerely,

Hardy S. Bullock C.M.
Director of Aviation & Community Services
Truckee Tahoe Airport District (KTRK)
10356 Truckee Airport Rd.
Truckee, CA 96161
V 530-587-7940
hardy.bullock@truckeetahoeairport.com
www.truckeetahoeairport.com

From: David Achiro [mailto:david@waste101.com]
Sent: Wednesday, May 29, 2019 7:33 AM
To: Hardy Bullock <Hardy.Bullock@truckeetahoeairport.com>
Subject: ADS-B Ground Station

Hardy,

I am a tenant at Hangar C-15 and fly a Cessna 310R. I am an advocate of having an ADS-B Ground Station. I am a firm believer in traffic safety especially when you have some aircraft flying regular FAA flight patterns and when you have some aircraft following noise procedure patterns along with Gliders and parachuters launching. I think it makes total sense. I will probably be at the meeting on the 26th, but just in case I am not I was told to get a hold of you.

Thank you,

David Achiro
C-15

Hardy Bullock

From: Hardy Bullock
Sent: Monday, May 20, 2019 12:45 PM
To: NANCY WOODY
Subject: RE: ADS-B Installation

Nancy,

I'm going to do my best to answer these questions. Aviation can be quite complex and some information is unfortunately a simplification of some pretty complicated stuff.

First let me thank you for reaching out. We very much appreciate your time to be part of our decision making process. We also constantly strive to reduce annoyance, with help from the community we always look for ways to do that.

Aircraft travel along 89 north because that is the area where the FAA has placed their preferred route. This route takes into account a number of factors, surveillance being one of them, terrain, another etc. If we can establish ADS-B here, see the airplanes and air traffic controllers can route them, we can find other places to direct the aircraft, like out to the east. You will still have some air traffic over your neighborhood but the goal with ADSB is to open geographic areas of possibility where we can more creatively control aircraft using this technology in concert with our control tower and charted flight procedures.

As far as night flights go we measure them in different ways. Basically after 10 PM or before 7AM. We get about 100 annually about 40% are EMS flights; either Care Flight Helicopters or fixed wing aircraft transporting critical patients to facilities in the bay area. ADS-B will not change these flights except it will make them safer by offering additionally data services and a higher level of control and separation by the sector controllers.

As far as night demand goes we added a control tower, night operations didn't change. We don't have any data that says installing ADS-B will add either night capability or demand. In relation to our total operations the airport has a very small number of night flights. Although this is the case we understand even one night flight may cause our community some annoyance and we work with our pilot outreach and noise staff members to reduce these. Unfortunately the airport cannot legally restrict night flights right now. Because of this we choose to really work on the incentive side and also try to dissuade anyone from ever flying at night through our outreach.

We understand that additional flights have both an environmental and also a community impact. We do not see any correlation to ADS-B driving traffic. ADS-B is however a key determinant in reducing total track miles flown which can reduce community and environmental impact, this is the primary reason, along with safety that the airport is considering this technology.

Please keep in touch.

Thanks,

Hardy S. Bullock C.M.
Director of Aviation & Community Services
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V 530-587-7940
hardy.bullock@truckeetahoeairport.com
www.truckeetahoeairport.com

From: NANCY WOODY <nwoody1960@gmail.com>
Sent: Tuesday, May 14, 2019 7:12 PM
To: Hardy Bullock <Hardy.Bullock@truckeetahoeairport.com>
Subject: ADS-B Installation

Hardy Bullock,

I live in Prosser Lake Estates. The current flight pattern has pilots following Hwy 89 north on takeoff, pretty much right over our heads. It's quite unpleasant on some weekends to be in our backyard due to the noise the frequent planes cause. Night flights after 10 pm, although currently rare, have occurred and have disturbed our sleep.

How do you plan to prevent increase night flights when the ADS-B system is in place? Will I, my neighbors, and all the other folks that live along the flight paths get a guarantee that measures and regulations will be in place that will prevent night flights? Will the flight paths over Truckee neighborhoods be changed? The flight path following Hwy 89 places planes over Olympic Heights, Prosser Lake Heights, Gray's Crossing, and Prosser Lake Estates. How will the use of ADS-B guide pilots away from these neighborhoods if the current path is Hwy 89?

A recent airport survey of pilots that was referenced in the airport's web page under ADS-B, indicated, 'no additional operation should be expected as demand for the airport at night is not significant.' I would disagree. One would expect with the current housing developments, new multimillion dollar home owners, and the addition of ADS-B, there will be a bigger demand for increased airport hours and potentially increased night flights.

As for your public questionnaire, KTRK: Truckee Tahoe Airport-ADS-B Survey that is attached to the May 12th airport newsletter, it doesn't fully address the concerns the ADS-B radar invokes. Public safety and First Responders having airport access 24/7 should be the primary reason to install the ADS-B. I don't think anyone would object to that. Where's the question asking should private plane owners be aloud to fly in and out at night? Or, should night flights be allowed even though knowingly Truckee residents will be disturbed? (Could the airport even prevent night flights once the ADS-B is installed?).

An epic environmental study isn't necessary. We know the exact numbers are not predictable, but any increase in flights will have an effect equal to the number of flights. Weather it's loss of sleep, or increase air and land pollutants, it's a given.

Sincerely concerned,

Nancy Woody

Hardy Bullock

From: Bruce Eisenhard <bruce@coridium.us>
Sent: Tuesday, January 29, 2019 9:34 AM
To: Hardy Bullock
Subject: Re: ADS-B

Well MLK was an outlier, hopefully not to become the norm.

My wife left downtown Truckee that Sunday, and it took 2 hours to get back to Tahoe Vista.

I heard many reports of people leaving at peak times from Northstar or Squaw taking 3-5 hours to drive 10 miles. I left around 1PM from Northstar on Monday luckily for Tahoe Vista. Traffic was backed up from I-80 to Northstar drive, over 267 to N National Ave in good weather.

So peak traffic in all modes of transportation is an issue at Truckee.

brucee

On 1/29/2019 8:46 AM, Hardy Bullock wrote:

> Thanks Bruce. I have had several formal conversations with NetJets, Wheels Up, fractional operators the FAA, Harris, etc. Nothing indicates additional demand based on the installation of ADS-B. The weather minima for KTRK is developed through the TERPS criteria and primarily the missed approach climb performance. There is no data in the industry that supports additional demand or operational capacity through the installation of ADS-B, only SAFETY enhancement and AIRSPACE efficiency.

>

> Airspace efficiency allows us to avoid the "one in one out" that occurs now. Last week, during the MLK weekend we had a lot, (10-15) aircraft holding stacked vertically and maneuvering around the area both impacting the community from a noise and emissions standpoint. Efficiency for IFR will allow our tower and our airport to accommodate the traffic that is here today... they are here now no debate about that, hard numbers prove it.

>

> FAA integration allows the system to perform as a system, not a closed KTRK loop, closed end systems doesn't help us plan for peak period traffic or accommodate the demand we currently have.

>

> I have a big presentation on the October 2018 Board meeting agenda. Look this over and then come in and we can talk about ADS-B. Also check out the technical resources here for an informed discussion on the details of ADS-B:

> <https://truckeetahoeairport.com/aviation/ads-b>

>

> thanks for your comments keep them coming my way and I will help however possible.

>

>

> Hardy S. Bullock C.M.

> Director of Aviation & Community Services Truckee Tahoe Airport

> District (KTRK)

> 10356 Truckee Airport Rd.

> Truckee, CA 96161

> V 530-587-7940

> hardy.bullock@truckeetahoeairport.com

> www.truckeetahoeairport.com

>

> -----Original Message-----

> From: Bruce Eisenhard [mailto:bruce@coridium.us]

> Sent: Tuesday, January 29, 2019 8:30 AM

> To: Hardy Bullock <Hardy.Bullock@truckeetahoeairport.com>

> Subject: Re: ADS-B

>

> Hi Hardy-

>

> So I watched the video, motherhood apple pie and all.

>

> From a GA pilots perspective I don't see much benefit to a system tied into the FAA. Nothing against the FAA, and air traffic control, I ALWAYS have flight following with Oakland/NorCal when I fly cross country from here. From the NetJet operators perspective it probably means more operations in poorer weather conditions. And I can see some anti-airport people picking up that argument.

>

> It looks like an effort to upgrade TRK to near commercial airport status, which would probably be opposed by many. If FAA wants to integrate us into the system, go after a grant, let them pay for it.

>

> If you just want to get ADS-B into the tower, I can see far cheaper alternatives. We already have pingers from the flight following system installed a number of years back at great expense. So aircraft with ADS-B in our vicinity are already almost constantly reporting position.

>

> Bruce

>

> On 1/28/2019 4:35 PM, Hardy Bullock wrote:

>> Bruce,

>> What it doesn't do is integrate into the national airspace system through the FAA ERAM system. The sensor array is fortified like other air traffic facilities and requires encrypted, secured data chain to the rest of the FAA systems that control traffic worldwide.

>>

>> The other components include ground leases for sites, satellite communications, backup power and redundancy during times of extreme weather. There are also GBAS systems that enhance and ground truth ADS-B signals between the stations.

>>

>> Your ADS-B is not the ADS-B station that is integrated which is required to provide coverage over hill and dale within the mountainous terrain of Truckee and beyond.

>>

>> We are working hard to get this information out but the tech creates some challenges to explain in plain English. Have you watched the video?

>>

>> <https://vimeo.com/300875793>

>>

>>

>> Hardy S. Bullock C.M.

>> Director of Aviation & Community Services Truckee Tahoe Airport

>> District (KTRK)

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>>

>> -----Original Message-----

>> From: Bruce Eisenhard [mailto:bruce@coridium.us]

>> Sent: Monday, January 28, 2019 1:16 PM

>> To: Hardy Bullock <Hardy.Bullock@truckeeatahoeairport.com>

>> Subject: ADS-B

>>

>> Hi Hardy-

>>

>> \$1.7 million for an ADS-B system -- are you guys serious?

>>

>> I have ADS-B in on a Raspberry Pi and SWDR for less than \$200. Maybe it doesn't update 10 times a second, but the tower is not handling spacing like that anyway.

>>

>> Seems to me the board is getting taken to the cleaners on this one

>>

>> Bruce Eisenhard

>>

>> N1937Y

>>

>> D-13

>>

>> Senior Hardware Electrical Engineer with 30+ years of experience

>>

>> President, Coridium Corp

>>

Hardy Bullock

From: DAVID HAIG <davidmhaig@mac.com>
Sent: Tuesday, June 04, 2019 12:02 PM
To: Hardy Bullock
Subject: ADSB

Hello Hardy, I strongly support the installation of an ADSB system at KTRK. Mid air collisions remain one of the greatest risks of flying. Regards, David

Hardy Bullock

From: John Benediktsson <mrjbq7@gmail.com>
Sent: Saturday, June 01, 2019 6:43 AM
To: Hardy Bullock
Subject: ADS-B

Hi Hardy,

I base a Cirrus SR22T (N885CK hangar F-11) and fly both VFR and IFR out of KTRK.

I won't be able to make the board meeting on the June 26th, so hoped to just pass on my comments that I'd love to support the ADS-B ground station project for added safety and improved surveillance in the Truckee-Tahoe area.

Thanks for all the work you guys and gals do.

Best,
John.

Hardy Bullock

From: Keith Davis <keithdavis11@gmail.com>
Sent: Wednesday, May 29, 2019 3:27 PM
To: Hardy Bullock
Subject: ADS-B Station

Follow Up Flag: Follow up
Flag Status: Completed

Hi Hardy,

I hope all is well. As a pilot and hanger tenant at KTRK I am writing to you in support of the proposed ADS-B station. Safety should be the #1 factor in this decision and ADS-B is certainly safer than the current system.

Thanks.

Keith Davis
518.929.1291

Hardy Bullock

From: Rick Tavan <rick@tavan.com>
Sent: Tuesday, May 28, 2019 9:01 PM
To: Hardy Bullock
Subject: ADS-B

Although I can't make the meeting on June 26, I would like to support the recommendation to install ADS-B ground facilities at TRK. Having used the corresponding technology in the air for a year now, I am blown away by its utility and accuracy. It is so much better than my old TAS system that there is hardly any comparison. I hope the Board decides to go for it.

Best wishes,

/Rick

--

Richard Tavan
Truckee, CA

Hardy Bullock

From: Peter Slaugh <Peter@openpathinvestments.com>
Sent: Thursday, May 30, 2019 6:48 AM
To: Hardy Bullock
Cc: Jessica Fay
Subject: ADS-B

Hardy – as a newer private pilot, more safety and visibility is always better and I’d like to express my vote for “yes” in this regard. If costs are not an issue, I can’t see any reason why we wouldn’t implement this technology at KTRK! Thanks!

Peter M. Slaugh

Managing Director/Founder

OpenPath Investments, LLC

415.812.2084

a:12277 Soaring Way, Suite 205, Truckee, CA 96161

w:openpathinvestments.com e: peter@openpathinvestments.com



Hardy Bullock

From: Neal Douglas <nealmdouglas@mac.com>
Sent: Wednesday, May 29, 2019 10:29 AM
To: Hardy Bullock
Subject: Email in support of KTRK implementing ADS-B functionality

Hi Hardy:

As a user of ADS-B In/Out over the last three years, the safety benefits to me are clear and significant. Given the lack of radar coverage in the Truckee Airport basin, pilots are left to simply “see and avoid” in a airspace full of gliders, hot air ballon, sky divers, and G650s. Those flying with ADS-B In post the 2020 ADS-B Out mandate will see a benefit from an airplane to airplane data link. A ground station at KTRK will allow the tower controllers to be another set of eyes to manage and avoid any potential conflicts. This, of course, is in addition to the ability to manage flow and paths for noise abatement.

I can not think of a better investment for traffic management and safety than leveraging the ADS-B mandate.

Best regards,

Neal Douglas

Hardy Bullock

From: William Chastain <chastain748@gmail.com>
Sent: Wednesday, May 29, 2019 10:01 AM
To: Hardy Bullock
Cc: Jill McClendon; Kevin Smith; Marc Lamb; Jessica Fay
Subject: Proposed ADS-B Ground Station at KTRK (G-22: N737WE)

Dear Hardy,

As a follow-up to Jessica's earlier email on the subject, I'd like to express my support as a local pilot based at KTRK for the installation and operation of an ADS-B Ground Station at KTRK. Many thanks for all that you do in the pursuit of such exceptional safety measures at Truckee-Tahoe Airport District (TTAD).

Sincerely,

Bill Chastain, N737WE (TTAD Hangar G-22) FAA Instrument Pilot 2013
774 Mays Blvd., #10-465
Incline Village, NV 89451
775-636-4637

Sent from my iPhone

Hardy Bullock

From: Herb Cunitz <hcunitz@gmail.com>
Sent: Wednesday, May 29, 2019 12:40 PM
To: Hardy Bullock
Cc: Jessica Fay
Subject: Upcoming ADS-B vote

Hardy,

I am not able to attend the next TTAD board meeting so I want to provide my opinions on the upcoming ADS-B vote. I am STRONGLY in favor of installing ADS-B at KTRK. I am a private pilot based at KTRK who flies weekly and I have seen the improvements in situational awareness at the airport when we moved to a full time tower. We need the same with ADS-B. KTRK has student pilots, GA pilots and commercial pilots all mixed in with airplanes from C172's to high end jets and a combination where the typical commercial pilot is not familiar with the local terrain and practices. I have had multiple times where a non-KTRK pilot did not announce on CTAF(after tower was closed) until they were on short final on the opposite end of the runway where I was landing. Luckily, we were able to go around and avoid a collision. ADS-B would greatly enhance situational awareness for everybody and avoid these potentially fatal mistakes.

Happy to talk more if you like.

Herb
650-400-3190