Temporary Seasonal Control Tower Assessment

AVIATION & COMMUNITY SERVICES TEAM

TRUCKEE TAHOE AIRPORT DISTRICT

Purpose of this Assessment

Hardy Bullock

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1. Give the Board access to all the available information related to the operation of the tower.

A. Safety Information from airport staff, pilots, users, tenants, and tower personnel

B. Community annoyance information from airport outreach, surveys, letters, and comments.

2. Allow all interested parties an opportunity to hear information about the tower, address the Board and take part in the public process affecting the future of the airport and community.

Assessment Presentation Overview

I. Executive Summary

- A. Tower Facts
- B. Year one deliverables – Year one goals

II. Community Outreach and Communication

- A. Commenter Survey Results
- B. User Survey Results

III. Community Noise and Annoyance Reporting + Dashboard Summary for Q3

IV. Pilot and Flight Crew Outreach Results

V. Safety and Metrics

VI. Public Comment and Board Discussion

IA. Tower Facts Hardy Bullock

Towers control the safe, orderly flow and sequencing of ground and airborne aircraft.

The Truckee Airport Tower is also tasked with reducing community annoyance.

The FAA advisory and order based directives outline how a tower operates.

Airports are responsible for initiating tower service on their own initiative not those of the FAA.

The tower opened on June 1, 2017 and closed on September 15, 2017, 7 AM to 9 PM daily.

The tower issues clearance on procedures and assists pilots in selecting routes and altitudes.

The airport issues direction to the tower within the scope of their authority.

Tower staff, airport staff, approach control and the pilot community continually worked in concert to assure the towers success from a safety and community perspective.

The tower nor the airport have direct control over the volume of air traffic at the airport. We seek to influence.

IA. Year One Deliverables Hardy Bullock

1. Open from 6:30 AM to 8 PM: **Achieved 7 AM to 9PM**
2. Positive control within 4.3 NM: **Achieved**
3. Separation of ground traffic: **Achieved**
4. Separation of aviation services such as skydiving, glider, and flight training activity: **Achieved**
5. Separation of vehicles and aircraft in the movement areas such as taxiways and runways: **Achieved**
6. Support of curfew and calm wind runway utilization: **Need additional direction, training, and protocol**
7. Support of policy directives such as no touch-and-go's, no repeat operations, no practice approaches. ***(Deemed incongruent with Federal Directives)***
8. Issuance/clearance delivery of Visual Flight Rules and Instrument Flight Rules arrival and departure procedures: **Achieved but needs improvement on noise abatement procedures.**
9. Enhance safety during periods of airfield construction: **Achieved**

IB. Year One Goals Hardy Bullock

Use route and altitude assignment to reduce aircraft annoyance on arrival and departure through known waypoint and procedure use:

A. Altitude assignment worked well for arrival.

B. Routing is problematic, imprecise, and dependent on clearance. Improvements include arrow, MLAT display, pilot outreach, equipment, procedures, and surveillance.

C. Tower clearance for IFR aircraft off 29 (Over Martis Estates then near Olympic Heights then along 89 North) comprise nearly 25% of all departures during peak period.

Sequencing and separating aircraft for arrival and departure to avoid delays and holds: Achieved. Estimate three days where aircraft held during peak periods. Previous summer holds were common among pilots.

Assign a preferred departure runway or procedure: We can improve this but we need to reconcile runway 20 operations of approximately 7500 going the opposite direction.

Track comments including the type of comments received and the issues raised for comparison with and without the Tower: Subjective. Community surveys don't indicate the tower helps. Not sure there is an exact apples to apples data comparison. Comments are down while operations are up.

I. Executive Summary Hardy Bullock

The actual operation of the tower was far more involved than staff, Midwest ATC, Oakland Center, or the Pilot community initially expected.

The year one deliverables were accomplished. The year one annoyance reduction goals need more time. Additional training, operation and protocol is required.

The tower is not a good implement for controlling the ground track of an aircraft absent surveillance and procedures.

It is difficult to understand the impact of the tower on community annoyance given the additional operations and peak period activity. Apples to Oranges comparison.

Pilots and users support the tower for its ability to provide safe separation, order and clearance delivery. Nearly all users believe the airport is safer with a tower.

The commenter survey response doesn’t support the tower reducing annoyance. Commenters described tempo and number of operations along with route but not altitude.

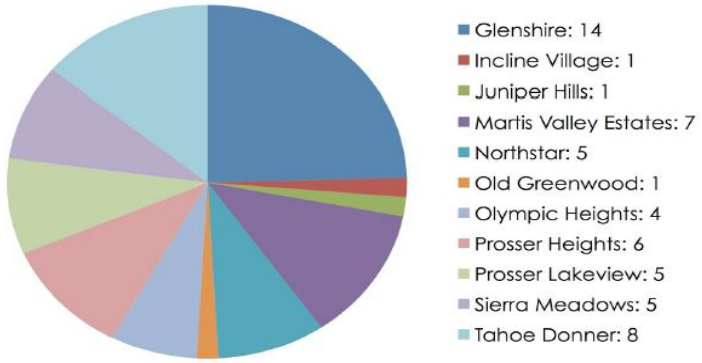
IIA. Commenter Survey Marc Lamb

Freshtracks contacted 57 community members who submitted Noise & Annoyance comments in both 2016 & 2017. Of those, 28 responded to the survey questions. Data collected via "person to person" phone survey Sept - Oct 2017.

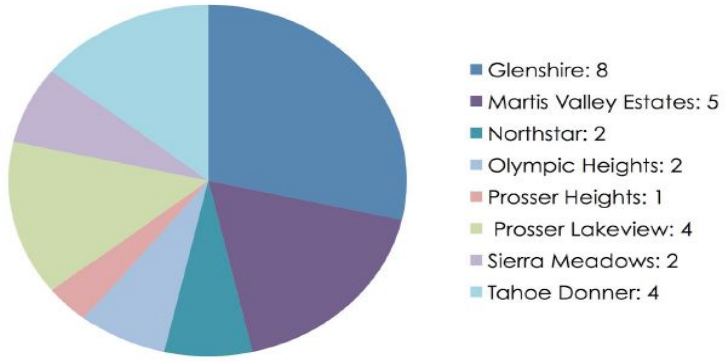
Neighborhoods Surveyed

Below is a breakdown of those surveyed by neighborhood, and those who responded by neighborhood.

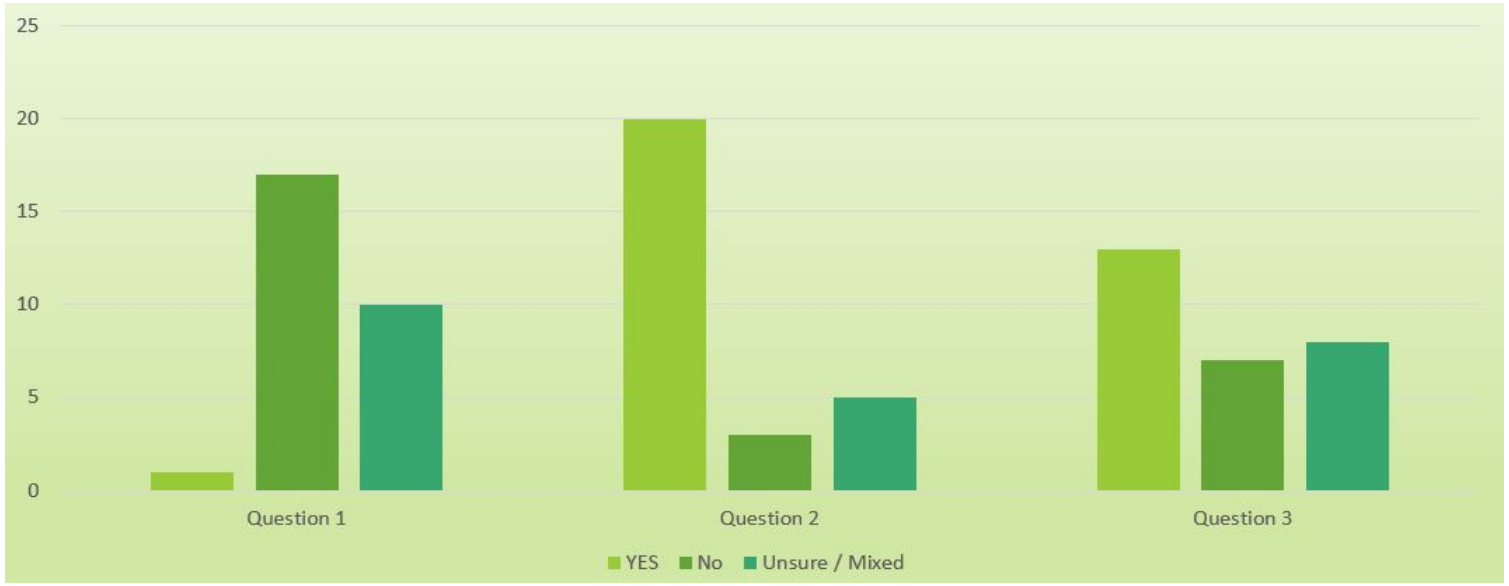
Contacted: 57



Responded: 28



PHONE SURVEY RESULTS



Question 1

Understanding that air traffic operations increased from 2016 to 2017, (following national trends), do you think the tower has affected noise or annoyance?

Question 2

If staff finds further improvements to the Tower Program could be made that could potentially lessen noise and annoyance next year, do you think it is worth pursuing in 2018.

Question 3

If evaluation of the tower empirically shows an improvement in airport and aviation safety, do you think it is worth pursuing in 2018 even if it doesn't improve noise and annoyance.

IIB. User Survey Marc Lamb

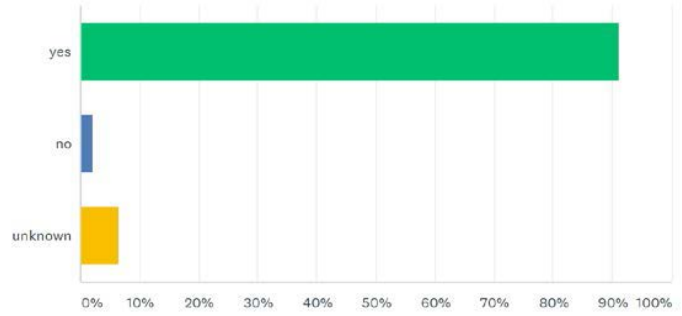
Soar Truckee, Skydive Truckee Tahoe, Heli-Vertex, Sierra Aero, Care Flight, Mountain Lion Aviation, Flight Instructors, Net Jets, Surf Air and Wheels Up

Q1

Customize Export

Is the airport safer with a control tower?

Answered: 46 Skipped: 0

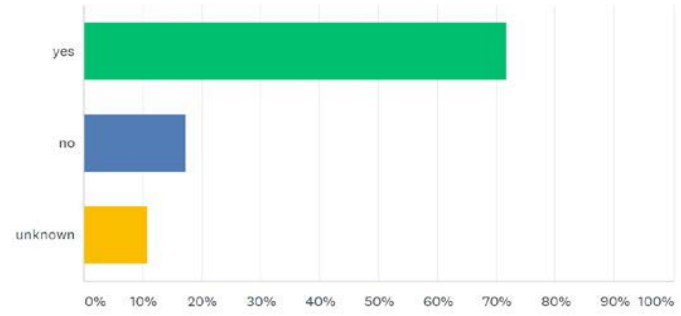


Q3

Customize Export

Based on the 2017 summer operational tempo is a tower required at KTRK?

Answered: 46 Skipped: 0

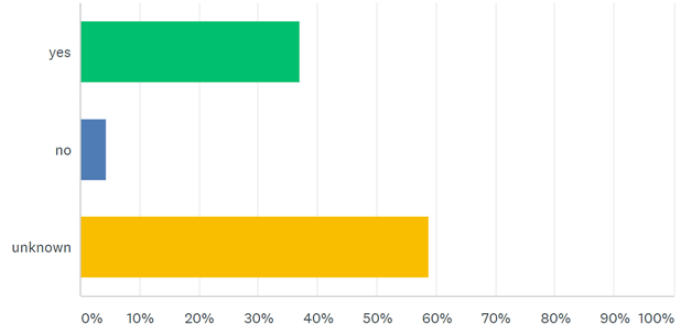


Q2

Customize Export

Did the control tower help reduce community annoyance?

Answered: 46 Skipped: 0

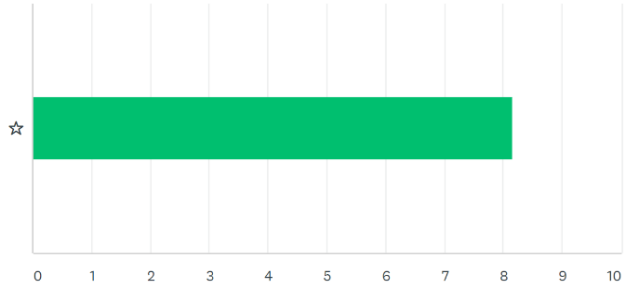


Q4

Customize Export

On a scale of one to 10, 10 being perfect how successful was the first period of tower deployment?

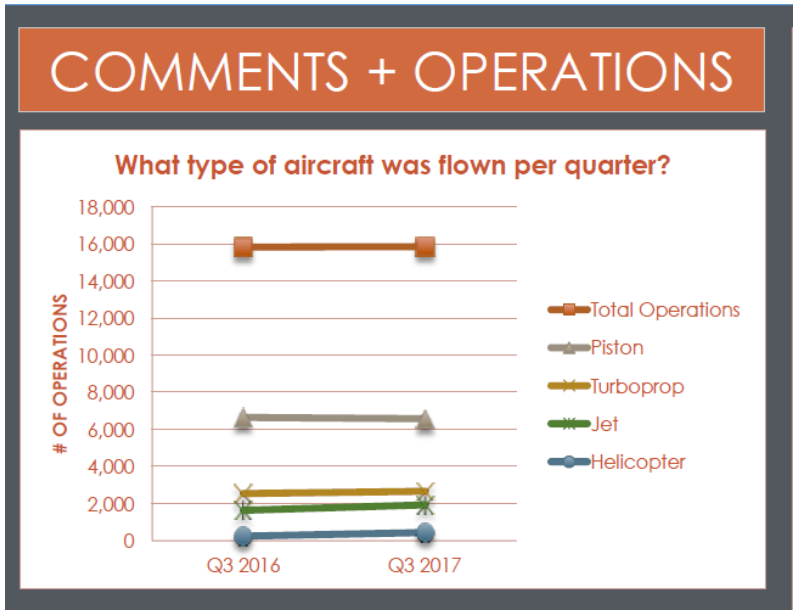
Answered: 46 Skipped: 0



III. Community Noise and Annoyance Reporting + Dashboard Summary for Q3 Mike Cooke

Community Annoyance & Flight Track Analysis

Q3 2017 Ops & Comments Review



Q3 Operations (July – Sept)

- 15,859 operations
- Spikes in Jets and Turboprop Ops
- Peak days reached record high traffic counts
- Influencers: Many events, economic growth, & weather

Tower Period Operations (June – Sept 15th)

- Tower reported 21,971 Operations
- Tower counts include Touch & Goes, over 30 per day avg.
- Higher utilization of Instrument Procedures based on changing fleet mix – See Track Images

Community Annoyance and Flight Track Analysis

Tower Protocols

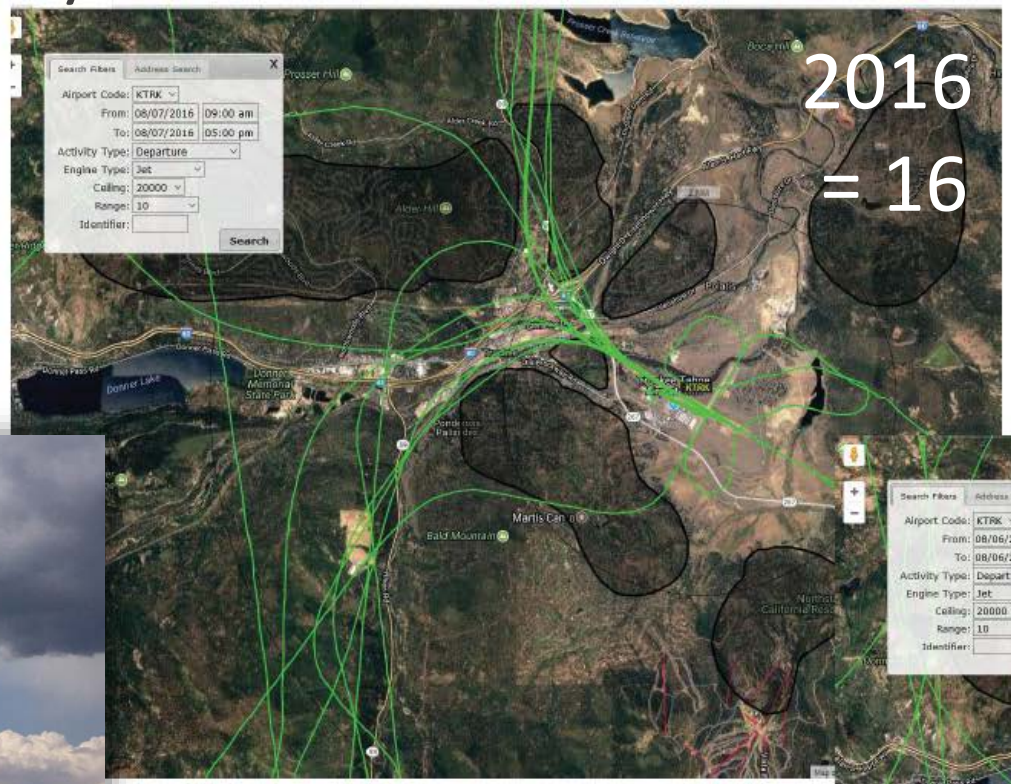
- Instructed high performance aircraft for RWY 29 to remain at or above 7500’
- Left downwind traffic to 11 to remain at/above 7500’ until overhead field
- RWY 29 Departures: Bypass departure or if unfamiliar, “Over the 11 numbers fly heading 300 until I-80 then on course.”
- Off RWY 02.. “Slight left turn to the Scales, then on course.”
- Off RWY 20...”Left 270 departure”

Effects

- Neighborhoods near airfield still affected even with controller advisories
- Jets and Turboprops on 29 arrivals were higher = fewer Northstar calls
- Orderly flow of traffic, fewer aircraft maneuvering to avoid other traffic
- Runway 02/20 utilization did not increase over 2016 – see report analysis

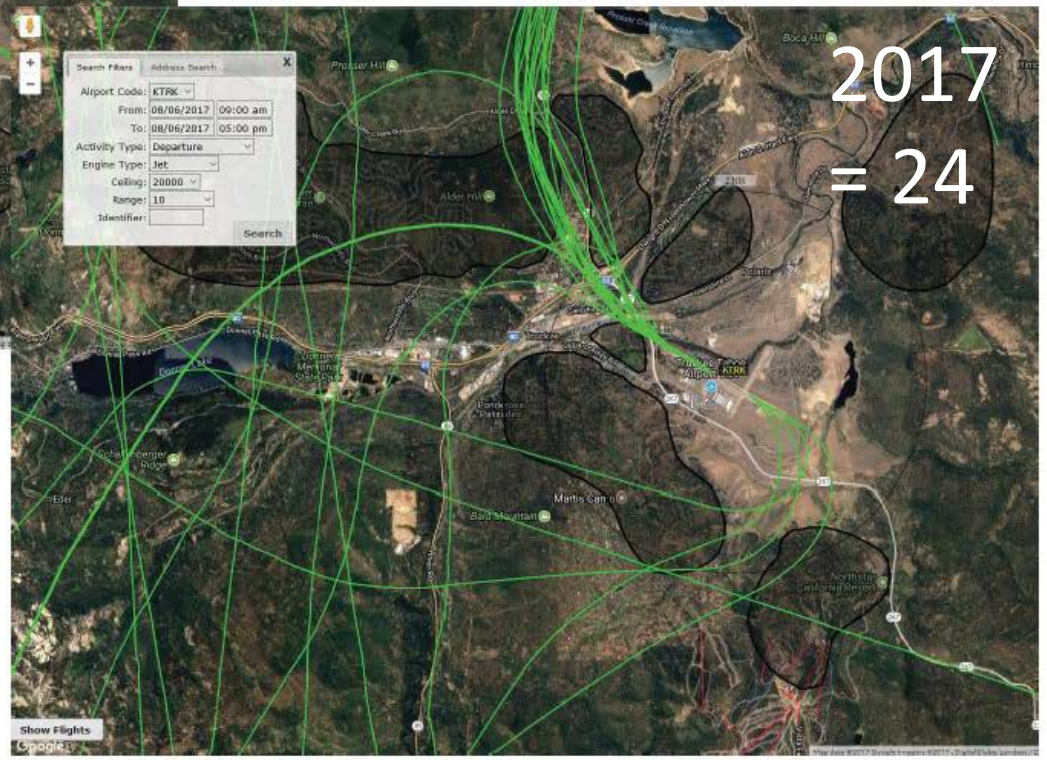
Flight Track Analysis

Higher volume of traffic following the 89 corridor departing via the Truck Four SID



2016 Jet Departures
Sunday, August 7, 2016
9 a.m. - 5 p.m.

2017 Jet Departures
Sunday, August 6, 2017
9 a.m. - 5 p.m.

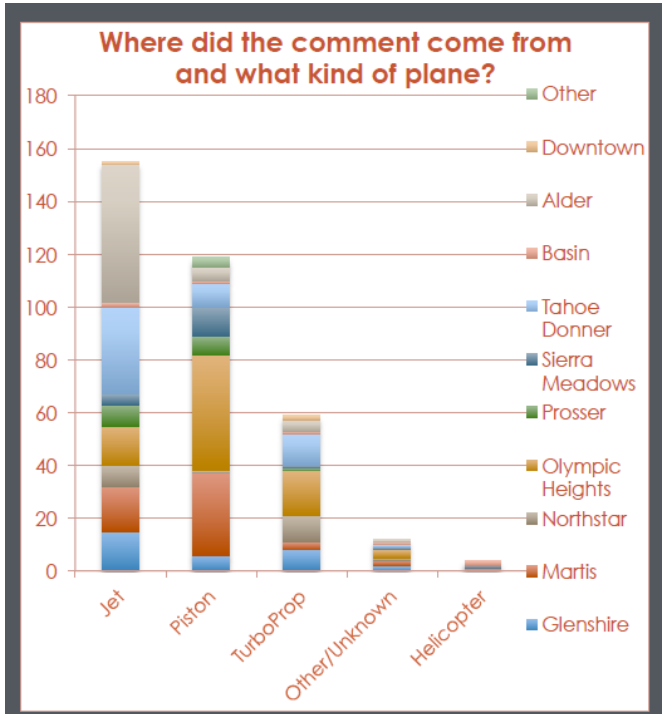


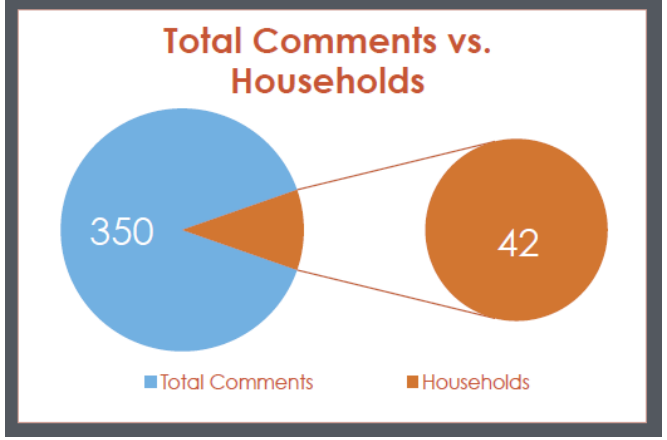
Community Annoyance Analysis

Comments down by 40 or 10% for Q3 2017
Largest drops in Northstar & Prosser Lakeview

New households up by 32
5 or more new in Prosser Hts, Sierra Meadows, Northstar, & Olympic Hts

- Frequency of operations a consistent source of annoyance
- Special events and unique operations prompted new commenters
- Some growth via social media





Runway 11 arrival comments nearly doubled 24 to 43

Comments associated to Runway 29 departures grew by 20 or 12%

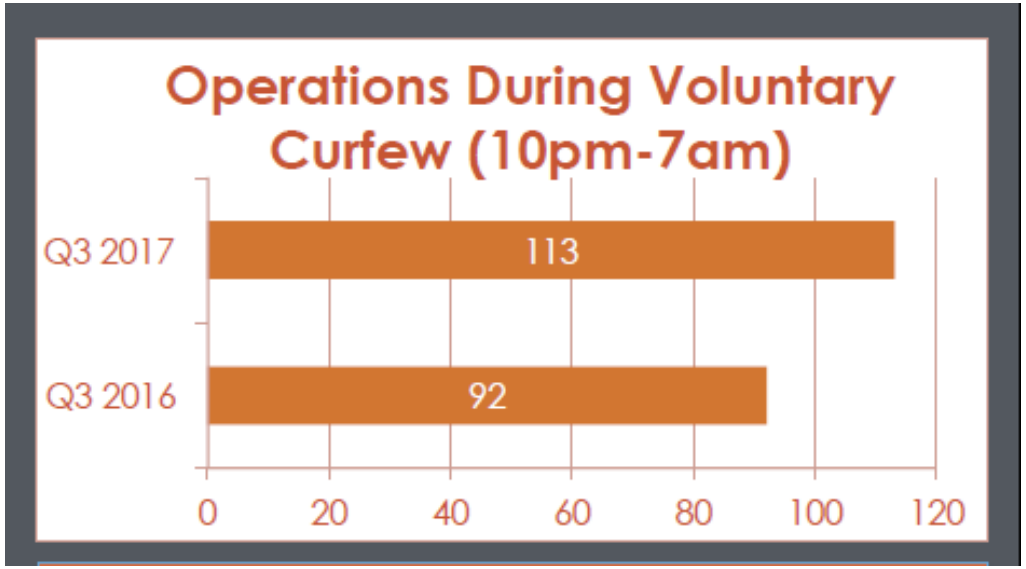
Household Outcomes

- Commenter opinions vacillated regularly based on event
- Expectations: Commenter understanding of Tower authority was a factor
- Mixed results varied by neighborhood and household

Community Annoyance and Q3 Night Ops

Q3 Night Ops & Comments

- ✓ Night Ops Up 23% from 2016
- ✓ 76 Aircraft: 21 based, 55 transient
- ✓ 113 Ops during voluntary curfew
- ✓ F5 dept after Airshow & Eclipse traffic generated the most “night” comments



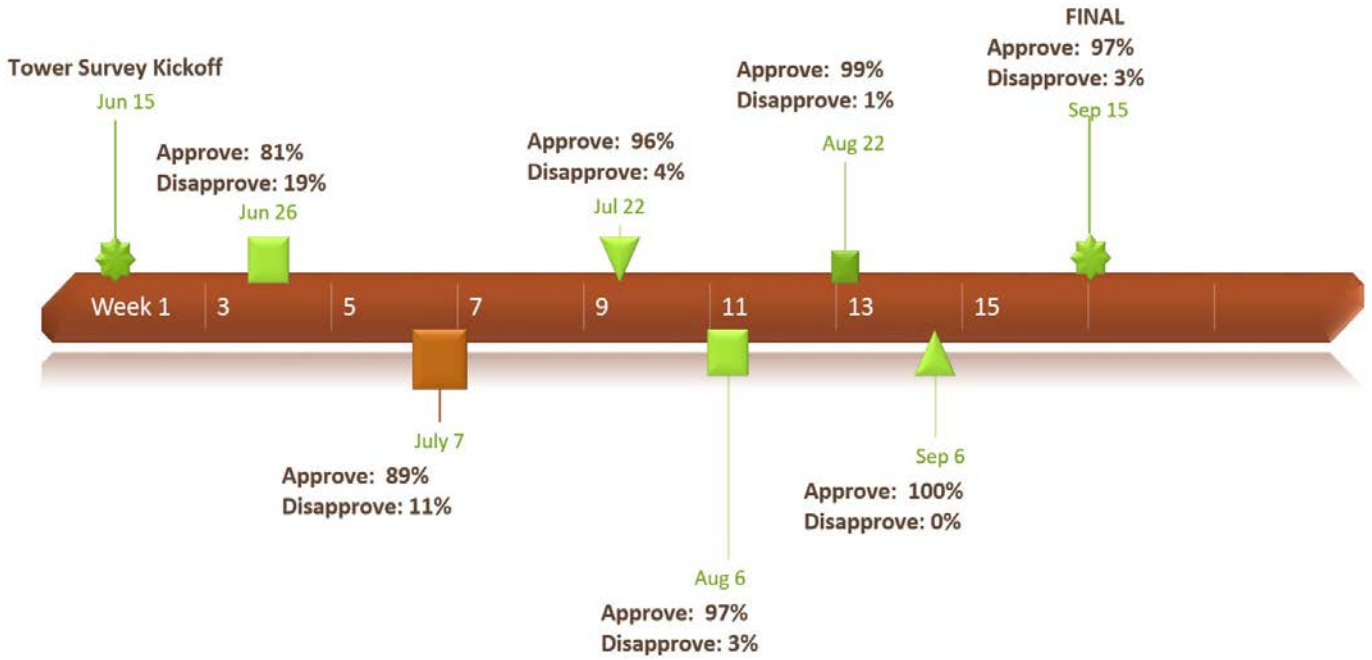
TOWER CLOSED DURING CURFEW

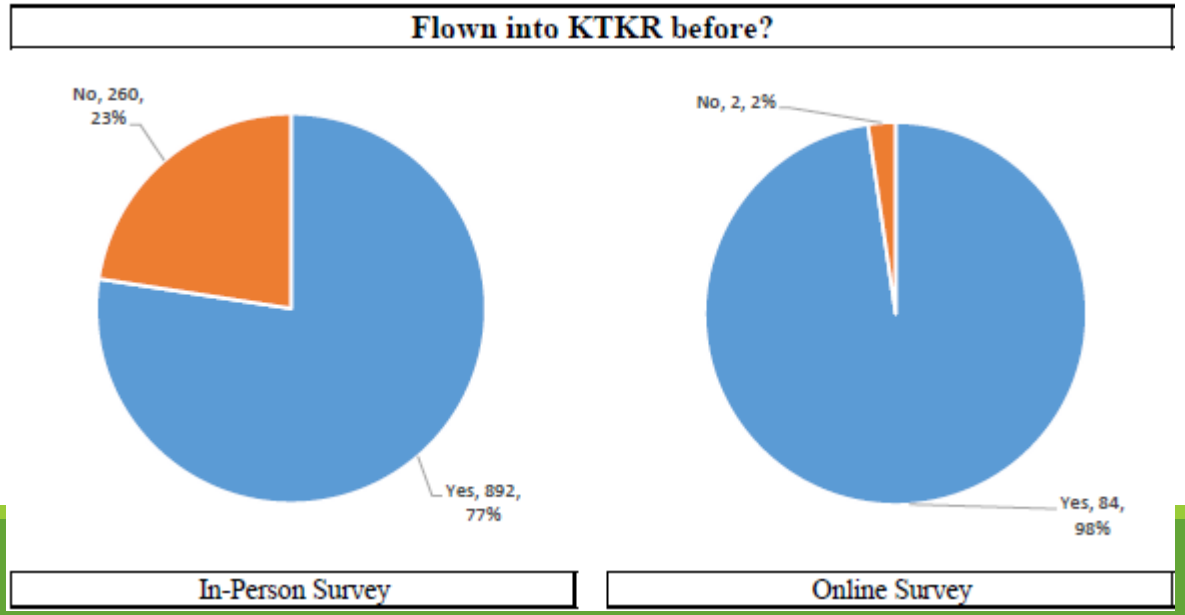
	12 AM	5 AM	6 AM	10 PM	11 PM	Total
Based		1	38	5		44
Transient	1	7	49	11	1	69
Total	1	8	87	16	1	113

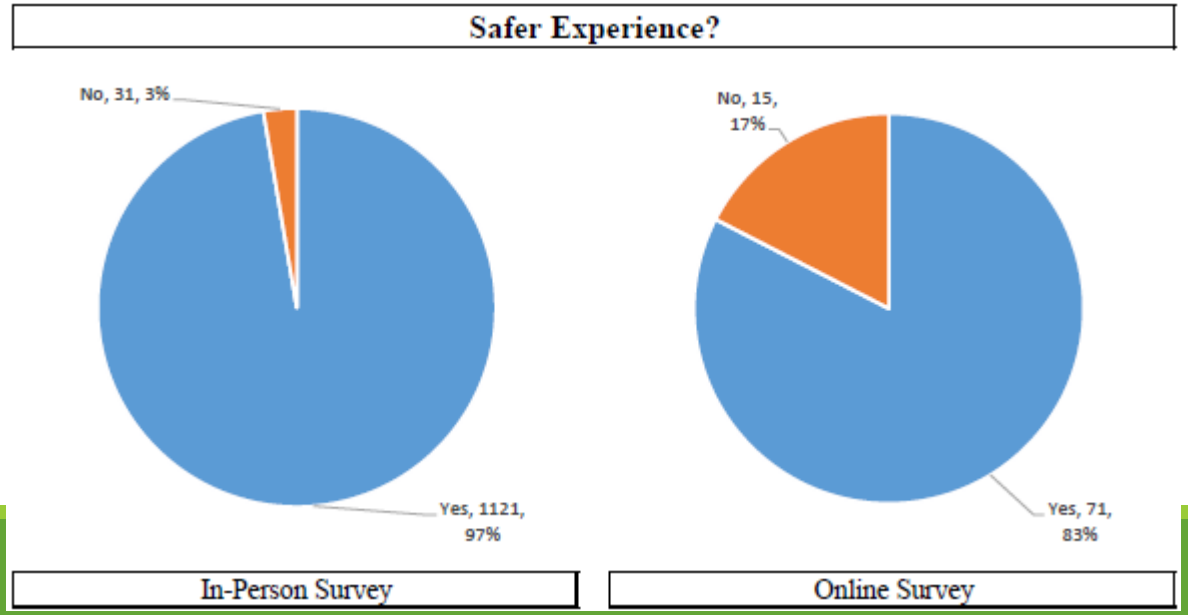
36 “Night” Comments - 31 before 7 AM & 5 after 10 PM
71 (of 87) operations after 6:30 AM & 10 (of 16) before 10:30 PM

IV. Pilot Outreach

Katherine Greenwood

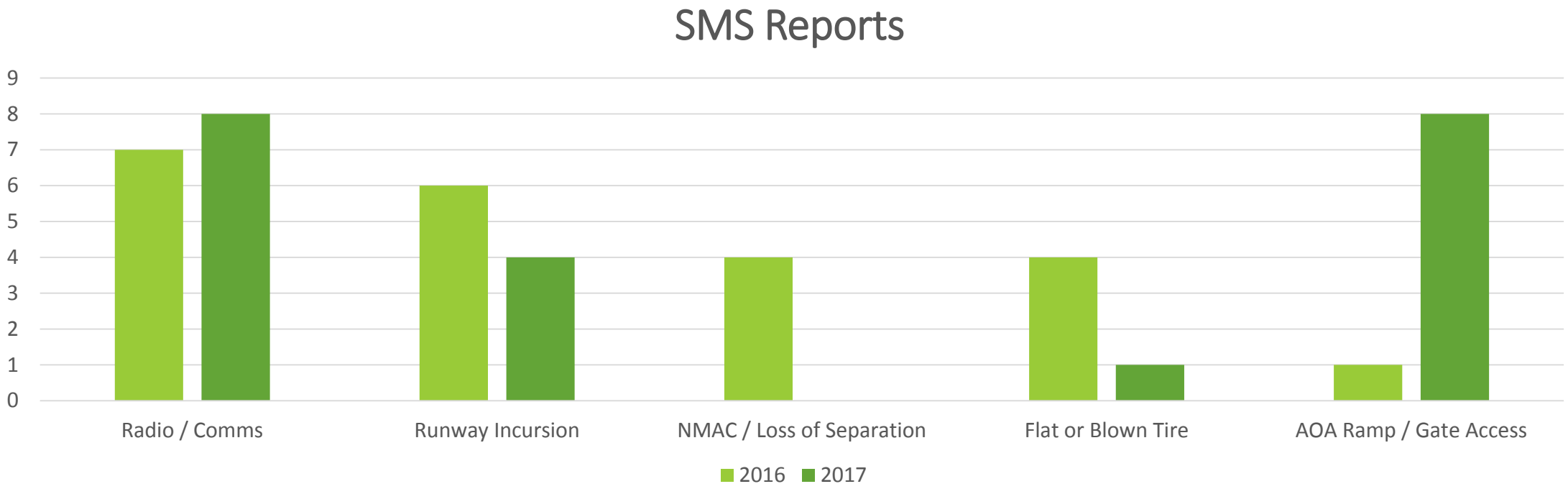






V. Safety & Metrics

Stacey Justesen



Tower Control helped mitigate individual events from developing into compounded safety incidents.

- Zero NMAC / Loss of Separation incidents.
- Radio / Comm events were controlled so as not to evolve into a second safety incident.
- No plane-to-plane incursions. Tower ensured separation between aircraft, balloons, people and dogs.
- Gate closure and program guidelines that staff could use to control Ramp area.

Public Comment & Board Discussion

Members of the Public are encouraged to participate in the dialogue

The Board will discuss the tower and complete clarifying questions

The Board may take action, defer action to another meeting or request additional information