

Attachment A: Summary of San Carlos Airport Noise Reduction Procedures

SUMMARY OF SAN CARLOS AIRPORT NOISE REDUCTION PROCEDURES

- Fly Quiet Departure Routes developed by the Board of Supervisors, San Carlos Airport Pilots Association, Airport staff and the Federal Aviation Administration in 1999;
- Voluntary curfew on flight training activities;
- Daily monitoring of compliance with noise abatement procedures by Airport staff;
- Compliance with noise abatement procedures is included in lease agreements for businesses based at the San Carlos Airport; and
- Airport staff, San Carlos Airport Pilots Association, and Flight Schools conduct ongoing outreach and education about noise abatement procedures.

SAN CARLOS AIRPORT NOISE ABATEMENT OUTREACH AND EDUCATION:

Business Leases, Concession Agreements, Permits and Event Agreements

By written agreement, the County of San Mateo requires that all businesses and Operators using the San Carlos Airport “take all measures necessary to ensure aircraft involved in or associated with its operations are in compliance with the noise abatement procedure.

Daily noise monitoring of noise abatement compliance

Airport staff monitors and observes aircraft arrivals and departures in the communities surrounding the San Carlos Airport to determine compliance with established noise abatement procedures. Formal observations of arrivals and departures in those neighboring areas most affected by aircraft noise are conducted for one hour each day at the San Carlos Airport. Airport staff varies the time of day and locations where monitoring occurs to include both northbound and southbound arrivals and departures in their observations. Violation letters are sent to owners of aircraft determined to have violated a particular Noise Abatement Procedure describing the violation and the importance of complying with the airport’s established Noise Abatement Procedures. The San Carlos Airport Pilots Association and Director of Public Works are copied on each violation letter. Compliance with Noise Abatement is included in San Carlos Airport’s Quarterly Performance Measures.

Voluntary Flight Training Curfew

The County Board of Supervisors, with the cooperation of the San Carlos Pilots Association, adopted a voluntary curfew for flight training activities at San Carlos Airport. This curfew restricts repeated practice operations on weekdays during the period from two (2) hours after sunset to 8:00 AM of the following day; and on weekends and holidays before 9:30 AM or after 6:00 PM. Sunset times are averaged on a monthly basis for the purpose of these restrictions and begin at 8:30 PM in October, 7:00 PM in November and 7:00 PM in December.

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Ongoing Outreach and Education

Noise abatement handouts describing the established noise abatement procedures have been published and distributed to local pilots as well as airport businesses and flight schools throughout the state. This information has also been posted on the San Carlos Airport website, Facebook page and provided to the publishers of pilot flight guides in a further effort to ensure that pilots using the San Carlos Airport are familiar with the Noise Abatement Procedures. Airport staff sends reminder notices to San Carlos Airport businesses and tenants on a regular basis to reinforce the importance of the Noise Abatement Procedures. Flight Schools at the San Carlos Airport also conduct training and educational seminars about the Noise Abatement Procedures for their members and the aviation community.

SAN CARLOS AIRPORT NOISE ABATEMENT POLICIES:

San Carlos Airport is surrounded by noise sensitive areas. By using your aircraft's quietest departure techniques and following the guidelines and procedures below, we can reduce the noise impact on our neighbors. The San Carlos Pilot's Association has adopted a Good-Neighbor-Policy and requests that resident and visitor aircraft comply with the voluntary noise abatement procedures.

PLEASE USE COMMON SENSE AND BE CONSIDERATE TO AIRPORT NEIGHBORS

Reduce power/RPM as soon as safe and practical
Avoid flying over homes in extremely noise sensitive areas
Departing traffic use Runway 12, wind permitting
Please consider the noise impact of your pattern flying activities.
If able, fly after 10:00 am on weekend and holiday mornings
No touch-and-goes when the Tower is not in operation
IFR departures: Give consideration to your noise impact
Helicopter operations: Contact airport office for procedures

In addition, we ask your cooperation in restricting operations to:

On Weekdays: No touch-and-go, low-approach or full stop-taxi back operations on Weekdays during the period from two (2) hours after sunset of one day and 8:00 AM of the following day, Monday through Friday; and until 9:30 AM on Saturday.

On Weekends and Holidays: No touch-and-go, low-approach or full stop-taxi back operations before 9:30 AM nor after 6:00 PM on any Saturday, Sunday or Holiday

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SAN CARLOS AIRPORT NOISE ABATEMENT FLIGHT PROCEDURES:

Pattern Work (Runway 30)

Climb straight-out, parallel Highway 101. Fly your crosswind turn so that your ground track remains just northwest of the diamond-shaped waterway as depicted on the noise abatement map. (Do not overfly the diamond shaped waterway.) Delay your downwind turn until reaching 800 feet MSL and reducing power/RPM

Preferred Departure Runway 30

Crosswind Departures: "Belmont Slough" Departure. Climb straight-out, parallel to Highway 101. Fly your crosswind turn so that your ground track remains just northwest of the diamond-shaped waterway as depicted on the noise abatement map. (Do not overfly the diamond shaped waterway.) Fly out the Belmont Slough. Avoid overflying homes on either side of the Slough. Caution: Remain northwest of KNBR radio towers to avoid inbound traffic (Stay clear of SFO Class B airspace).

Downwind Departures: Delay your downwind turn until reaching 800 feet MSL. Continue climbing at reduced power/RPM setting until past housing. Make a 45° left turn off the downwind at pilot's discretion or continue downwind. (Contact Palo Alto Tower prior to entering PAO Class D airspace.)

Woodside Departures: Delay your downwind turn until reaching 800 feet MSL. Continue climbing at reduced power/RPM setting until past housing. Proceed downwind until abeam Woodside Road prior to initiating a right turn.

Upwind Departures: "Bay Meadows" Departure. Climb straight-out, parallel Highway 101, until abeam the race track (6 DME from SFO VOR) then turn to a southwesterly heading, remaining south of Highway 92. (Stay Clear of SFO Class B airspace).

Preferred Departures Runway 12

Aircraft departing Runway 12 turn left 20° to a heading of 100° as soon as is safe and after passing the end of the runway.

Southbound and Westbound: "Woodside" departure. Continue outbound on a heading of 100 degrees until abeam Woodside Road prior to initiating a right turn.

Crosswind Departures and Pattern Traffic: Begin your left crosswind turn as soon as traffic permits.

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Preferred Arrivals

(Use low noise setting inbound) From North/Northwest (Runway 30): Make entry via the Steinberger Slough (southeast of KNBR radio towers). Caution: Traffic departing via Belmont Slough (3/4 mile northwest of radio towers).

From Southwest Through Northwest (Runway 30): Remain at least 1000 feet AGL. Make entry overhead the airport northeast bound. Cross overhead mid-field at or above 1200 feet MSL (Remain Below SFO Class B airspace). Caution: Traffic Pattern at 800 feet.

Straight-In Entry (Runway 30): Remain at or above 1000 feet MSL until passing Kaiser Hospital (Remain Below SFO Class B airspace).

Runway 12: Avoid aerobatic-style short approaches over the homes and buildings north of the airport.

SAN CARLOS AIRPORT NOISE ABATEMENT PROCEDURES



-  Arrival & Departure Routes
  Typical Traffic Pattern Area
-  Approximate SFO Class B Airspace
  Extremely Noise Sensitive Areas

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SAN CARLOS AIRPORT NOISE ABATEMENT PROCEDURES

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Please Use Common Sense and Be Considerate to Airport Neighbors.

- Reduce power/RPM as soon as safe and practical.**
- **Avoid flying over homes in extremely noise sensitive areas.**
- Departing traffic use Runway 12, wind permitting.
- Please consider the noise impact of your pattern flying activities.
If able, fly after 10:00 AM on weekend and holiday mornings.
- No touch-and-goes when the Tower is not in operation.
- IFR arrivals and departures: Give consideration to your noise impact and follow noise abatement procedures to the greatest extent possible.
- Helicopter traffic pattern located southwest of runway and east of Industrial Road. Contact airport operations for additional information and procedures.
- Be a good neighbor: Fly safely and quietly!

****Most aircraft noise is generated by propeller tip noise. This is especially true when propeller tip speeds approach supersonic speeds. Even a small reduction of 100 to 200 RPM can produce a significant decrease in noise levels.**

In addition, we ask your cooperation in restricting operations to:

On Weekdays: No touch-and-go, low-approach or full stop-taxi back operations on weekdays during the period from two (2) hours after sunset of one day and 8:00 AM of the following day Monday through Friday; and until 9:30 AM on Saturday.

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SAN MATEO COUNTY DEPARTMENT OF PUBLIC WORKS, AIRPORTS DIVISION

For comments, suggestions and information not included in this handout, please contact:

San Carlos Airport
620 Airport Drive • San Carlos, CA 94070
(650) 573-3700 • FAX (650) 593-3762
www.SanMateoCountyAirports.org

**SAFETY ALWAYS SUPERSEDES
NOISE ABATEMENT PROCEDURES**

PATTERN WORK (Runway 30)

Climb straight-out, parallel Highway 101. Fly your crosswind turn so that your ground track remains just northwest of the diamond-shaped waterway as depicted on the noise-abatement map. (Do not overfly the diamond-shaped waterway). **Delay your downwind turn until reaching 800' MSL and reducing power/RPM.**

PREFERRED DEPARTURES RUNWAY 30

Crosswind Departures: "Belmont Slough" departure. Climb straight-out, parallel to Highway 101. Fly your crosswind turn so that your ground track remains just northwest of the diamond-shaped waterway as depicted on the noise-abatement map. (Do not overfly the diamond-shaped waterway). Fly out the Belmont Slough. **Avoid overflying homes on either side of the slough. Caution:** Remain northwest of KNBR radio towers to avoid inbound traffic. *(Stay clear of SFO Class B airspace)*

Downwind Departures: Delay your downwind turn until reaching 800' MSL. Continue climbing at reduced power/RPM setting until past housing. Make a left 45° turn off the downwind at pilot's discretion or continue downwind. *(Contact Palo Alto Tower prior to entering PAO Class D airspace)*

Woodside Departure: Delay your downwind turn until reaching 800' MSL. Continue climbing at reduced power/RPM setting until past housing. Proceed on downwind until abeam Woodside Road prior to initiating a right turn.

Upwind Departures: "Bay Meadows" departure. Climb straight-out, parallel Highway 101, until abeam the race track, (6 DME from SFO VOR) then turn left to a southwesterly heading, remaining south of Highway 92. *(Stay clear of SFO Class B airspace)*

PREFERRED DEPARTURES RUNWAY 12

Aircraft departing Runway 12 turn left 20° to a heading of 100° as soon as is safe and after passing the end of the runway.

Southbound and Westbound: "Woodside" departure. Continue outbound on a heading of 100° until abeam Woodside Road prior to initiating a right turn. *(Contact Palo Alto Tower prior to entering PAO Class D airspace)*

Crosswind Departures and Pattern Traffic: Begin your left crosswind turn as soon as traffic permits.

PREFERRED ARRIVALS:

(Use low noise setting inbound)

From North/Northeast (Runway 30): Make entry via the Steinberger Slough (Southeast of KNBR radio towers). **Caution:** Traffic departing via Belmont Slough (3/4 mile north of radio towers).

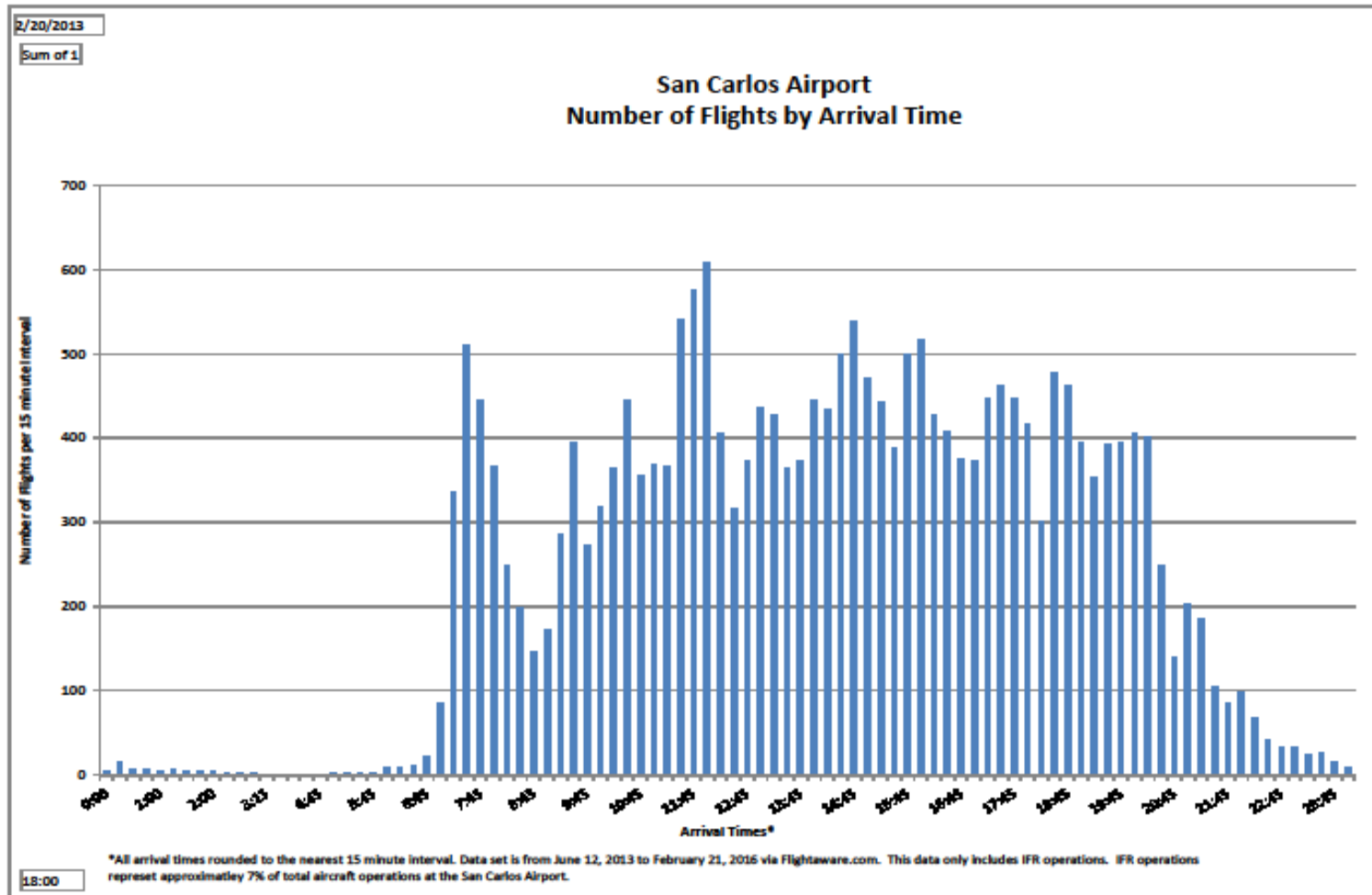
From Southwest through Northwest (Runway 30): Remain at least 1,000' AGL. Make entry overhead the airport northeast bound. Cross overhead mid-field at or above 1200' MSL *(Remain below SFO Class B airspace)*. **Caution:** Traffic pattern at 800' MSL.

Straight-in Entry (Runway 30): Remain at or above 1000' MSL until passing Kaiser Hospital *(Remain below SFO Class B airspace)*.

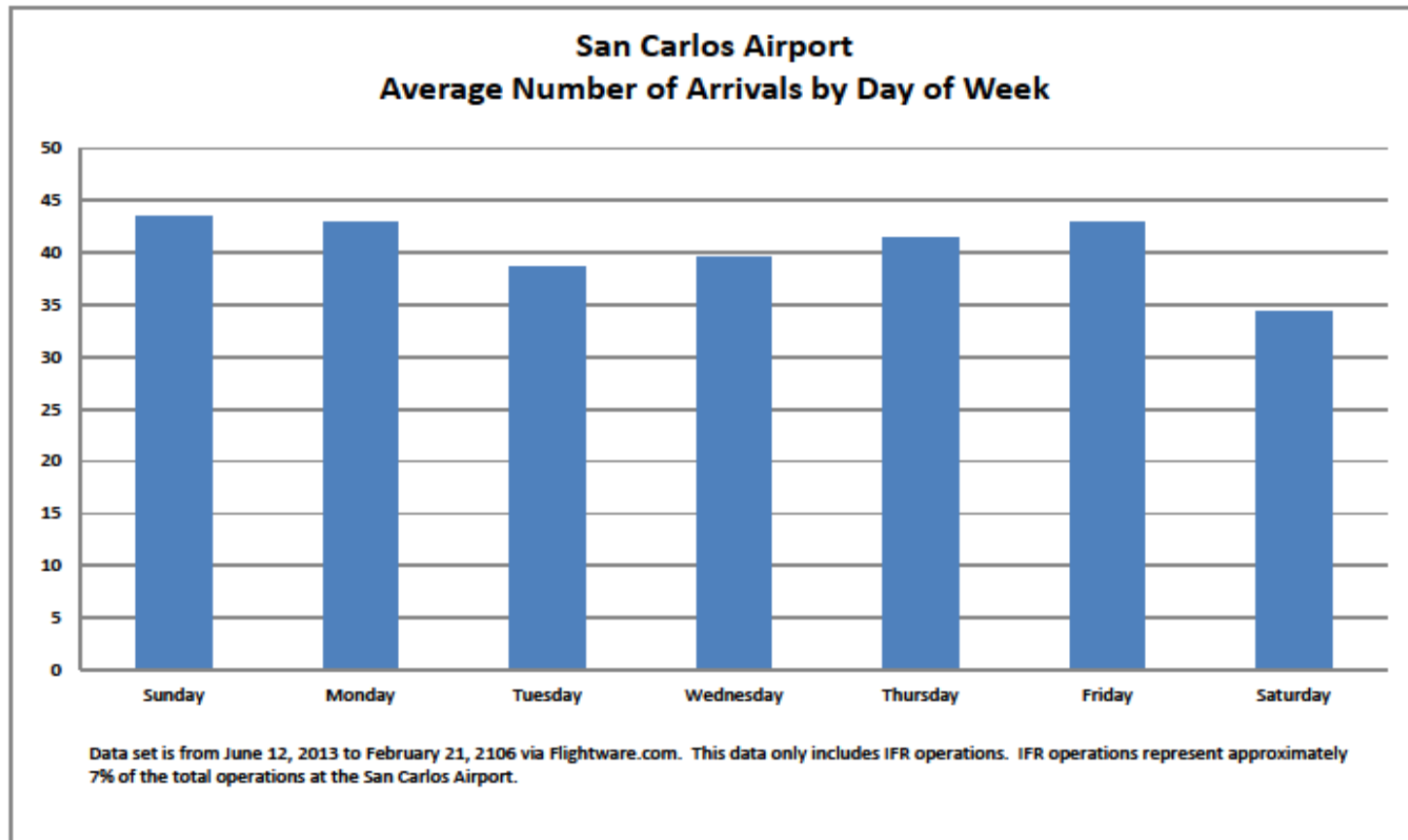
Runway 12: Avoid aerobatic-style short approaches over the homes and buildings north of the airport.

**SAFETY ALWAYS SUPERSEDES
NOISE ABATEMENT PROCEDURES**

Attachment B: San Carlos Airport Number of Flights by Arrival Time



Attachment C: San Carlos Airport Average Number of Flights by Day of Week



Possible Components of Comprehensive Plan To Address Aircraft Disturbances at San Carlos Airport

March 8, 2016

		A	B	C	D	E
OPTION	POSSIBLE MEASURE	DESIRED IMPACT	ESTIMATED TIME FRAME	COST	NOTES	MAY IMPACT*
GROUP I – RULES, REGULATION AND POLICY						
1.	Adopt revised County policy on role of airport, safety, and community impact objectives	Establish clear County policy on airport matters	4 months	Low	Require researching best practices, community outreach, and BOS approval.	None
2.	Conduct inventory of existing Airport rules/regulations, minimum standards	Background research on current status of safety and noise protections	2 months	Low	Would need to be included as part of the process.	None
3.	Research best practices for analogous airports that need to address safety and community impacts	Background research on current status of safety and noise protections	3 months	Low	Would need to be included as part of the process.	None
4.	Strictly enforce County code, rules and regulations that accord with best practices and County policies	Improve compliance with safety and noise objectives	4 months	Low	May require adoption of revised County policies. Currently, enforcement related to safety, not noise.	T, N

* F = Frequency of overflights; T = Time of day; N = Perceived noise level; and A = Altitude of flight

Attachment D: Possible Components of Comprehensive Plan to Address Aircraft Disturbances at San Carlos Airport

		A	B	C	D	E
OPTION	POSSIBLE MEASURE	DESIRED IMPACT	ESTIMATED TIME FRAME	COST	NOTES	MAY IMPACT*
5.	Revise County code, rules/regulations as necessary to accord with results of best practices research	Improve compliance with safety and noise objectives	4 months	Low	Require researching best practices, community outreach, and BOS approval.	F, T, N, A
6.	Revise Airport minimum standards as necessary to accord with best practices	Ensure that airport commercial enterprises are operating in accord with industry standards	4 months	Low	Require researching best practices, community outreach, and BOS approval.	None
7.	Revise rates and charges as appropriate to accord with best practices	Ensure that rates and charges reflect cost of airport operations	4 months	Low	Benchmark fees, set new rates, BOS adoption.	F, N
8.	Reevaluate landing fees	Ensure that current fees appropriately reflect cost of actual operations	4 months	High	Benchmark fees, community outreach, BOS adoption. Staff intensive, or will need automated camera/billing system.	F, N

GROUP II – MANDATORY OPERATIONAL RULES

9.	Time of day restrictions	Tailor restrictions to specific problem times	3 months	Low	Non-stage rated aircraft only.	F, T, N
10.	Nighttime curfew	Reduce or eliminate nighttime noise	3 months	Low	Non-stage rated aircraft only.	F, T, N

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		A	B	C	D	E
OPTION	POSSIBLE MEASURE	DESIRED IMPACT	ESTIMATED TIME FRAME	COST	NOTES	MAY IMPACT*
11.	Implement a reservation/slot system for aircraft arrivals	Limit total number of commercial aircraft arrivals per day	6 mo – 1 yr	High	Staff time intensive, unless an automated online system is available.	F, T, N
12.	Implement restrictions on the number of flights by carrier	Limit total number of commercial aircraft arrivals per day	6 mo – 1 yr	Medium	Staff time intensive, or will need a camera system to ensure compliance	F, N
13.	Restrictions on stage 2 aircraft (including helicopters) through Part 161 procedures	Reduce overall helicopter noise	1-year +	High	Requires Part 161 study.	F, N

GROUP III – VOLUNTARY MEASURES

14.	Research other similar airports' best practices for voluntary measures, fees and charges, operational rules	Background research on current status of safety and noise protections	6 months	Low		None
15.	Increase hours of voluntary curfew	Reduce the number of flights in early morning and nighttime hours	3 months	Low	Non-stage rated aircraft only.	F, T, N
16.	Request higher altitude approaches	Reduces the noise level over noise sensitive neighborhoods	3 months	Low	Request aircraft increase altitude on approach an additional 1,000 feet when safe.	N, A

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OPTION	POSSIBLE MEASURE	DESIRED IMPACT	ESTIMATED TIME FRAME	COST	NOTES	MAY IMPACT*
17.	Develop and publicize a program to discourage night flying	Public and pilot education. Reduce the number of night flights	3 - 6 months	Low		F, T, N
18.	Implement a monetary reward program for compliant operators	Encourages compliance with noise abatement procedures	3 – 6 months	Low/ Medium	Can be achieved through reduction in fees for compliance. May impact revenues.	F, T, N, A
19.	Establish advisory/ oversight committee	Establish permanent mechanism for community input and oversight of airport-related decisions	3 months	Low	“Surf Air Noise Working Group” has been in existence since Oct. 2013. New group would require approx. 3 months to establish.	None

GROUP IV – NOISE MITIGATION

20.	Change runway geometry to accomplish County objectives	Ensure that arrivals and departures are over non-residential areas, if possible	1 year	Varies	Requires FAA approval and may have unintended consequences.	F, N
21.	Sound insulation	Reduce noise in individual households impacted	1-2 years	High	Doesn't meet FAA noise threshold. FAA won't reimburse. Cost per home is approximately \$150k. Household still impacted when open window or outside.	N

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OPTION	POSSIBLE MEASURE	DESIRED IMPACT	ESTIMATED TIME FRAME	COST	NOTES	MAY IMPACT*
22.	Prepare FAA Part 150 Noise Compatibility Program	Increase community awareness	2 – 4 years (to complete study, depending on level of community involvement)	High	Grant application submitted to the FAA. Study expected to begin Sept. 2016. FAA unlikely to fund program since noise is less than FAA threshold.	N

GROUP V – FLIGHT TRACKS AND PROCEDURES

23.	Preferential runway use procedures	Reduce overflights of noise-sensitive areas	1+ years	Low	Currently only have GPS arrivals to 30 runway. GPS arrivals to Runway 12 would require FAA approval.	N
24.	New routes / Charted Visual Flight Procedure (CVFP)	Reduce overflights of noise-sensitive areas in good weather conditions	1+ years	Low/ Medium	Needs approval by FAA.	F, N

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