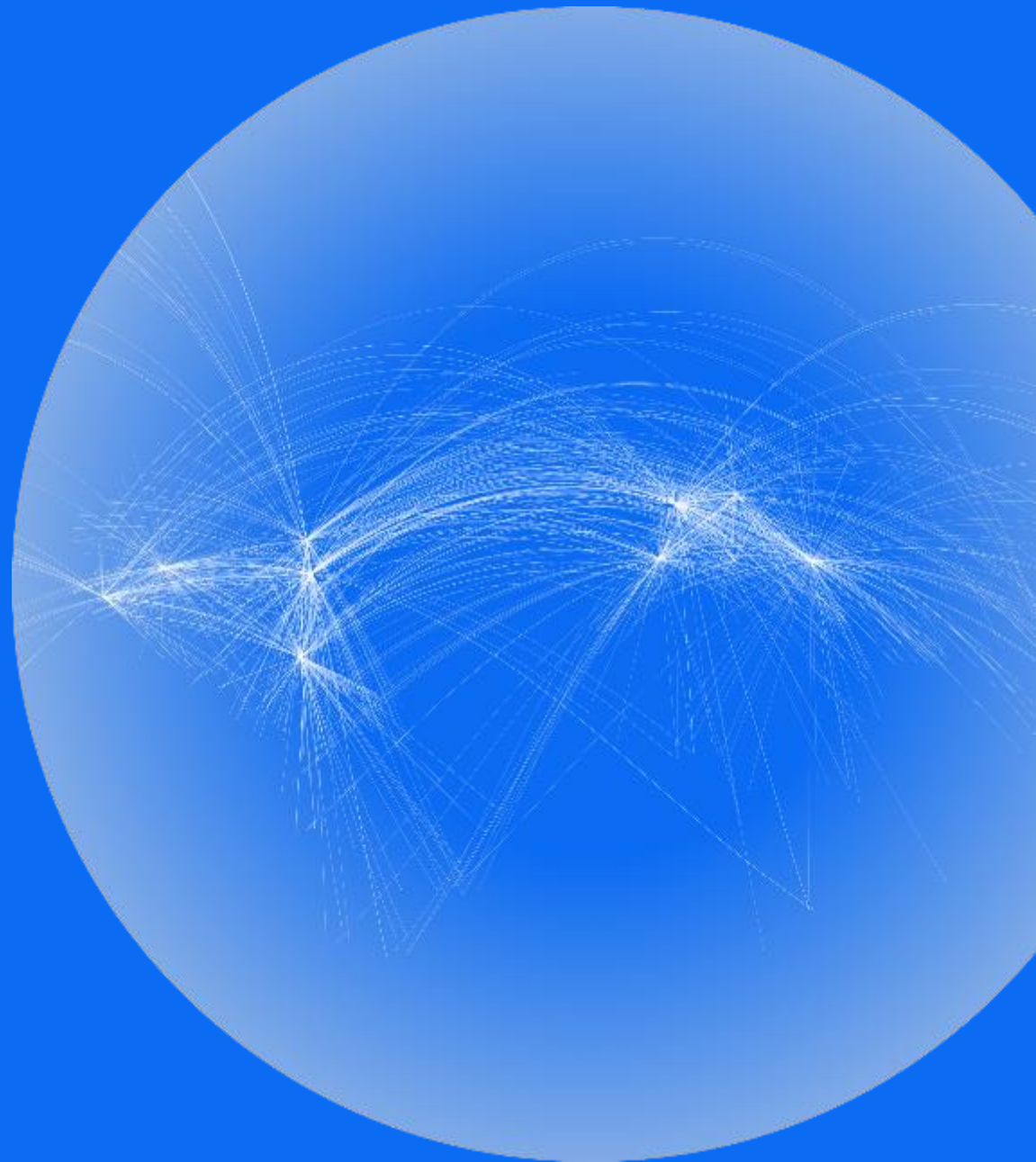




FORUM23

Flightpath to the Future: Reconnect & Collaborate





Maximizing the Value of your NOMS System

SPEAKER: Bert Ganoung



FORUM23

Flightpath to the Future: Reconnect & Collaborate



Maximizing the Value of your NOMS System

Envirosuite FORUM23

Bert Ganoung

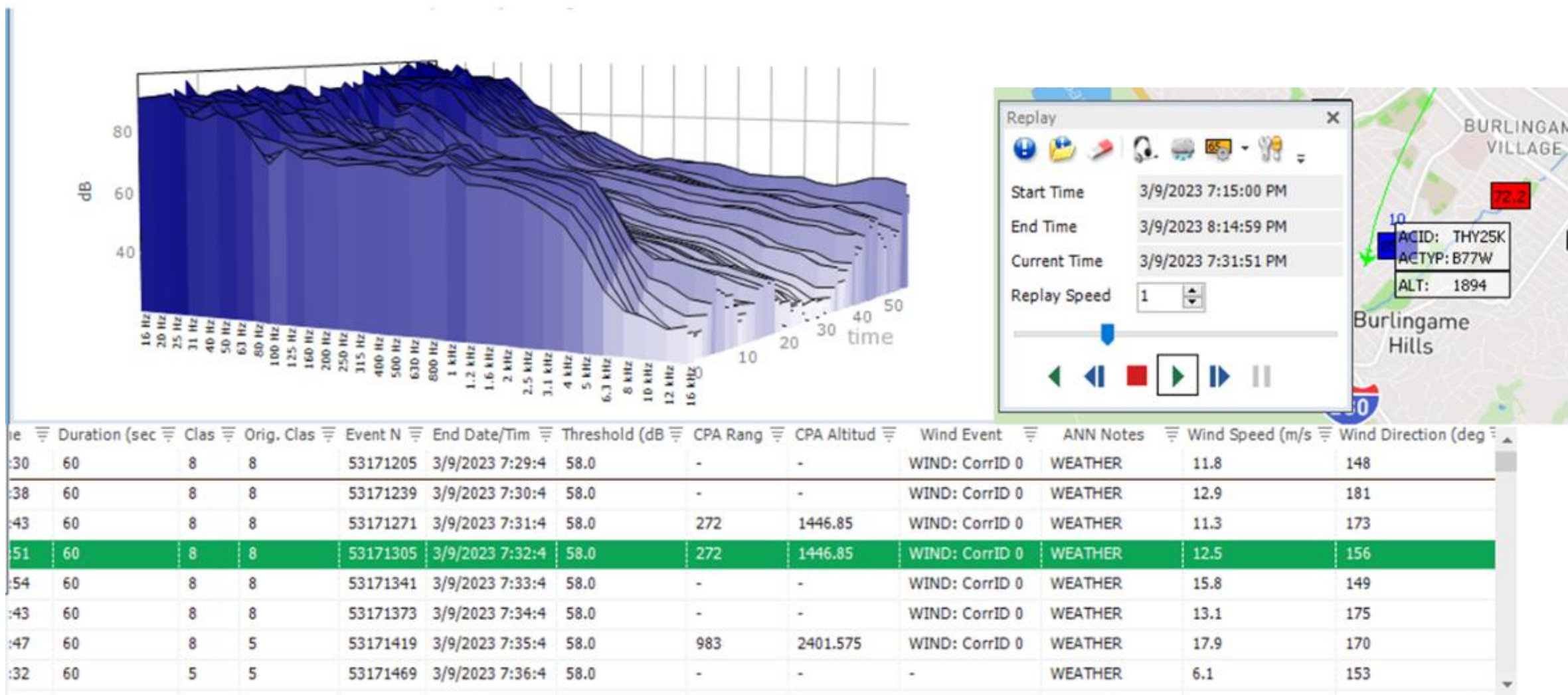
September 19, 2023

SFO

What has SFO accomplished over the last three years

- PNMT Report Improvements
- Director's Report Improvements
- Smart Noise event classification (wind ANN)
- N2T2 – NPD – ANEEM
- Noise App Improvements
 - speedbrake classification
 - history view
 - WebTrak connection
- Shortened WebTrak delay time
- Ground Based Augmentation System (GBAS)
- InsightFull
- C-weighted metric
- Automation of complaints entry
- Speedbrake detection
- Contour work
- Noise Monitoring Terminal Threshold Updates

Wind Event Identification- Artificial Neural Network



Expanding from N2T2 to NPD and adding ANEEM

Aircraft Noise Levels Details

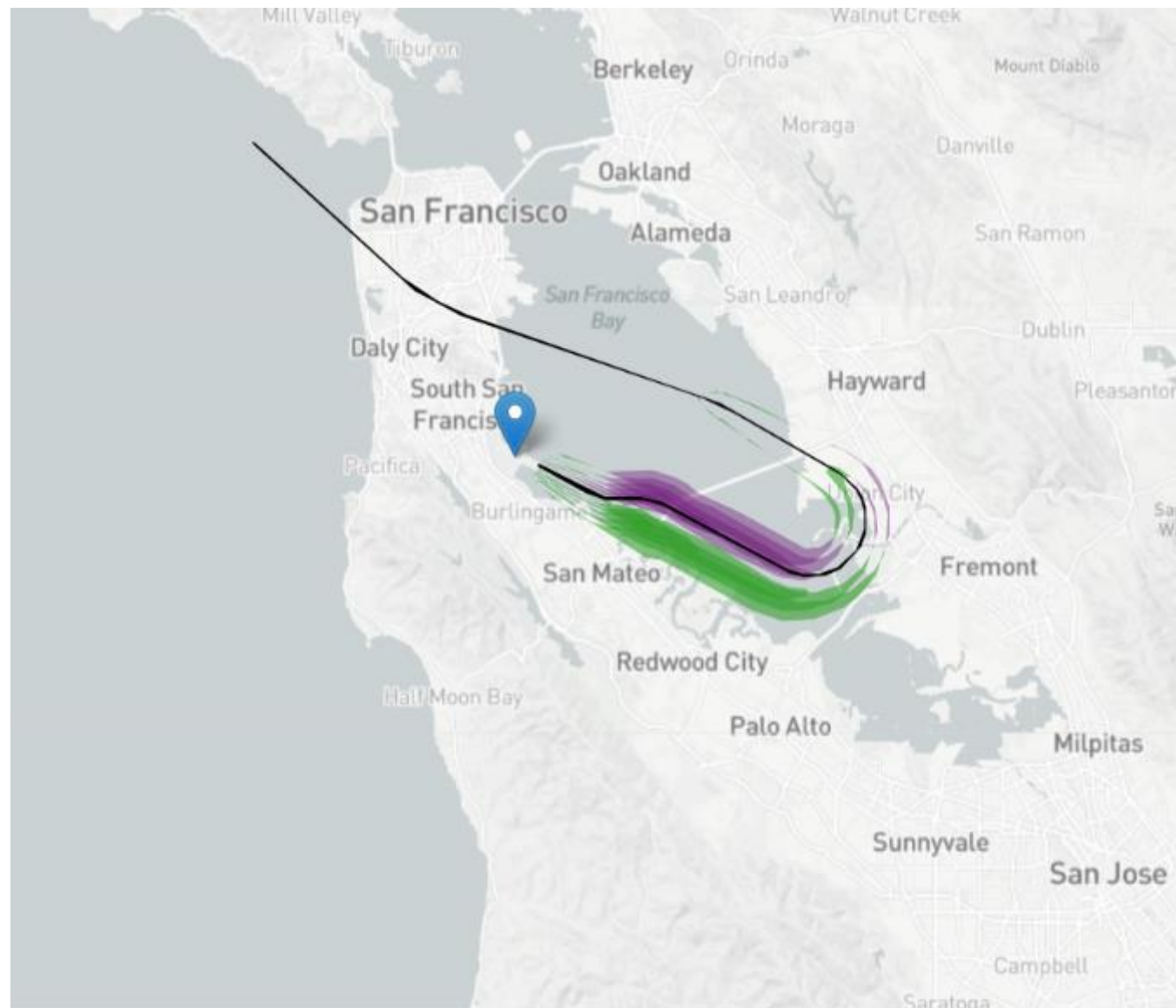
July 2023

NMT	City	ANOMS						ANEEM			
		Aircraft			Community			Aircraft			
		Noise Events (AVG Day)	CNEL (dBA)	SEL (dBA)	LMax (dBA)	CNEL (dBA)	Ambient Level (dBA)	Noise Events (AVG Day)	CNEL (dBA)	SEL (dBA)	LMax (dBA)
1	San Bruno	149	73	94	82	70	56	138	73	94	84
2	San Bruno	79	55	79	68	63	51	84	55	80	68
3	SSF	60	54	79	68	66	45	178	55	76	63
4	SSF	130	67	89	77	60	46	169	67	88	74
5	San Bruno	136	67	89	77	65	48	197	67	87	73
6	SSF	119	63	87	75	58	45	165	63	85	71
7	Brisbane	25	48	78	67	59	48	50	49	75	64
8	Millbrae	11	50	84	73	65	51	137	55	78	67
9	Millbrae	7	38	76	64	58	42	150	52	72	60
10	Burlingame	5	38	78	65	60	43	85	49	73	61
11	Burlingame	8	41	80	67	61	42	183	51	73	61
12	Foster City	358	62	82	71	58	43	436	63	81	69
13	Hillsborough	3	33	78	64	58	43	84	50	73	60
14	SSF	117	59	83	71	64	45	170	59	81	68
15	SSF	157	57	81	69	60	47	272	58	79	66
16	SSF	100	57	81	70	60	45	172	58	79	67
17	SSF	104	57	81	70	59	46	146	58	80	68
18	Daly City	104	62	86	75	62	48	147	62	84	71
19	Pacifica	92	59	83	72	64	42	112	59	82	70
20	Daly City	82	50	77	65	62	44	103	49	74	63
21	San Francisco	39	46	76	63	63	53	11	40	76	66
22	San Bruno	92	58	81	71	65	46	275	60	79	66
23	San Francisco	73	52	79	69	75	47	138	53	77	66
24	San Francisco	90	60	85	73	74	53	81	52	78	66
25	San Francisco	17	40	75	64	59	42	37	41	72	61
26	San Francisco	9	41	78	65	62	49	17	40	74	62
27	San Francisco	5	39	79	67	59	45	13	37	73	62
28	Redwood City	5	37	76	64	51	36	30	38	70	58
29	San Mateo	106	52	77	64	60	48	343	53	73	61

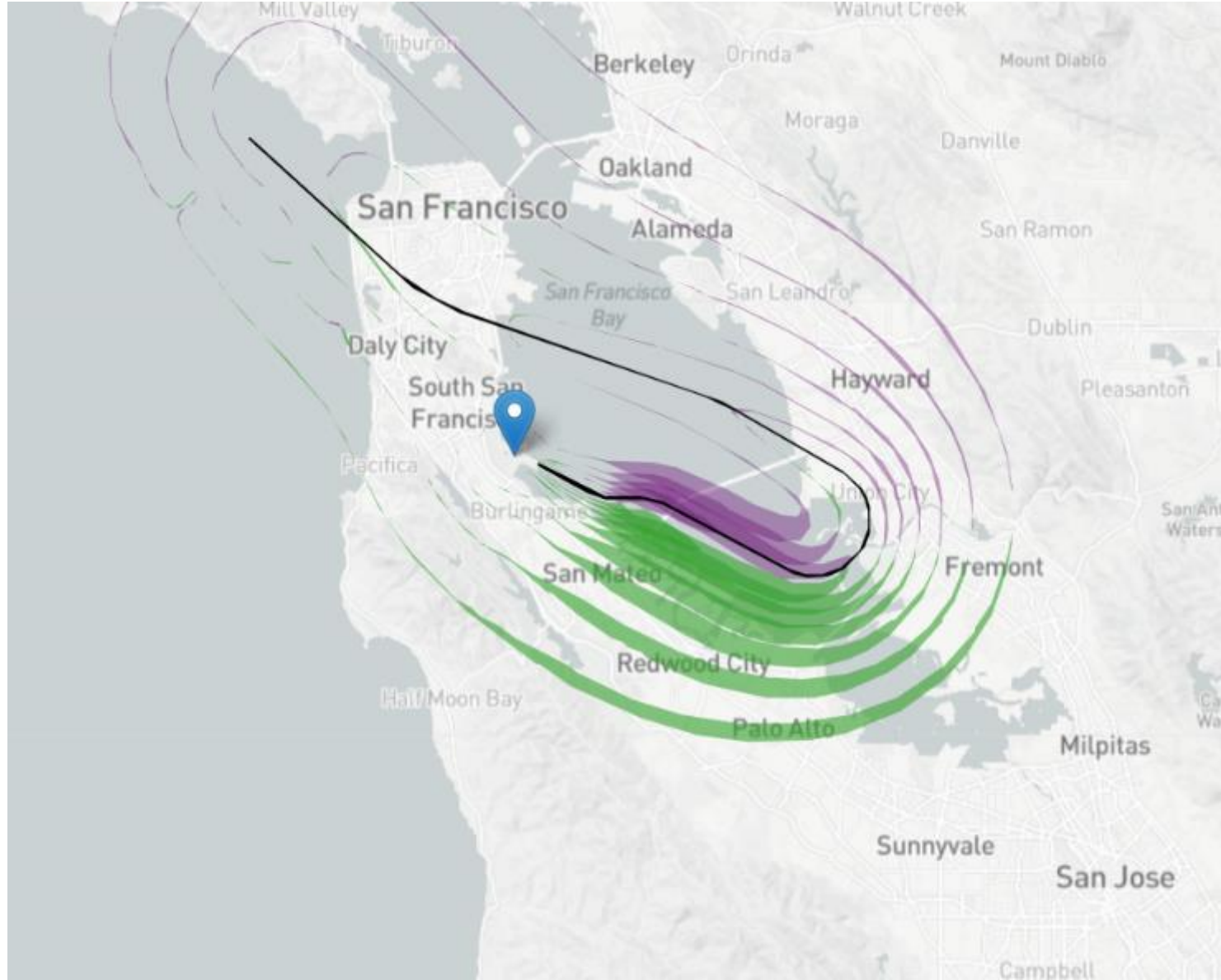
Noise Monitor's CNEL values (above) are derived from actual measured events and are used to validate the 65dBA CNEL noise footprint. Aircraft monthly CNELs from both ANOMS NPD and ANEEM algorithms for each monitor site are provided with daily average aircraft counts, the average Sound Exposure Level (SEL), and average Maximum Level (LMax).

Noise levels from other noise sources in the community calculated by ANOMS is provided as Community CNEL. Ambient Level is represented by the LA90 noise value which is the noise level exceeded at the monitor for 90% of the time.

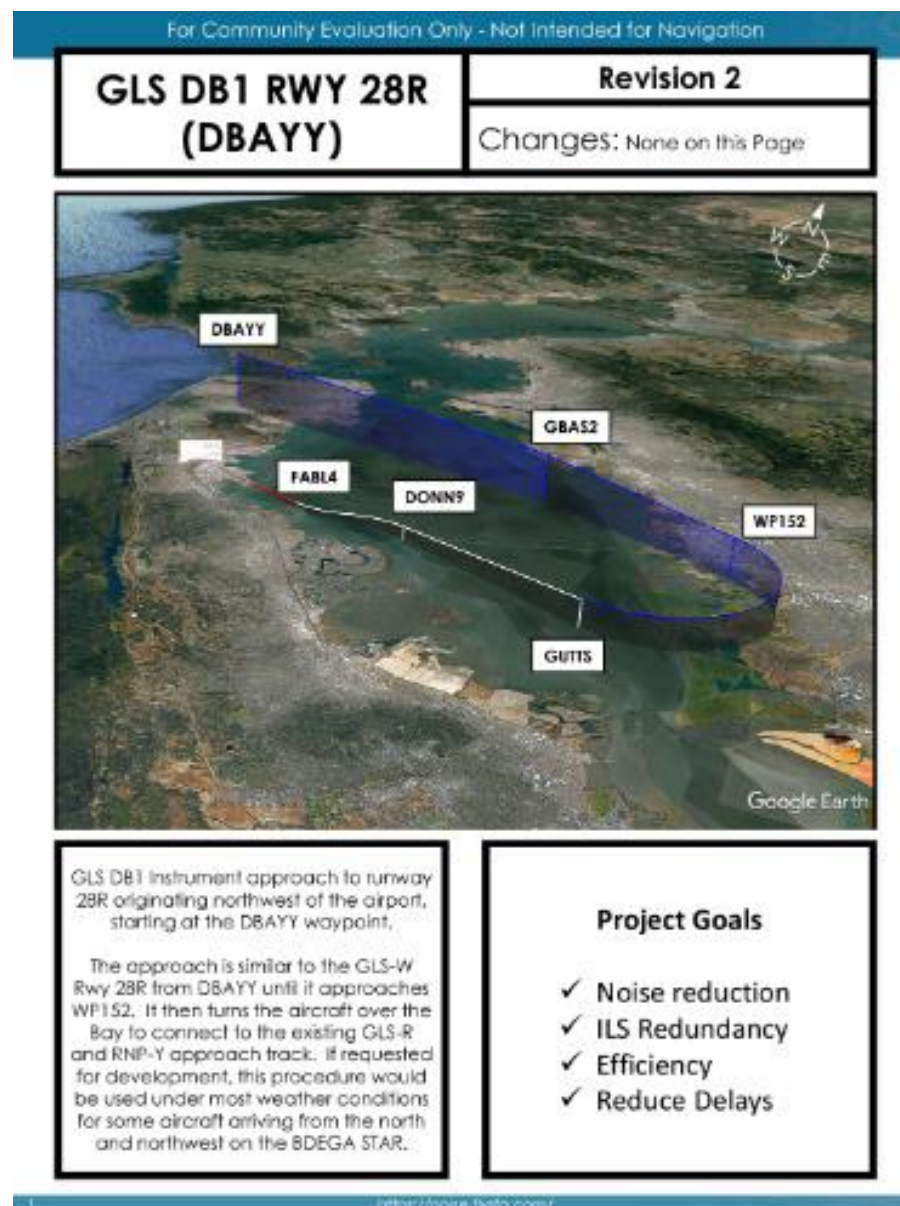
Using NOMS to Evaluate Innovative Noise Reduction Initiatives



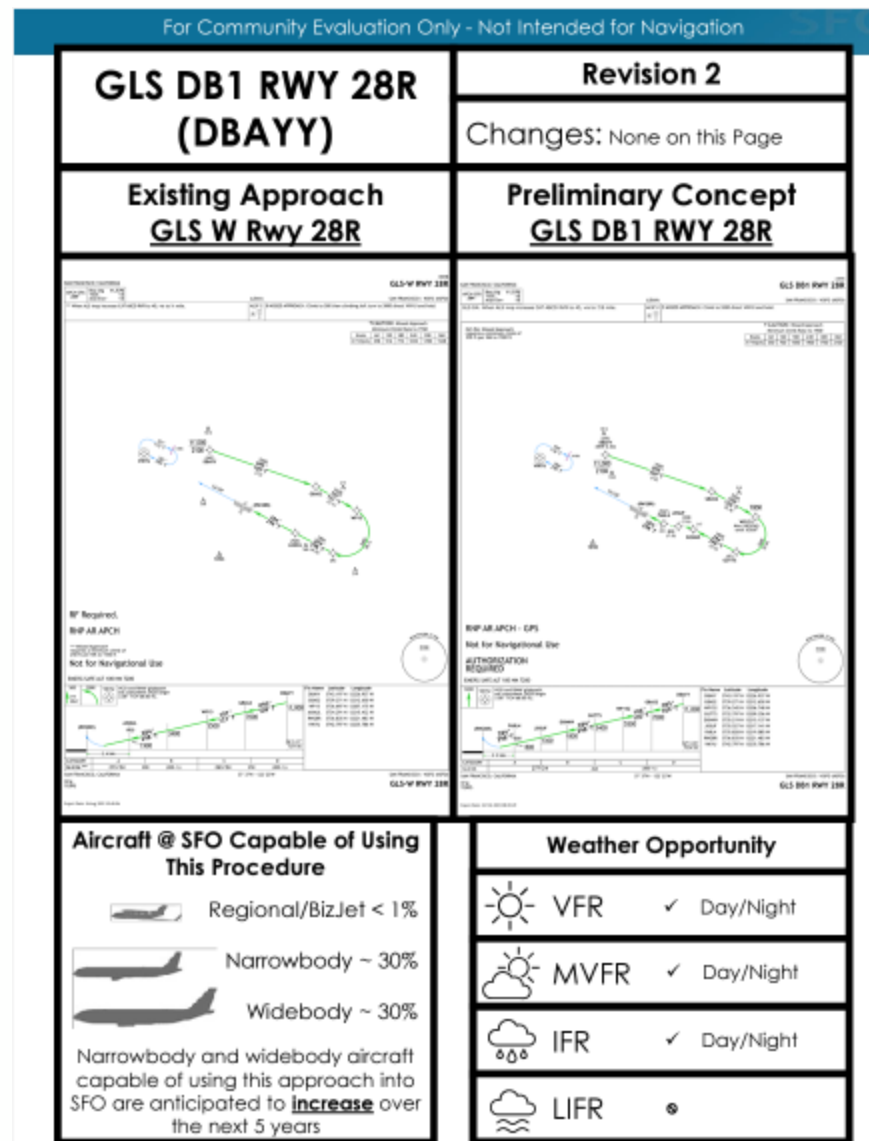
Using NOMS to Evaluate Innovative Noise Reduction Initiatives



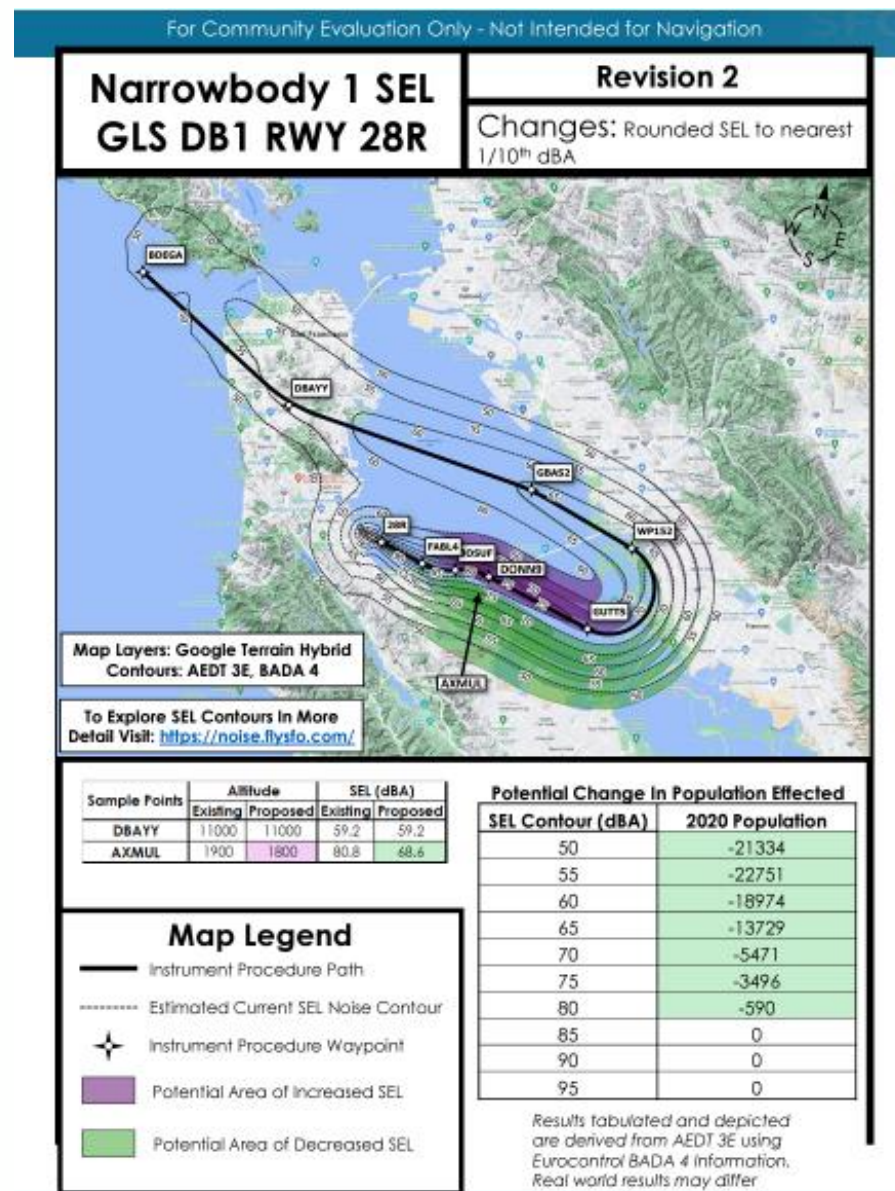
Using NOMS to Evaluate Innovative Noise Reduction Initiatives



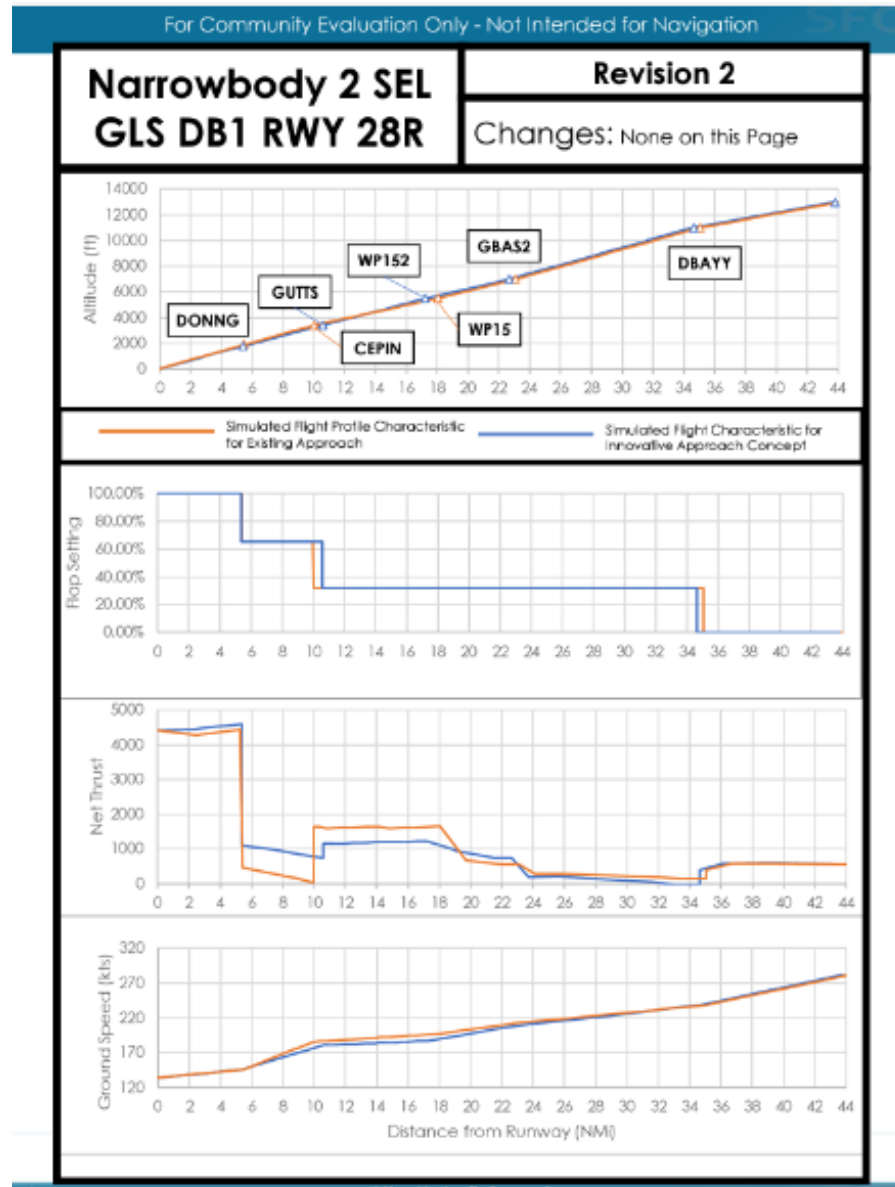
Using NOMS to Evaluate Innovative Noise Reduction Initiatives



Using NOMS to Evaluate Innovative Noise Reduction Initiatives



Using NOMS to Evaluate Innovative Noise Reduction Initiatives



What do we have on the Radar?

- Reverse thrust detection
- Fly Quiet Program update
- Ground Runup monitoring
- C-weighted data

San Francisco International Airport

SFO has a mature fly Quiet program, but it has been static for several years

The airport brought in to work with the airport to understand what is within the art of the possible, and to submit recommendations as to additional procedures for inclusion. And to provide a methodology for reporting on these new procedures

We are currently working on a number of potential metrics

SFO airport

SFO's Fly Quiet program consists of six elements:

- Fleet Noise Quality Rating
- Noise Exceedance Rating
- Night-time Preferential Runway Use Rating
- Shoreline Departure Quality Rating
- Gap Departure Quality Rating
- Foster City Arrival Quality Rating

Quiet Summary Report - 1st Quarter 2022

January 1 to March 31, 2022

	Fleet Noise Quality	Noise Exceedance	Nighttime Runway Use	Departure Shoreline Gap	Arrival Foster City	Final Score	Airline Fly Quiet Rating
DL	9.87	9.93	-	-	9.58	-	9.13
EU	8.24	9.81	-	-	9.83	-	9.29
NZ	9.87	10.00	-	-	8.38	-	9.13
LM	8.68	10.00	-	6.67	10.00	-	8.84
AL	8.74	9.66	-	-	7.88	-	8.76
QXE	8.79	9.93	-	10.00	5.75	-	8.62
TAP	8.88	9.85	-	10.00	4.76	-	8.37
WJA	5.96	10.00	-	-	8.75	-	8.24
ACA	8.60	9.85	-	10.00	5.00	7.50	8.19
JZA	9.92	10.00	-	8.75	3.54	-	8.65
BAW	8.85	9.96	-	-	6.83	-	8.87
FFT	9.66	9.68	3.65	8.89	8.42	7.40	7.95
VRD	5.25	10.00	-	-	-	-	7.62
AZR	7.45	10.00	-	-	5.12	-	7.32
CES	5.86	10.00	-	-	6.68	-	7.33
CSN	9.87	6.11	-	-	9.58	5.00	7.44
SAS	4.34	9.57	-	-	8.13	-	7.33
DAL	6.46	9.60	3.55	9.00	7.98	7.23	7.38
UAE	7.42	10.00	-	-	4.43	-	7.28
EN	4.82	10.00	-	-	7.55	-	7.19
SKW	8.67	9.90	2.67	9.83	6.71	5.11	7.15

Questions?