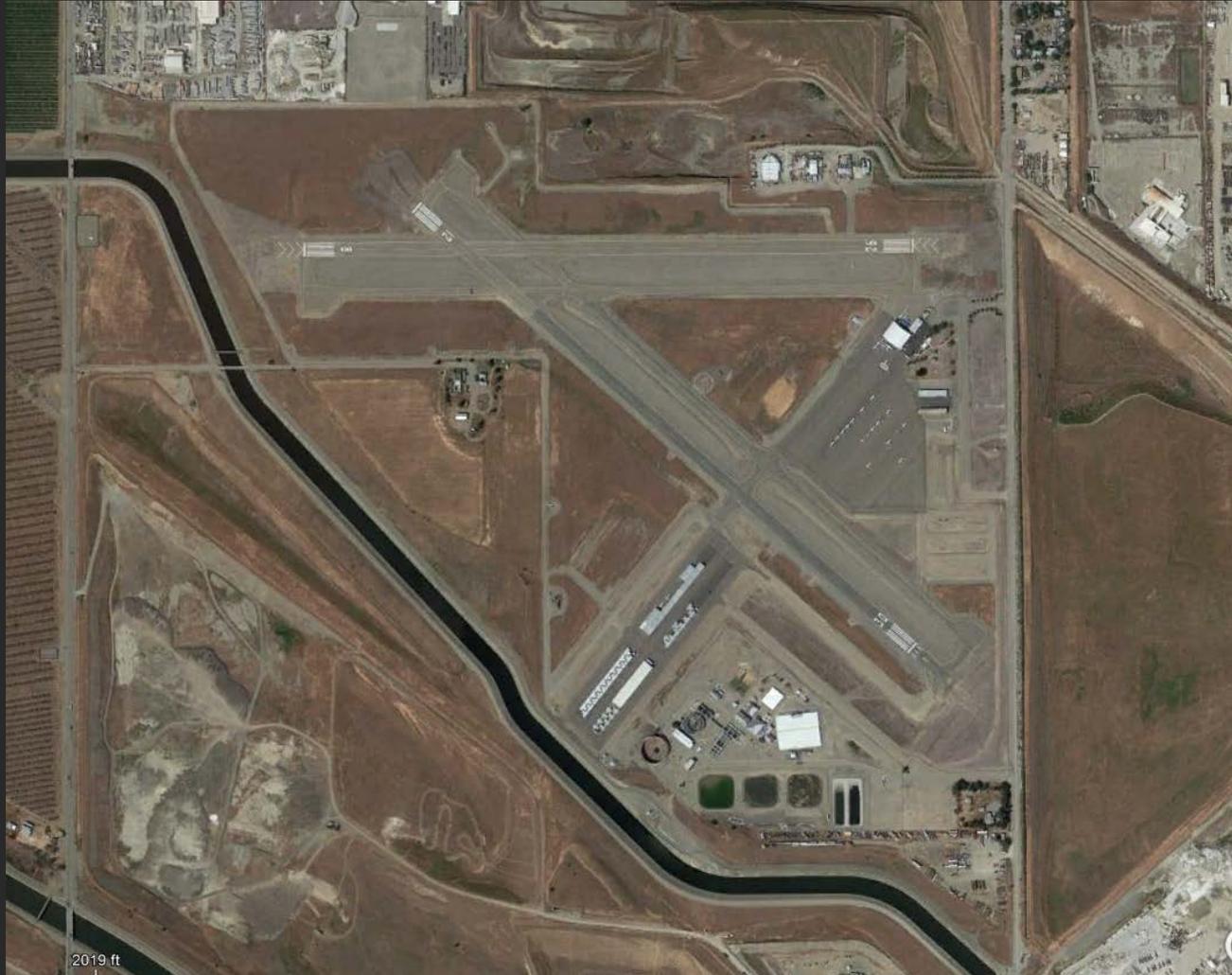


TRACY MUNICIPAL AIRPORT



Airport Master Plan Update

Presentation

May 11, 2023



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Principal, Owner, Brandley Engineering

TRACY MUNICIPAL AIRPORT

Airport Master Plan Update

Scope of Airport Master Plan Update

- Airport Geospatial Information Survey (AGIS) & Obstruction Analysis
- Master Plan Narrative Report
- Airport Layout Plan Set

TRACY MUNICIPAL AIRPORT

Airport Master Plan Update

Obstruction Survey with Mitigation

- Conduct AGIS Obstruction Survey
- Upload Survey Data to FAA Online Portal
- FAA Approval of Survey Data
- Obstruction Analysis & Development of Mitigation Plan
- Many different FAA Aeronautical Surfaces
- Obstructions Identified Include Light Poles, Vehicles on Roadways, Trees etc.
- Mitigation Measures include – Mitigated by PAPI, Add Obstruction Light, Remove or Lower, Height Restrictions, Relocate

TRACY MUNICIPAL AIRPORT

Airport Master Plan Update

Aviation Forecast – Critical Aircraft

Table 3-1						
Forecast of Based Aircraft Using Population Regression Analysis						
Forecast	Number of Based Aircraft					Growth Rate
	2021	2025	2030	2035	2040	
FAA Terminal Area Forecast	109	113	118	123	128	0.92%
FAA Terminal Area Forecast Adjusted*	85	89	94	99	104	1.18%
County of San Joaquin Population Regression Analysis	85	89	94	98	101	1.00%
City of Tracy Population Regression Analysis	85	93	100	107	113	1.71%
Tracy Census County Subdivision Population Regression Analysis	85	98	110	121	131	2.87%
Airport Forecast	85	92	102	111	120	2.17%

*TAF Adjusted is revised to match the National Based Aircraft Inventory Program and airport records in 2021 & maintain the original TAF projected growth

Table 3-2							
Forecast of Airport Operations Using Population Regression Analysis							
Forecast	Number of Airport Operations						Growth Rate
	2019	2020	2025	2030	2035	2040	
FAA Terminal Area Forecast	58,665	59,064	61,108	63,230	65,431	67,711	0.73%
County of San Joaquin Population Regression Analysis	58,665	59,652	62,298	65,616	68,535	70,972	1.00%
City of Tracy Population Regression Analysis	58,665	59,169	65,179	70,463	74,758	78,984	1.65%
Tracy Census County Subdivision Population Regression Analysis	58,665	63,084	72,748	81,684	89,598	97,463	3.15%
Airport Forecast	58,665	59,579	64,151	68,724	73,296	77,868	1.56%

Table 3-3						
Forecast of Helicopter Operations						
Forecast	Number of Operations					Growth Rate
	2020	2025	2030	2035	2040	
Airport Forecast	210	223	237	250	275	1.56%

Table 3-4		
AAM Operation Forecast		
Tracy Municipal Airport		
Year	AAM Operations	Growth Rate
2026	4,150	1004.4%
2027	45,838	33.8%
2028	61,311	14.0%
2029	69,886	9.2%
2030	76,295	Base Year
2035	93,461	4.5%
2040	102,808	2.0%

TRACY MUNICIPAL AIRPORT

Airport Master Plan Update

Aviation Forecast – Peaking Analysis

Table 3-5			
Peak Month and Day Airport Operation Summary			
Year	Peak Month Operations	Peak Day Operations	Peak Hour Operations
2019	8,096	264	40
2020	8,222	268	40
2025	8,853	289	43
2030	9,484	309	46
2035	10,115	330	49
2040	10,746	350	53
% of Annual Operations	13.8%	0.45%	0.08%

Table 3-8		
Peak Month and Week Helicopter Operation Summary		
Year	Peak Month Operations	Peak Week Operations
2020	27	7
2025	29	7
2030	30	8
2035	32	8
2040	35	9
% of Annual Helicopter Operations	12.8%	3.3%

Table 3-9		
Peak Day and Hour AAM Operation Summary		
Year	Peak Day	Peak Hour
2026	14	2
2027	157	24
2028	211	32
2029	240	36
2030	262	39
2035	321	48
2040	353	53
% of Annual AAM Operations	0.34%	0.05%

TRACY MUNICIPAL AIRPORT

Airport Master Plan Update

Aviation Forecast – Critical Aircraft

Table 3-9 FAA Criteria for Aircraft Approach Category (AAC) Determination	
AAC	V _{REF} / Approach Speed
A	Approach Speed Less than 91 Knots
B	Approach Speed 91 Knots or More But Less Than 121 Knots
C	Approach Speed 121 Knots or More But Less Than 141 Knots
D	Approach Speed 141 Knots or More But Less Than 166 Knots
E	Approach Speed 166 Knots or More

Table No. 3-11 Tracy Municipal Airport - Critical Aircraft Determination Summary (Annual Operations)						
FAA TFMSC AAC	Annual Operations					
	2016	2017	2018	2019	2020	2021 (Jan-June only)
A	574	688	1002	1000	1015	402
B	23	29	23	31	108	49
C	0	0	0	1	0	0
D	0	0	0	0	0	0
No Data	15	15	21	11	22	13

Table 3-10 FAA Criteria for Airplane Design Group (ADG) Determination		
ADG	Tail Height (ft)	Wingspan (ft)
I	< 20'	< 49'
II	20' - < 30'	49' - < 79'
III	30' - < 45'	79' - < 118'
IV	45' - < 60'	118' < 171'
V	60' - < 66'	171' - < 214'
VI	66' - < 80'	214' - < 262'

FAA TFMSC ADG	Annual Operations					
	2016	2017	2018	2019	2020	2021 (Jan-June only)
I	577	669	983	996	1007	412
II	19	48	41	35	116	39
III	1	0	1	0	0	0
IV	0	0	0	1	0	0
V	0	0	0	0	0	0
VI	0	0	0	0	0	0
No Data	15	15	21	11	22	13

TRACY MUNICIPAL AIRPORT

Airport Master Plan Update

Aviation Forecast – Critical Aircraft



Existing Critical Aircraft
Cessna Skyhawk 172



Future Critical Aircraft
Cessna Citation CJ2



Critical Helicopter
Black Hawk UH 60A



Critical AAM Aircraft
Lilium Jet

TRACY MUNICIPAL AIRPORT

Airport Master Plan Update

Facility Requirements

Table 1				
Facility Requirement Summary				
Tracy Municipal Airport				
Airport Feature	Adequate	Deficient	FAA Requirement	Proposed Resolution
FAA Facility Requirements				
Runway Orientation	✓ (13 knots)	✓ (10.5 knots)	95% Wind Coverage	Realignment of runways to improve wind coverage is not feasible due to importance of maintaining adequate runway length, mitigation of deficient wind coverage with increased runway width is provided
Runway 12-30 Line of Sight	✓			
Runway 12-30 Designation	✓			
Runway 12-30 Length	✓ (existing)	✓ (future)	B-II = 4,800 ft (dry), 5,500 ft. (wet)	Runway extension is not feasible due to proximity of existing obstructions beyond each runway end
Runway 12-30 Width	✓			
Runway 12-30 Shoulders	✓			
Runway 12-30 Runway Safety Area Compliance	✓			
Runway 12-30 Object Free Area Compliance	✓ (existing)	✓ (future)	B-II OFA Width = 500'	Acquire land or easement and relocate portion of fence adjacent to Runway 12-30
Runway 12-30 to Taxiway Separation	✓			
Runway 8-26 Line of Sight	✓			
Runway 8-26 Designation	✓			
Runway 8-26 Length	✓ (existing)	✓ (future)	B-II = 4,800 ft (dry), 5,500 ft. (wet)	Runway extension is not feasible due to proximity of existing obstructions beyond each runway end
Runway 8-26 Width	✓			
Runway 8-26 Shoulders	✓			
Runway 8-26 Runway Safety Area Compliance	✓			
Runway 8-26 Object Free Area Compliance	✓			
Runway 8-26 to Taxiway Separation	✓			

TRACY MUNICIPAL AIRPORT

Airport Master Plan Update

Facility Requirements

Table 1				
Facility Requirement Summary				
Tracy Municipal Airport				
Airport Feature	Adequate	Deficient	FAA Requirement	Proposed Resolution
Taxiway Width	✓			
Taxiway Fillets	✓			
Taxiway Shoulders	✓ (existing)	✓ (future)	TDG 2 width = 15 ft.	Widen shoulders to 15' when airport is upgraded to TDG 2
Taxiway Safety Area Compliance	✓			
Taxiway Object Free Area Compliance	✓			
Taxiway to taxiway/taxiway centerline separation	✓			
Taxiway System Configuration		✓	No Direct Access from Hangar/Apron to Runway	Reconfigure Taxiway D and Apron Taxiway/Taxiway B intersection and paint an island at intersection of Taxiway A and Apron Taxiway to eliminate direct access
Airfield Marking	✓			Some modifications to taxiway markings are necessary to address direct access issues
Airfield Lighting		✓	Taxiway Lighting is recommended	Install Taxiway Edge Lighting to improve taxiing operations during night Upgrade runway lighting to LED when lights exceed their useful life
Airfield Signage	✓			Upgrade signs to LED when signs exceed their useful life
Weather Facilities Automated Weather Observation System (AWOS)	✓			Relocate AWOS to 1,000 - 3,000 feet from primary threshold when AWOS exceed its useful life
Airfield Pavement		✓	Pavement Condition	Reconstruct North Hangar Area (H1) Rehabilitate South Hangar Access Road (Road E) Crack Seal, Seal Coat Access Roads, parking lot, future hangar taxiways and Taxiway C Maintain current PMMP

TRACY MUNICIPAL AIRPORT

Airport Master Plan Update

Facility Requirements

Table 1				
Facility Requirement Summary				
Tracy Municipal Airport				
Airport Feature	Adequate	Deficient	FAA Requirement	Proposed Resolution
FAA Airspace Requirements				
Approach Lights/Navigation Aids	✓	✓	All objects shall be clear of Runway Object Free Area	Relocate Runway 26 windcone outside ROFA Add lighting to Runway 26 & 30 supplemental windcones Add new supplemental windcone to Runway 8 and 12
Approaches	✓			
Tower Requirements	✓			
Obstruction Surfaces		✓	Objects shall not penetrate various airport surfaces	Mitigate Obstructions
Runway Protection Zone	✓			
General Aviation Facility Requirements				
Aircraft Parking Aprons	✓ (existing)	✓ (future)		Expand GA Apron in the long term future Add electric aircraft charging stations
Helicopter Parking Aprons		✓		Construct separate helicopter parking apron with 6 parking spaces
AAM/eVTOL Facilities		✓		Construct new eVTOL Vertiport and eVTOL parking and hangars
Fixed Based Operator (FBO) Services		✓		Expand Skyview Aviation SASO building and add additional flight school building Plan second FBO/SASO for long term future
Hangars		✓		Construct new hangars to accommodate at least 37 additional hangars

TRACY MUNICIPAL AIRPORT

Airport Master Plan Update

Facility Requirements

Table 1				
Facility Requirement Summary				
Tracy Municipal Airport				
Airport Feature	Adequate	Deficient	FAA Requirement	Proposed Resolution
Support Facilities				
Fueling Facilities	✓ (existing)	✓ (future)		Add additional 100LL and Jet A dispenser in future
Aircraft Wash Rack		✓		Construct new wash rack
Airport Maintenance Facilities	✓			
General Aviation Terminal Facilities		✓		Construct a new 2,810 - 4,610 Sq. Ft. General Aviation Terminal Building
Ground Access and Parking Facilities				
Access Roads	✓			Recommend City rehabilitate South Tracy Boulevard
Automobile Parking	✓	✓		Plan additional parking for future terminal building and eVTOL facilities
Perimeter Fencing and Security Requirements				
Perimeter Fencing		✓		Install new 6' fence adjacent to through the fence operation Replace 4' fence with new 6' fence Replace existing wrought iron gate with automatic gate
Security	✓ (existing)	✓ (future)		Upgrade existing automatic gates to add card reader Add knock boxes to existing gates Install security camera system
Drainage and Utilities				
Drainage		✓		Construct new ditch north of Runway 8-26
Utilities		✓		
Land Ownership and Easements				
Land Ownership	✓ (existing)	✓ (future)		Acquire land or easement for land required to relocate existing fence that is obstruction to future B-II OFA
Easements		✓		Acquire land or easement for land required to relocate existing fence that is obstruction to future B-II OFA Acquire easement for offsite utilities

Questions?



Damon Brandley



You Hire Brandley,
You Get Brandley



Melissa Brandley