

Memorandum

TO: AIRPORT COMMISSION

FROM: Cary Greene
Airport Planner

SUBJECT: Proposed Major Amendment to the
Airport Master Plan

DATE: February 3, 2020

Recommendation

That the Airport Commission review and recommend City Council approval of a Major Amendment to the Airport Master Plan for the Norman Y. Mineta San Jose International Airport to (a) shift the plan horizon from 2027 to 2037 and update projected demand and facility requirements accordingly, and (b) modify the list of specific project components of the long term development program, including incorporation of the airfield improvements recommended in the Runway Incursion Mitigation/Design Standards Analysis Study.

Background

The current Airport Master Plan, originally adopted by the City Council in 1997 and amended over time, serves as the City's long-range development guide to Airport facility development through the year 2027. The Master Plan includes forecasts of aviation activity, facility requirements, and a phased development program of approximately 70 specific facility improvement projects, the majority of which have already been implemented over the last twenty years, including major projects such as runway extensions, new terminal building and parking facilities, new fuel storage/dispensing systems, and new corporate aviation leaseholds.

The Airport Master Plan has been amended 16 times since 1997 as implementation has proceeded and conditions or activity trends have changed. The San Jose Municipal Code (Chapter 25.02, Part 3) sets forth criteria and procedures for formally amending the adopted Airport Master Plan. "Major" amendments are those revisions which alter development goals/objectives or allow for increased activity levels, design capacity, or noise impacts beyond the levels currently projected in the plan. To date, three major amendments have been adopted, the most recent in 2010. "Minor" amendments are more limited changes that typically add or modify specific proposed capital improvement projects, but which otherwise remain consistent with development goals/objectives and projected activity levels, design capacity, and noise impacts. To date, 13 minor amendments have been adopted, the most recent in 2018.

The current proposal to amend the Airport Master Plan was initiated as work progressed on the FAA-funded Runway Incursion Mitigation/Design Standards Analysis Study ("RIM Study" for short) given potential changes to airfield configuration, including the disposition of former west

side Runway 11/29, that would need to be incorporated into the Master Plan. As part of the analysis of airfield safety and design issues, the RIM Study included an update of the Master Plan demand forecasts (last updated in 2009) to beyond the 2027 horizon year and, in turn, an assessment of the implications of the new forecasts on the Master Plan’s facility development program, both airside and landside. Pursuant to the City Municipal Code, the scope of these proposed changes to the Master Plan constitute a major amendment, the approval process for which includes review by the Airport Commission at a public meeting to consider an advisory recommendation to the City Council.

Updated Master Plan Demand and Facility Requirements

The current Airport Master Plan is based on a projected demand of 17.6 million annual passengers and a total of 263,800 aircraft operations by the year 2027. The national aviation planning/engineering firms of Kimley Horn and HNTB (part of the RIM Study consultant team) updated the full set of Airport demand forecasts, with the year 2037 selected as a new 20-year horizon from when the forecasting task was initiated. The table below presents a summary of the proposed 2037 demand compared to actual 2018 activity and the current Master Plan projections for 2027.

	2018 Actual	Current Master Plan 2027 Demand	Amended Master Plan 2037 Demand
Air Passengers	14.3 million	17.6 million	22.5 million
Cargo Tonnage	60,200	189,700	100,200
G.A. Based Aircraft	137	209	164
Aircraft Operations:			
• Passenger Airline	135,140	183,700	183,920
• Cargo Airline	1,590	6,800	1,960
• General Aviation	36,420	73,200	51,580
• Military	240	100	250
Total Operations	173,390	263,800	237,710

Annual air passenger demand in 2037 will total 22.5 million annual passengers, representing a 57% increase from 2018 and five million more than previously projected for the year 2027. The number of passenger airline operations in 2037 will total just under 184,000, a 36% increase over 2018, and essentially the same volume as previously projected for 2027 due to the continuing trend toward larger aircraft and higher load factors. Projected growth in air cargo and general aviation activity will also continue, but at much lower rates than previously projected for 2027 based on updated trends and assumptions for those aviation activities. Total aircraft operations in 2037 (237,700) would be a 47% increase over 2018 volume, but also less than previously projected for 2027.

Overall airfield and landside area capacity will remain sufficient to accommodate the projected 2037 demand. The airfield will continue to operate with a minimal average delay per flight. The east side of the Airport will continue to be devoted to the air passenger terminal complex plus air cargo and most aviation support uses, while the west side of the Airport will continue to serve general aviation activity plus some additional aviation support uses.

Airfield Development Program Modifications

The RIM Study, currently being completed, recommends a set of numerous but relatively minor physical changes to the existing airfield configuration to improve operational safety and compliance with current FAA airfield design standards and associated geometric criteria. These changes will be added to the Airport Master Plan.

Most notably, former west side Runway 11/29, previously used by small piston-powered general aviation aircraft, and closed on an interim basis in 2009 due to construction of nearby taxiway and subsequent FBO leasehold development, would be permanently closed and converted and extended as a new parallel Taxiway V serving all general aviation aircraft. Upon completion, existing Taxiway V (the westernmost parallel taxiway abutting the general aviation leasehold and aircraft parking areas) would also be closed and converted to a taxilane to enhance movement of west side aircraft in/out of parking aprons. These actions would resolve several existing airfield design standard deficiencies, mitigate conditions that formerly contributed to runway incursions, and improve FAA operational control. It should also be noted that most corporate aircraft would not be capable of using Runway 11/29; moreover, new FAA air traffic control procedures would severely limit the use of a reopened Runway 11/29 by even small aircraft.

Other key RIM Study recommendations to be incorporated into the Master Plan include the following:

- Relocation of the general aviation aircraft run-up pad from next to the intersection of Taxiways D & W to the southwest corner of the airfield closer to the City-operated t-hangar and tiedown facilities.
- Extension of west side parallel Taxiway W south to intersect Runway 12R/30L to eliminate the need for departing general aviation from the west side to enter the runway at Taxiway B and “back-taxi” to get into position for takeoff.
- Closure of the sections of cross Taxiways F and H between Runways 12R/30L & 12L/30R to eliminate “high energy” crossings of 12L/30R.
- Relocation of the Runway 12R/30L hold bars (on cross taxiways), and enlarging the blast pads at both ends of Runway 12L/30R, to comply with current standards for wide-body aircraft.
- Realignment of multiple cross taxiways between aircraft parking aprons and parallel taxiways on both sides of the airfield to eliminate direct access between aprons and runways.

- Removal of some wide expanses of taxiway pavement to reduce potential pilot confusion.
- Additional pavement markings and pilot notifications to reduce potential confusion between parallel runways/taxiways.

Most of these airfield modifications would be eligible for FAA grant funding. Implementation would be phased over a 15-20 year period in consideration of project sequencing, funding availability, and operational impacts during construction.

Landside Development Program Modifications

To adequately accommodate the projected passenger growth, a total of 42 airline gates and 1.8 million square feet of terminal building space will be needed by 2037, a minor increase over the 40 gates and 1.1 million square feet of terminal building projected in the current Airport Master Plan for 2027. The proposed Terminal B South Concourse (aka new “Terminal C”) would expand a little further to the south than currently depicted in the Master Plan. A total of 12,300 public parking spaces would be needed by the year 2037, slightly less than the previously planned 12,700 spaces by the year 2027, with the location of new short-term and long-term parking facilities remaining unchanged. A proposed hotel in the terminal area (immediately south of the proposed new short-term parking garage) would be the only new major landside addition. The design of new terminal area facilities will continue to allow for a potential transit connection which continues to be under City and VTA study. The expansion and/or relocation of air cargo, general aviation, and array of aviation-support facilities included in the current Master Plan will remain in the amended Master Plan with some minor modifications.

Most of the additional terminal facilities would be built by the City using bonds or other financial instruments backed by Airport revenues. Other landside projects, such as the proposed hotel and additional corporate general aviation development, would likely be implemented through land leases awarded through an RFP process.

Attached for reference is a listing of all Airport Master Plan facility improvement projects with the proposed amendment (highlighted in red-line format) as well as aerial exhibits displaying project location.

Public Review and Next Steps

Pursuant to the California Environmental Quality Act (CEQA), the City has been working with an environmental consultant team to replace the current Airport Master Plan Environmental Impact Report (EIR) with a new EIR analyzing the proposed Airport Master Plan Amendment. The City released an official Draft EIR for public review on November 27, 2019. The Draft EIR identifies potential environmental impacts and mitigation measures for impacts determined to be significant. There are two significant impacts identified in the Draft EIR that cannot be mitigated to a level of insignificance (air quality and greenhouse gas emissions, due to aircraft pollutant emissions that the City cannot regulate under federal law).

The mandated public comment period on the Draft EIR closed on January 13, 2020. Approximately 80 sets of public comments have been received by the City (including those from individual commissioners). Over 60 of the comments were from residents of cities in the northern part of Santa Clara County expressing concern with aircraft overflight noise, particularly during “south flow” operational conditions.

The City and its EIR consultant team is currently preparing a “Draft EIR Amendment” responding to the comments submitted and revising any sections of the Draft EIR as determined necessary. The Draft EIR and Draft EIR Amendment will comprise a proposed Final EIR for San Jose Planning Commission review/certification prior to forwarding along with the proposed Airport Master Plan Amendment for City Council consideration and action. The Planning Commission public hearing on the EIR is anticipated in March 2020. Per the City Municipal Code, the Planning Commission will also have an opportunity to make a recommendation to the City Council on the Airport Master Plan Amendment itself.

Also pursuant to the Municipal Code, the Santa Clara County Airport Land Use Commission (ALUC), which under State law must base its comprehensive land use plans on adopted airport master plans, reviewed and accepted the proposed Airport Master Plan Amendment at its public meeting on January 22, 2020.

It is currently anticipated that the following package of recommendations will be agendaized for City Council public hearing and action on March 24, 2020:

- Certification and adoption of findings of the Airport Master Plan Amendment EIR.
- Adoption of the proposed Airport Master Plan Amendment.
- Adoption of a proposed ordinance amending the Municipal Code to allow the maximum number of airline gates at the Airport to increase from 40 to 42.

Airport staff will offer a presentation on this item at the Airport Commission meeting and be available to try to respond to any questions.

Attachments

Proposed Amended Airport Master Plan Project List

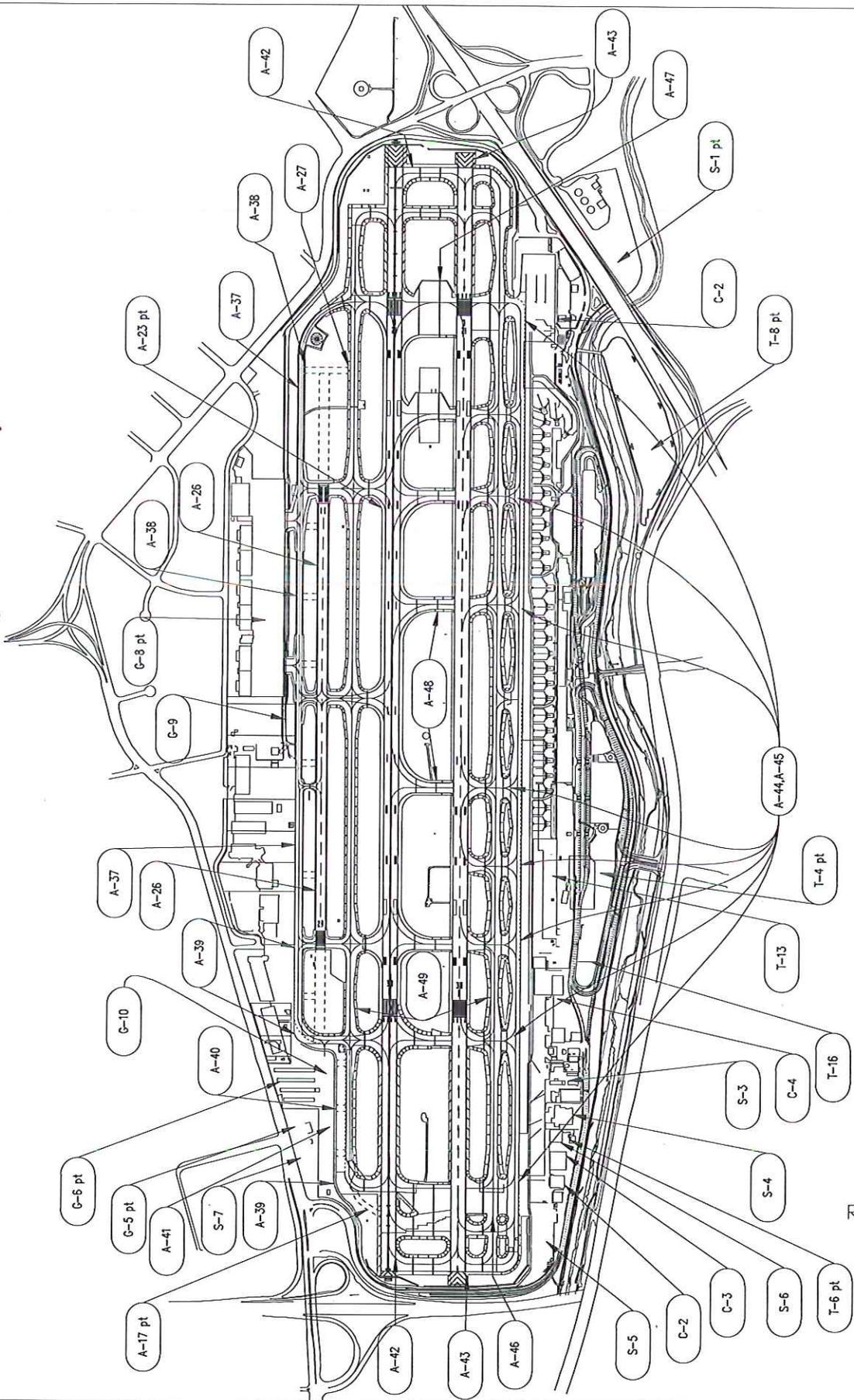
Airfield Projects:	Status
A-1. Reconstruct/extend Runway 12L-30R to 11,000 feet.	Complete
A-2. Extend parallel Taxiway Y from Twy L to new Twy N and from Twy B to new Twy A.	Complete
A-3. Extend/widen parallel Taxiway Z from Twy K to Twy L.	Complete
A-4. Construct new cross Taxiway A at south end, east of extended Twy Y to west of extended Rwy 12L-30R.	Complete
A-5. Construct new cross Taxiway N at north end, from extended Twy Y to west of extended Rwy 12L-30R.	Complete
A-6. Strengthen cross Taxiway C east and west of Rwy 12L-30R.	Complete
A-7. Extend cross Taxiway D west of Rwy 12L-30R and strengthen east of 12L-30R.	Complete
A-8. Strengthen cross Taxiway E east of Rwy 12L-30R.	Complete
A-9. Strengthen cross Taxiway F east and west of Rwy 12L-30R.	Complete
A-10. Strengthen cross Taxiway H east and west of Rwy 12L-30R.	Complete
A-11. Strengthen cross Taxiway J east and west of extended Rwy 12L-30R.	Complete
A-12. Strengthen cross Taxiway K east and west of extended Rwy 12L-30R.	Complete
A-13. Strengthen cross Taxiway L from extended Twy Z to west of extended Rwy 12L-30R.	Complete
A-14. Reconstruct/extend Runway 12R-30L to 11,000 feet.	Complete
A-15. Extend new cross Taxiway A west of extended Rwy 12L-30R to Rwy 12R-30L.	Complete
A-16. Extend new cross Taxiway N west of extended Rwy 12L-30R to extended Rwy 12R-30L.	Complete
A-17. Extend/widen parallel Taxiway W south from Twy C to Rwy 12R-30L (for D-IV aircraft) <u>ADG-IV aircraft between Twy C & Twy B, and for ADG-III aircraft between Twy B and Rwy 12R-30L.</u>	Part Complete (C→B)
A-18. Strengthen cross Taxiway C west of Rwy 12L-30R to west of Rwy 12R-30L and widen at 12R-30L for higher-speed arrivals exit to east.	Complete
A-19. Extend cross Taxiway D west of Rwy 12L-30R to west of Rwy 12R-30L and widen at 12R-30L for higher-speed arrivals exit to east.	Complete
A-20. Strengthen cross Taxiway F west of Rwy 12L-30R to Rwy 12R-30L.	Complete
A-21. Widen/strengthen cross Taxiway G west of Rwy 12R-30L (for D-IV aircraft).	Complete
A-22. Strengthen cross Taxiway H west of Rwy 12L-30R to Rwy 12R-30L.	Complete
A-23. Strengthen cross Taxiway J west of extended Rwy 12L-30R to west of Rwy 12R-30L and widen at 12R-30L for higher-speed arrivals exit to west.	Part Complete (strengthening)
A-24. Strengthen cross Taxiway K west of extended Rwy 12L-30R to Rwy 12R-30L and widen at 12R-30L for higher-speed arrivals exit to east.	Complete
A-25. Strengthen cross Taxiway L west of extended Rwy 12L-30R to Rwy 12R-30L.	Complete
A-26. Widen/strengthen parallel Taxiway V from Twy G north to Twy W (for D-IV aircraft) and patch/restripe south of Twy G (for B-II aircraft). <u>Convert former Runway 11-29 to a new parallel Taxiway V (for ADG-III aircraft) and extend south to Twy C and north to a new cross Twy V7.</u>	Future
A-27. Extend cross Taxiway H between Rwy 12R-30L and Twy V (for D-IV aircraft). <u>Construct new cross Taxiway V7 from north end of new Twy V to Twy W (for ADG-III aircraft).</u>	Future
A-28. Extend parallel Taxiway Z from Twy B to Twy A, and realign north of Twy G to match alignment south of Twy G.	Complete
A-29. Rehabilitate parallel Taxiway Y between Twy B and Twy L and strengthen at cross taxiways.	Complete
A-30. Construct parallel Taxiway W between Twy C and Twy L (for D-IV aircraft).	Complete
A-31. Strengthen cross Taxiway C from west of Rwy 12R-30L to Twy W.	Complete

A-32.	Extend cross Taxiway D west of Rwy 12R-30L to Rwy 11-29 (for D-IV aircraft east of Twy W and for Group III aircraft west of Twy W).	Complete
A-33.	Widen/strengthen cross Taxiway G west of Rwy 12R-30L to Twy V (for D-IV aircraft).	Complete
A-34.	Widen/strengthen cross Taxiway J west of Rwy 12R-30L to Twy V (for D-IV aircraft).	Complete
A-35.	Rehabilitate terminal apron pavement east of Twy Z between Twy D & Twy G.	Complete
A-36.	Rehabilitate Taxiway C between Twy V and Twy W, and Taxiway V between Twy C & Twy D.	Part-Complete (C-rehab)
A-37.	Extend cross Taxiway K between Rwy 12R-30L and Twy V (for D-IV aircraft). Close existing Taxiway V and replace with a parallel apron-edge taxiway (for ADG-III aircraft).	Future
A-38.	Construct up to seven new taxiway connectors (V1-V7) between the expanded west side apron (Project G-9) and new Taxiway V (for ADG-III aircraft).	Future
A-39.	Mitigate direct access from west side apron to Taxiways B, C, & D through pavement marking/painting or removal.	Future
A-40.	Create up to three new taxiway connectors (W1-W3) between the southwest apron and Taxiway W (for ADG-II aircraft) through pavement marking/painting or removal.	Future
A-41.	Relocate existing general aviation run-up pad to southwest apron area.	Future
A-42.	Relocate Runway 12R-30L aircraft hold positions on all cross taxiways to current ADG-V aircraft standard.	Future
A-43.	Widen Runway 12L-30R blast pads, and lengthen blast pad at Rwy 12L end, to current ADG-V standard.	Future
A-44.	Realign existing cross Taxiways B-F, H, J, & L between Twy Y and Twy Z to mitigate direct access from east side apron to Runway 12L-30R, and rename realigned segments as Taxiways Z1-Z8 & Z10.	Future
A-45.	Close existing segments of cross Taxiways B-F, H, J, & L between Twy Y and Twy Z through pavement marking/painting or removal (upon completion of Project A-44).	Future
A-46.	Narrow segment of existing cross Taxiway B between Twy Z and Rwy 12L-30R through pavement marking/painting.	Future
A-47.	Narrow segment of existing cross Taxiway L between Twy Y and Rwy 12R-30L through pavement marking/painting.	Future
A-48.	Close existing segments of cross Taxiways F and H between Runway 12R-30L and Runway 12L-30R through pavement marking/painting.	Future
A-49.	Add pavement markings to existing parallel Taxiways W and Y, lateral to the adjacent runway displaced thresholds, to visually denote their use as taxiways.	Future
Terminal Projects:		Status
T-1.	Construct interim long-term public and employee parking lot (up to 7,400 spaces) on vacant 55 acre site on west side (north and south of Air Traffic Control Tower).	Complete (north of ATCT)
T-2.	Remove "Yellow" Long-Term Parking lot and "Green" Long-Term Parking lot, temporarily consolidating long-term public and employee parking on west side (upon completion of Project T-1).	Complete
T-3.	Relocate "Red" Hourly Parking lot and existing parking operations facilities to interim sites during construction of Project T-4).	Complete
T-4.	Construct new public short-term parking garage (up to 35,000 spaces) on existing "Red" Hourly Parking lot site and associated roadway improvements south of existing Rental Car Garage and opposite new Terminal B South Concourse (Project T-13).	Part-Complete (350 spaces in rental-car garage)Future
T-5.	Construct new "North Concourse" (part of new Terminal B) between existing Terminals A & C, consisting of up to 400,000 sq.ft. and 9 air carrier gates, with passenger processing facilities.	Complete
T-6.	Remove former temporary FIS facility from ramp south of Terminal C and remove City office structures at 1311 Airport Blvd.	Part Complete (FIS removed)
T-7.	Relocate/expand employee parking (up to 2,600 spaces) to terminal area parking facilities or to former FMC site on west side of Coleman Ave.	Complete (Terminal A Garage)
T-8.	Construct new public long-term parking garage (up to approx. 96,000 spaces) on	Part Complete

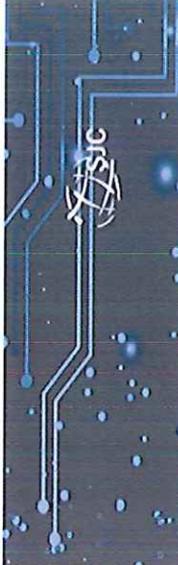
	existing former interim rental car ready/return parking lot site, including interim surface parking at site prior to garage construction, second 2-lane bridge-accessing site from Airport Blvd. and, (upon completion implementation); removal of public parking from interim west side lot.	(interim surface parking and west side parking removal)
T-9.	Expand/remodel Terminal A by approx. 50,000 sq.ft. (total of 400,000 sq.ft.) to provide additional passenger departure processing and concession space, retaining existing air carrier gates and Federal Inspection Services facility for international arrivals.	Complete
T-10.	Install temporary Terminal C passenger processing facility (approx. 25,000 sq.ft.) on east side of existing south wing for interim relocation of terminal functions from existing north wing and baggage claim wing. Upon completion, demolish Terminal C north and baggage claim wings (displaced by Projects T-11 and T-15).	Complete
T-11.	Expand North Concourse/Terminal B by up to 200,000 sq.ft. and 4 air carrier gates to south on site of demolished north wing of Terminal C (upon completion of Project T-10).	Complete
T-12.	Demolish remainder of Terminal C and temporary passenger processing facility (upon completion of Project T-11 and relocation of airline functions to Terminal A and North Concourse/Terminal B).	Complete
T-13.	Expand Terminal B (South Concourse) to south, including onto remainder of demolished Terminal C site, consisting of up to an additional 14 air carrier gates and 750,000 sq.ft. of building space, and associated passenger processing facilities 700,000 sq.ft. and 10 air carrier gates (ultimate terminal complex total of up to 40-42 gates and 1.70-80 million sq.ft.), with passenger processing facilities.	Future
T-14.	Construct new rental car parking garage facility (up to 6,000 spaces, including 2,000 ready/return spaces and vehicle servicing facilities) opposite new Terminal B. Upon completion, remove existing interim rental car ready/return, servicing, and storage facilities.	Complete
T-15.	Construct terminal area roadway improvements including realigned/ widened Terminal Dr., Airport Blvd./Terminal Dr. connection south of Terminal A, dedicated shuttle lane between Terminal A and new rental car parking garage opposite new Terminal B, reconfigured Terminal Dr./Airport Blvd. south intersection, and associated modifications.	Complete
T-16.	Construct new multi-story business hotel south of/adjacent to new public short-term parking garage (Project T-4), up to 300,000 sq.ft. in size including up to 330 guest rooms and 300 parking spaces.	Future
Air Cargo Projects:		Status
C-1.	Construct interim expansion of east side cargo airline area ramp to the south (up to 162,000 sq.ft. of new ramp).	Complete
C-2.	Construct new cargo airline facilities at or adjacent to existing east side cargo airline areas, including up to 1.2 million 500,000 sq.ft. of ramp, building, and vehicle parking/movement space.	Future
C-3.	Relocate belly-freight facilities to new site(s) on east side of Airport, including up to 93150,000 sq.ft. of ramp, building and vehicle parking/movement space.	Future
C-4.	Remove existing Air Freight Building and vehicle parking/movement area (displaced by Project T-13 and T-15).	Future
General Aviation Projects:		Status
G-1.	Remove south end tiedowns, shelters, and General Aviation Terminal facilities (displaced by Projects A-1, A-2, A-4).	Complete
G-2.	Remove southeast t-hangar facilities (displaced by Project A-28).	Complete
G-3.	Remove "94th Aero Squadron" restaurant facility on west side and convert site to general aviation use.	Complete
G-4.	Remove east side ACM facilities (FBO) upon lease expiration by 2009 (displaced by Project S-8).	Complete
G-5.	Remove San Jose State University facilities at southwest side upon lease expiration in 2010 and convert site to aviation support or general aviation facility use.	Part Complete (SJSU facility removal)
G-6.	Establish new FBO leaseholds on west side for reconfiguration of general aviation facilities.	Part Complete
G-7.	Construct general aviation facilities on vacant parcel between San Jose Jet Center FBO leasehold and Air Traffic Control Tower.	Complete

G-8.	Expand general aviation facilities onto northwest side of Airport (44 acres, upon implementation of Project T-7 and T-8).	Part Complete
<u>G-9.</u>	<u>Expand west side general aviation apron out to edge of new parallel taxiway (Project A-37).</u>	<u>Future</u>
<u>G-10.</u>	<u>Reconfigure southwest apron tiedown storage facilities (to accommodate Projects A-40, A-41, and G-5).</u>	<u>Future</u>
Aviation Support Projects:		Status
S-1.	Construct approx. 7-acre fuel storage facility (up to 8 tanks, 4.0 million gallon capacity) on vacant parcel north of Hwy. 101, two-acre fuel dispensing facility between Terminal A and north end of airfield, and pipeline connecting storage and dispensing.	Part Complete (3 tanks, 2.0 million gal.)
S-2.	Remove existing fuel storage and dispensing facilities on southeast side of Airport and clean up site (upon completion of Project S-1).	Complete
S-3.	Relocate/expand airport maintenance facilities at existing or new sites on east <u>or west</u> sides of Airport.	Future
S-4.	Expand flight kitchen facilities at existing or new sites on east side of Airport or relocate/expand off-airport.	Future
S-5.	Relocate/expand airline maintenance/storage facilities at various or new sites on east <u>or west</u> sides of Airport.	Future
S-6.	Remove, relocate, or upgrade existing aviation support facilities on southeast side of Airport (1239-1311 Airport Blvd.) to or at various existing or new <u>sites on east or west sides of Airport sites.</u>	Future
S-7.	Relocate/upgrade/expand Airport Rescue & Fire Fighting (ARFF) facility at new site on west side of Airport, potentially including a consolidated Airport Response Center facility.	Underway
S-8.	Convert existing east side ACM leasehold to aviation support uses (upon completion of Project G-4), such as airline provisioning/security clearance facility, roadway expansion, and aircraft remote parking.	Complete
S-9.	Reuse former FMC site on west side of Coleman Ave. for interim or long-term uses to be determined over time to facilitate on-Airport development or operation, such as project construction staging, rental car storage, public or employee parking, support facilities, and compatible non-aviation leaseholds.	Complete (interim construction staging only)

AIRPORT MASTER PLAN FUTURE IMPROVEMENTS (2019-2037)



Airfield Projects RIM Study



- Design Standards Conformity & RIM Geometric Conformity Actions

Terminal/Landside Projects

