CHAPTER THREE

Capital Improvement Program

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CAPITAL IMPROVEMENT PROGRAM

The analyses presented in previous chapters evaluated development needs at Livermore Municipal Airport through the year 2030 based on forecast activity and operational efficiency. Next, basic economic, financial, and management rationale is applied to each development item so that the feasibility of each item contained in the plan can be assessed.

The presentation of the capital improvement program (CIP) has been organized into two sections. First, the airport development schedule and CIP cost estimate is presented in narrative and graphic form. Second, capital improvement funding sources on the federal, state, and local levels are identified and discussed.

AIRPORT DEVELOPMENT SCHEDULES AND COST SUMMARIES

The analyses completed in previous sections evaluated capital improvement needs at the airport over the next 20 years, based on forecast activity, safety, and operational efficiency. The next step is the presentation of the development schedule and costs of these capital needs for the airport. The airport development schedule has been divided into two planning horizons that reflect the short term (0-5 years) and long term (10-20 years) needs and goals.

DEMAND-BASED PLANNING

This ALP Update and Narrative Report for Livermore Municipal Airport has been

developed according to a demand-based schedule. Demand-based planning identifies measurable activity markers that, once achieved at the airport, triggers initiation of related projects. For example, the aviation demand forecasts project that the number of based aircraft could be expected to grow from 495 to 720 through the long term planning period. As the number of based aircraft increases, additional hangars will be needed.

Demand-based project planning differs from traditional project planning in that projects are not tied to implementation years. Initiating capital projects simply because the CIP identifies a project for a certain year may lead to an inefficient use of development funds. Those projects that rely on accommodating certain activity levels should only be implemented when the activity levels are reached.

Demand-based planning also provides the airport administration with needed flexibility when considering capital projects. If certain demand indicators have not been reached, the administration can simply shift the timing of a project to a subsequent year. If unexpected growth occurs, the airport administration can accelerate the implementation of a project.

Demand-based planning of capital projects only applies to those projects directly related to growth in activity at the airport. Many projects are related to maintenance, safety or capacity issues and should be planned regardless of activity levels. Other projects are prerequisites, such as environmental documentation, and should be undertaken as needed.

CAPITAL IMPROVEMENT PLAN

In the previous chapter, specific needs and improvements for the airport were identified. The next step is to determine a realistic schedule and the associated costs for implementing the plan. A short term capital improvement plan, programmed by years, has been developed to cover the first five years of the plan. The remaining projects will be prioritized and grouped. These projects are those identified for implementation in years 6-20. By grouping the intermediate and long term projects instead of identifying specific years for implementation, airport administration will have greater flexibility to adjust capital needs as demand dictates. Each year, airport management will need to re-examine the priorities for funding on a rolling five-year schedule, adding or removing projects as priorities and demands change. The capital improvement program is presented on **Exhibit 3A.**

Airport development projects require adequate environmental documentation prior to construction. The airport will need to comply with the *National Environmental Policy Act* (NEPA) *of 1969*, as amended, to receive federal financial assistance. In addition, in California airports must comply with the *California Environmental Quality Act* (CEQA) *of 1970.* The level of effort required to meet the environmental documentation requirements is unknown at this time; however, at a minimum, the recommended runway extension project would require an environmental assessment (EA). An EA is not currently planned by the City of Livermore.

SHORT TERM (YEARS 1-5)

The first project considered is an airfield lighting project. This project would replace all existing runway and taxiway edge lighting with LED lighting. Installation of LED lighting has been proven to be

	PROJECT DESCRIPTION	Project Cost	FAA Eligible	Local Share
SHORT TERM PROGRAM (0-5 YEARS)				
2014				
1	Airfield Lighting Upgrade (LED), Light Rwy 7R-25L (Design)	$101,000	$90,900	$10,100
2	Runway 7R-25L Rehabilitation (Design)	$226,200	$203,580	$22,620
3	Administration Building (Construction)	$5,234,000	$0	$5,234,000
2014	**TOTAL**	**$5,561,200**	**$294,480**	**$5,266,720**
2015				
4	Airfield Lighting Upgrade (LED), Light Rwy 7R-25L (Construction)	$1,151,400	$1,036,260	$115,140
5	Runway 7R-25L Rehabilitation (Construction)	$997,500	$897,750	$99,750
6	Northside Aprons and Taxilanes Maintenance	$871,000	$783,900	$87,100
2015	**TOTAL**	**$3,019,900**	**$2,717,910**	**$301,990**
2016				
7	Southside Aprons and Taxilanes Maintenance	$636,000	$572,400	$63,600
8	EA Runway Extension	$400,000	$360,000	$40,000
2016	**TOTAL**	**$1,036,000**	**$932,400**	**$103,600**
2017				
9	Runway Extension (Design)	$295,000	$265,500	$29,500
2017	**TOTAL**	**$295,000**	**$265,500**	**$29,500**
2018				
10	Runway Extension (Construction)	$3,151,000	$2,835,900	$315,100
2018	**TOTAL**	**$3,151,000**	**$2,835,900**	**$315,100**
TOTAL SHORT TERM PROGRAM		**$13,063,100**	**$7,046,190**	**$6,016,910**
LONG TERM PROGRAM (6-20 YEARS)				
11	Redesign Intersection of Taxiways A, B, J.	$698,000	$628,200	$69,800
12	Relocate Three (3) Apron Ingress/Egress Taxiways	$568,000	$511,200	$56,800
13	Relocate Localizer (FAA)	$1,000,000	$1,000,000	$0
14	Southside T-Hangar Taxilanes	$3,259,000	$2,933,100	$325,900
15	Southside T-hangars (40 units)	$2,800,000	$0	$0
16	Southside Box Hangar Taxilanes	$2,139,000	$1,925,100	$213,900
17	Southside Box Hangars (30 units)	$2,940,000	$0	$0
18	Southside Corporate Taxilane and Hold Apron	$1,317,000	$1,185,300	$131,700
TOTAL LONG TERM PROGRAM		**$14,721,000**	**$8,182,900**	**$798,100**
TOTAL PROGRAM COSTS		**$27,784,100**	**$15,229,090**	**$6,815,010**

Note: Totals may not equal due to rounding
Source: Coffman Associates

Exhibit 3A
CAPITAL IMPROVEMENT PROGRAM

highly cost-effective by lowering energy costs and extending the life of each light.

In addition to converting to LED lighting for the existing airfield lighting, this project includes installation of edge lights on Runway 7R-25L, and Taxiways R, Q, P, and K. This runway is highly utilized, particularly for training activity. This runway is also closest to the south side hangar areas. As such, the runway should be outfitted with edge lights in order to increase the safety of ground movements by reducing the need for pilots to land on the primary runway, then cross an active runway to access the south side hangar areas. The design of the airfield lighting project is planned for 2014.

Runway 7R-25L is showing signs of deterioration. A short term project is identified to rehabilitate the runway and provide new markings. The pavement would be laser-milled and a P-401 overlay would be applied. The design of this project is planned for 2014.

Construction of the replacement administration building is planned for 2014 as well. This project is currently in design with the architect. The cost of the administration building construction is estimated at approximately $5.2 million. An airport as busy as Livermore Municipal Airport should have a state-of-the-art administration facility which serves not only general aviation users but the community as a whole. Administration buildings for general aviation airports are not generally eligible for federal grants. Some portion of the development cost could be eligible for state grants or loans.

In 2015, construction of the airfield lighting project and the runway rehabilitation project are planned. In addition, the north side aprons and taxilanes are planned for various spot repairs, slurry sealing, and marking.

In 2016, the south side aprons and taxilanes are planned for spot repairs and a slurry seal.

Appropriate environmental documentation is required for major projects on airport property. It is anticipated that an EA will need to be undertaken prior to design and construction of the recommended extension of Runway 7R-25L. Once the EA is complete, the project can enter the design phase. Finally, by 2018, construction of the recommended runway extension could be planned.

The short term CIP is estimated to cost approximately $13.06 million. Of this total, $7.05 million is eligible for FAA grant assistance. The remaining $6.02 million would be the responsibility of the airport sponsor. It should be noted that most of the local share is represented by the cost for the new administration building.

LONG TERM (YEARS 6-20)

The remaining projects have been grouped together in the long term planning period. The first long term project is to redesign the intersection of Taxiways A, B, and J. This project would remove excess pavement areas including removing a hold apron that is currently within the precision obstacle free zone (POFZ) associated with the precision instrument approach to Runway 25R. A replacement hold apron is planned to the north of Taxiway J. This project will eliminate a “wide expanse” of pavement as identified by FAA design standards.

The next project is the removal of taxiway stubs C, D, and E between the north side

apron and Runway 7L-25R. These are then reconstructed in an adjacent location in order to prevent pilots from inadvertently entering the active runway system by traversing directly from the apron onto the runway. This project is necessary to conform to current taxiway design standards.

The next project identified is the potential relocation of the localizer antenna. The localizer antenna is situated approximately 540 feet from the Runway 7L threshold, placing it within the runway safety area (RSA). The FAA does not consider this equipment to be fixed-by-function and recommends that it be relocated outside the RSA. The localizer was installed and is owned and maintained by the FAA. As a result, the cost to relocate the localizer is the responsibility of the FAA. Therefore, airport management should notify the FAA of this responsibility.

The next projects in the long term relate to hangar construction on the south side of the airport. The access taxilanes to new hangars are eligible for federal development grants as they are public access pavements. The construction of the hangars, however, is rarely eligible for grants. Therefore, either the airport sponsor or a private developer can construct the hangars and lease the individual units.

The last project is the design and construction of a taxilane leading to a corporate/business aviation development area at the southeast corner of the airport. A 50-foot wide taxiway and bypass hold apron are eligible for FAA funding assistance. The apron area extending from the taxiway to the planned hangars would be the responsibility of those constructing the hangars.

The long term projects total $14.72 million. Of this total, approximately $8.18 million is eligible for FAA grants. A portion of this total is for hangar construction, which is assumed to be undertaken by private developers. The remaining $800,000 would be the responsibility of the airport sponsor.

CIP SUMMARY

The airport manager and the City of Livermore should continuously maintain and update the capital program for the airport. These projects can be shifted in terms of priority based on airport needs. For example, the airport has a hangar wait list of more than 150 aircraft owners. Construction of taxilanes could become a higher priority for the airport, especially if a developer desired to construct hangars in the short term. **Exhibit 3B** presents the staging of projects for Livermore Municipal Airport.

The total CIP for the airport is $27.78 million. Of this total, approximately $15.23 is eligible for FAA grants. The remaining total of $6.82 million would be the responsibility of the airport sponsor.

CAPITAL IMPROVEMENT FUNDING SOURCES

There are generally four sources of funds used to finance airport development: airport cash flow, revenue and general obligation bonds, federal/state/local grants, and passenger facility charges (PFCs), which are reserved for commercial service airports. Access to these sources of financing varies widely among airports, with some large airports maintaining substantial cash reserves and most small

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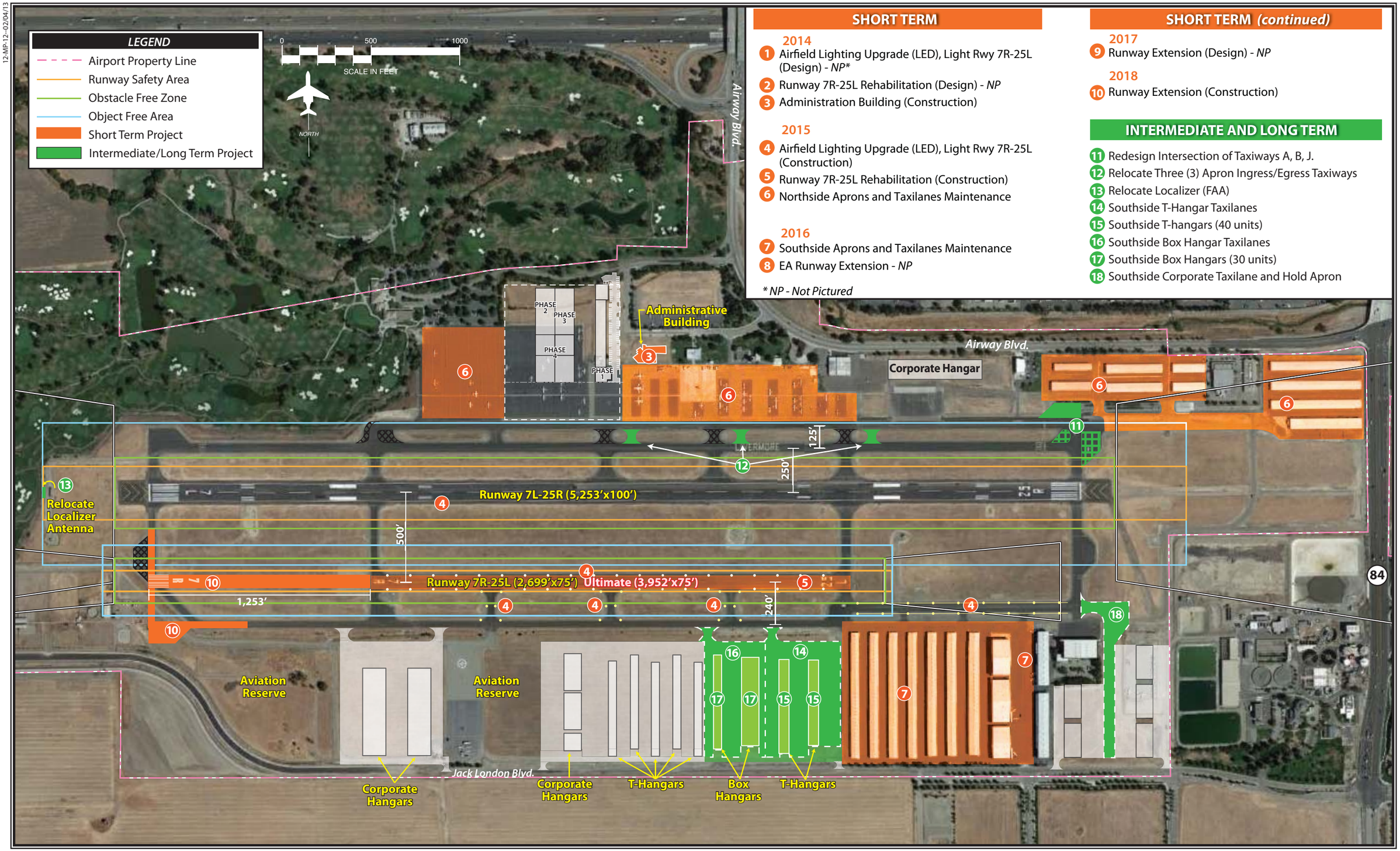

SHORT TERM

2014

1. Airfield Lighting Upgrade (LED), Light Rwy 7R-25L (Design) - *NP**
2. Runway 7R-25L Rehabilitation (Design) - *NP*
3. Administration Building (Construction)

2015

4. Airfield Lighting Upgrade (LED), Light Rwy 7R-25L (Construction)
5. Runway 7R-25L Rehabilitation (Construction)
6. Northside Aprons and Taxilanes Maintenance

2016

7. Southside Aprons and Taxilanes Maintenance
8. EA Runway Extension - *NP*

SHORT TERM *(continued)*

2017

9. Runway Extension (Design) - *NP*

2018

10. Runway Extension (Construction)

INTERMEDIATE AND LONG TERM

11. Redesign Intersection of Taxiways A, B, J.
12. Relocate Three (3) Apron Ingress/Egress Taxiways
13. Relocate Localizer (FAA)
14. Southside T-Hangar Taxilanes
15. Southside T-hangars (40 units)
16. Southside Box Hangar Taxilanes
17. Southside Box Hangars (30 units)
18. Southside Corporate Taxilane and Hold Apron

** NP - Not Pictured*

Exhibit 3B
PHASED CAPITAL IMPROVEMENT PROGRAM

commercial service and general aviation airports often requiring subsidies from local and state governments to fund operating expenses and to finance modest improvements.

Financing capital improvements at the airport will not rely solely on the financial resources of the airport or the city. Capital improvement funding is available through various grant-in-aid programs on both the state and federal levels. Historically, Livermore Municipal Airport has received federal and state grants. While some years more funds could be available, the CIP was developed with project phasing in order to remain realistic and within the range of anticipated grant assistance. The following discussion outlines key sources of funding potentially available for capital improvements at Livermore Municipal Airport.

FEDERAL GRANTS

Through federal legislation over the years, various grant-in-aid programs have been established to develop and maintain a system of public use airports across the United States. The purpose of this system and its federally based funding is to maintain national defense and to promote interstate commerce. The most recent legislation affecting federal funding was enacted on February 17, 2012 and is titled, the *FAA Modernization and Reform Act of 2012*.

The law authorizes the FAA's Airport Improvement Program (AIP) at $3.35 billion for fiscal years 2012 through 2015. Eligible airports, which include those in the *National Plan of Integrated Airport Systems* (NPIAS), such as Livermore Municipal Airport, can apply for airport improvement grants. **Table 3A** presents the approximate distribution of the AIP funds. Currently, Livermore Municipal Airport is eligible to apply for grants which may be funded through state apportionments, the small airport fund, and/or discretionary categories.

Funding for AIP-eligible projects is undertaken through a cost-sharing arrangement in which FAA provides up to 90 percent of the cost and the airport sponsor invests the remaining 10 percent. In exchange for this level of funding, the airport sponsor is required to meet various grant assurances, including maintaining the improvement for its useful life, usually 20 years.

The source for AIP funds is the Aviation Trust Fund. The Aviation Trust Fund was established in 1970 to provide funding for aviation capital investment programs (aviation development, facilities and equipment, and research and development). The Aviation Trust Fund also finances the operation of the FAA. It is funded by user fees, including taxes on airline tickets, aviation fuel, and various aircraft parts.

TABLE 3A
Federal AIP Funding Distribution

Funding Category	Percent of Total	Funds*
Apportionment/Entitlement		
Passenger Entitlements	29.19%	$977,865,000
Cargo Entitlements	3.00%	$100,500,000
Alaska Supplemental	0.65%	$21,775,000
State Apportionment for Nonprimary Entitlements	10.35%	$346,725,000
State Apportionment Based on Area and Population	9.65%	$323,275,000
Carryover	10.77%	$360,795,000
Small Airport Fund		
Small Hubs	1.67%	$55,945,000
Nonhubs	6.68%	$223,780,000
Nonprimary (GA and Reliever)	3.34%	$111,890,000
Discretionary		
Capacity/Safety/Security/Noise	11.36%	$380,560,000
Pure Discretionary	3.79%	$126,965,000
Set-Asides		
Noise	8.40%	$281,400,000
Military Airports Program	0.99%	$33,165,000
Reliever	0.16%	$5,360,000
Totals	100.00%	$3,350,000,000

* *FAA Modernization and Reform Act of 2012*
AIP: Airport Improvement Program
Source: FAA Order 5100.38C, Airport Improvement Program Handbook

Apportionment (Entitlement) Funds

Federal AIP funds are distributed each year by the FAA from appropriations by Congress. A portion of the annual distribution is to primary commercial service airports based upon minimum enplanement levels of at least 10,000 passengers annually. If the airport exceeds the enplanement threshold, then it would receive a minimum of $1 million. Other entitlement funds are distributed to cargo service airports, states and insular areas (state apportionment), and Alaska airports.

General aviation airports included in the NPIAS can receive up to $150,000 each year in Non-Primary Entitlement (NPE) funds. These funds can be carried over and combined for up to four years, thereby allowing for completion of a more expensive project. In the past, Livermore Municipal Airport has received NPE funding.

The states also receive an apportionment based on a federal formula that takes into account area and population. The FAA then distributes these funds for projects at various airports throughout the state.

Small Airport Fund

If a large or medium hub commercial service airport chooses to institute a passenger facility charge (PFC), which is a fee of up to $4.50 on each airline ticket, for funding of capital improvement projects, then their apportionment is reduced. Part of the reduced apportionment goes to the small airport fund. The small airport fund is reserved for small-hub pri-

mary commercial service airports, non-hub commercial service airports, and general aviation airports. Livermore Municipal Airport is eligible for funds from this source.

Discretionary Funds

The remaining AIP funds are distributed by the FAA based on the priority of the project for which they have requested federal assistance through discretionary apportionments. A national priority ranking system is used to evaluate and rank each airport project. Those projects with the highest priority from airports across the country are given preference in funding. High priority projects include those related to meeting design standards, capacity improvements, and other safety enhancements.

Under the AIP program, examples of eligible development projects include the airfield, public aprons, and access roads. Additional buildings and structures may be eligible if the function of the structure is to serve airport operations in a non-revenue generating capacity, such as maintenance facilities. Some revenue-enhancing structures, such as T-hangars, may be eligible if all airfield improvements have been made; however, the priority ranking of these facilities is very low.

Whereas entitlement monies are guaranteed on an annual basis, discretionary funds are not assured. If the combination of entitlement, discretionary, and airport sponsor match does not provide enough capital for planned development, projects may be delayed.

Set-Aside Funds

Portions of AIP funds are set-asides designed to achieve specific funding minimums for noise compatibility planning and implementation, select former military airfields (Military Airport Program), and select reliever airports. As a designated reliever airport for the commercial service airports in the San Francisco Bay area, Livermore Municipal Airport may qualify for set-aside funding.

FAA Facilities and Equipment (F&E) Program

The Airway Facilities Division of the FAA administers the Facilities and Equipment (F&E) Program. This program provides funding for the installation and maintenance of various navigational aids and equipment of the national airspace system. Under the F&E program, funding is provided for FAA Airport Traffic Control Towers (ATCTs), enroute navigational aids, on-airport navigational aids, and approach lighting systems.

While F&E still installs and maintains some navigational aids, on-airport facilities at general aviation airports have not been a priority. Therefore, airports often request funding assistance for navigational aids through AIP and then maintain the equipment on their own. At Livermore Municipal Airport, the navaids are owned and maintained by the FAA. Relocation of the localizer antenna should be funded through the F&E Program.

STATE AID TO AIRPORTS

All state grant programs for airports are funded from the Aeronautics Account in

the California State Transportation Fund. Tax revenues, which are collected on general aviation fuel, are deposited in the Aeronautics Account. General aviation jet fuel is taxed at $.02 per gallon, and Avgas is taxed at $.18 per gallon. These taxes generate approximately $7.5 million per year. The Revenue and Taxation Code spells out the priority for expenditure of funds: 1) administration and collection of taxes; 2) operations of Division of Aeronautics; and 3) grants to airports. The Public Utilities Code further specifies the priority for allocation of Aeronautics Account funds to airports: 1) Annual Credits; 2) AIP Matching Grants; and 3) Acquisition and Development (A&D) Grants.

Annual Credit

To receive an Annual Credit, the airport cannot be designated by the FAA as a reliever or commercial service airport. The Annual Grant can fund projects for airport and aviation purposes as defined in the *State Aeronautics Act*. It can also be used to fund operations, fueling facilities, restrooms, aircraft wash racks, and to match federal AIP grants. The annual funding level is $10,000; up to five years' worth of Annual Credits may be accrued at the sponsor's discretion. No local match is required.

Livermore Municipal Airport is not eligible for Annual Credits as a reliever airport.

AIP Matching Grants

An FAA AIP grant can be matched with state funds; the current matching rate is five (5) percent. Generally, state matching is limited to projects that primarily benefit general aviation. A project which is being funded by an AIP grant must be included in the Capital Improvement Program (CIP). The amount set aside for AIP matching is determined by the California Transportation Commission (CTC) each fiscal year. Unused set-aside funds are available for additional A&D Grants.

Acquisition and Development (A&D) Grants

This grant program is open to general aviation, reliever, and commercial service airports. Also, a city or county may receive grants on behalf of a privately owned, public use airport. An airport land use commission (ALUC) can receive funding to either prepare or update a comprehensive land use plan (CLUP). An A&D grant can fund projects for airport and aviation purposes as defined in the *State Aeronautics Act*. An A&D grant cannot be used as a local match for an AIP grant. The minimum amount of an A&D grant is $10,000, while the maximum amount that can be allocated to an airport in a single fiscal year is $500,000 (single or multiple grants). The local match can vary from 10 to 50 percent of the project's cost and is set annually by the CTC. A 10 percent rate is typical. The Annual Credits may not be used for the local match to an A&D grant. **Table 3B** presents a list of eligible projects for the Annual Credit and A&D Grant programs.

California Airport Loan Program

The Local Airport Loan Program provides low interest (3.288 percent as of October 2012) discretionary state loans to eligible airports for projects that enhance an airport's ability to provide general aviation services (e.g., hangars, GA terminals, utilities, GA fuel facilities, A&D eligible projects, etc.). A loan may also provide the local share for an AIP grant. Such loans

can be used in conjunction with state-funded AIP matching grants. The maximum term of a loan is 17 years.

The Division of Aeronautics approves the amount of the loan in accordance with the project's feasibility and the sponsor's financial situation. Details related to the loan program are available in the State publication, "State Dollars for Your Airport" chapter 2 and California Code of Regulations, Title 21, Division 2.5, chapter 5, California Airport Loan program.

There are three different types of loans available under this program.

1. Revenue Generation
2. Matching Funds
3. Airport Development

Loans are subject to state audit. Records that substantiate the expenditure of loan monies should be retained until three years after the retirement of the loan. Funds may have to be repaid by the sponsor if an audit finds that state law or generally accepted accounting principles have been violated.

TABLE 3B
Eligible Projects for Caltrans Funds

Eligible for Annual Credits and A&D Grants	
A	Obstruction Removal. Removal of obstructions from runway safety areas, RPZs or approach surfaces, and other imaginary surfaces, if they have been determined by the FAA or the Department to be a hazard.
B	Radios. Aviation radio equipment and facilities.
C	Land. Acquisition of land and avigation easements.
D	Lighting. Purchase and installation of runway, taxiway, boundary, or obstruction lights, with directly related electrical equipment, to meet general aviation needs.
E	Fencing. Minimum security fencing around the perimeter of an airport, for general aviation purposes.
F	Transient Parking. Construction/reconstruction of transient general aviation aircraft parking areas.
G	Bond Service. Servicing of revenue or general obligation bonds that have been issued to finance airport capital improvements.
H	Navaids. Air navigation aids including rotating beacons, runway end identifier lights, and localizer transmitters.
I	Airport marking systems such as segmented circles, wind socks, traffic pattern indicators, and wind tees.
J	Noise monitoring equipment to meet general aviation needs.
K	Project Services. Engineering for eligible construction projects; appraisal and escrow fees for land acquisition.
L	Runways and Taxiways. Construction and reconstruction.
M	Service roads that are not open to the public.
N	Surfacing of runways, taxiways, and aircraft parking areas to GA standards.
O	Water supply and sanitary disposal systems for airport use.
P	ALP Update and Narrative Reports and airport layout plans.
Q	Comprehensive Land Use Plan (CLUP). Activities of an airport land use commission (ALUC) to prepare or update a CLUP.
Eligible for Annual Credits but not A&D Grants	
R	Operations and Maintenance (wages/salaries, utilities, service vehicles, and all other noncapital expenditures).
S	GA fueling facilities.
T	Restrooms/showers.
U	GA airplane wash racks.

Source: Caltrans, Division of Aeronautics

LOCAL FUNDING

The balance of project costs, after consideration has been given to grants, must be funded through local resources. Livermore Municipal Airport is operated by the City of Livermore as a self-sustaining enterprise fund that covers operating and capital expenditures. The goal of the airport is to generate ample revenues to cover all operating and capital expenditures. As with many general aviation airports, this is not always possible and other financial methods will be needed.

There are several options for local financing of future development at the airport, including airport revenues, direct funding from the City of Livermore, issuing bonds, and leasehold financing. These strategies could be used to fund the local matching share, or complete the project if grant funding cannot be arranged. The capital improvement program has assumed that some landside facility development would be privately developed.

There are several municipal bonding options available, including general obligation bonds, limited obligation bonds, and revenue bonds. General obligation bonds are a common form of municipal bond, which is issued by voter approval and is secured by the full faith and credit of the City. City tax revenues are pledged to retire the debt. As instruments of credit and because the community secures the bonds, general obligation bonds reduce the available debt level of the community. Due to the community pledge to secure and pay general obligation bonds, they are the most secure type of municipal bond and are generally issued at lower interest rates and carry lower costs of issuance. The primary disadvantage of general obligation bonds is that they require voter approval and are subject to statutory debt limits. This requires that they be used for projects that have broad support among the voters, and that they are reserved for projects that have the highest public priorities.

In contrast to general obligation bonds, limited obligation bonds (sometimes referred to as self-liquidating bonds) are secured by revenues from a local source. While neither general fund revenues nor the taxing power of the local community is pledged to pay the debt service, these sources may be required to retire the debt if pledged revenues are insufficient to make interest and principal payments on the bonds. These bonds still carry the full faith and credit pledge of the local community and are considered, for the purpose of financial analysis, as part of the debt burden of the local community. The overall debt burden of the local community is a factor in determining interest rates on municipal bonds.

There are several types of revenue bonds, but, in general, they are a form of municipal bond, which is payable solely from the revenue derived from the operation of a facility that was constructed or acquired with the proceeds of the bonds. For example, a lease revenue bond is secured with the income from a lease assigned to the repayment of the bonds. Revenue bonds have become a common form of financing airport improvements. Revenue bonds present the opportunity to provide those improvements without direct burden to the taxpayer. Revenue bonds normally carry a higher interest rate because they lack the guarantees of general and limited obligation bonds.

Leasehold financing refers to a developer or tenant financing improvements under a long term ground lease. The obvious advantage of such an arrangement is that it relieves the community of all responsibility for raising the capital funds for im-

provements. However, the private development of facilities on a ground lease, particularly on property owned by a government agency, produces a unique set of concerns.

In particular, it is more difficult to obtain private financing as only the improvements and the right to continue the lease can be claimed in the event of a default. Ground leases normally provide for the reversion of improvements to the lessor at the end of the lease term, which reduces their potential value to a lender taking possession. Also, companies that want to own their property as a matter of financial policy may not locate where land is only available for lease.

A more recent financial instrument utilized by some municipalities is to issue Certificates of Participation (COP). A COP is a type of financing where an investor purchases a share of the lease revenues of a program rather than the bond being secured by those revenues. The issuer of the COP typically uses the proceeds to construct a facility that is leased to the municipality, thereby releasing the municipality from restrictions on the amount of debt they can incur.

SUMMARY

The best means to begin implementation of the recommendations in this ALP Update and Narrative Report is to first recognize that planning is a continuous process that does not end with completion and approval of this document. Rather, the ability to continuously monitor the existing and forecast status of airport activity must be provided and maintained. The issues upon which this ALP Update and Narrative Report is based will remain valid for a number of years. The primary goal is for the airport to best serve the air transportation needs of the region, while continuing to be economically self-sufficient.

The actual need for facilities is most appropriately established by airport activity levels rather than a specified date. For example, projections have been made as to when additional hangars may be needed at the airport. In reality, however, the time frame in which the development is needed may be substantially different. Actual demand may be slower to develop than expected. On the other hand, high levels of demand may establish the need to accelerate the development. Although every effort has been made in this ALP Update and Narrative Report to conservatively estimate when facility development may be needed, aviation demand will dictate when facility improvements need to be delayed or accelerated.

The real value of a usable ALP Update and Narrative Report is in keeping the issues and objectives in the minds of the managers and decision-makers so that they are better able to recognize change and its effect. In addition to adjustments in aviation demand, decisions made as to when to undertake the improvements recommended in this ALP Update and Narrative Report will impact the period that the plan remains valid. The format used in this plan is intended to reduce the need for formal and costly updates by simply adjusting the timing. Updating can be done by the manager, thereby improving the plan's effectiveness.

In summary, the planning process requires the airport management to consistently monitor the progress of the airport in terms of aircraft operations and based aircraft. Analysis of aircraft demand is critical to the timing and need for new airport facilities. The information obtained from continually monitoring airport activity will provide the data necessary to determine if the development schedule should be accelerated or decelerated.