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DATE: December 4, 2018
TO: Board of Supervisors
FROM: Jeffrey V. Smith, County Executive
Harry Freitas, Director, Roads and Airports
SUBJECT: Airports Business Plan Update

RECOMMENDED ACTION

Under advisement from the December 12, 2017 Board meeting (Item No.21): Receive report from the Roads and Airports Department relating to the Airports Business Plan Update.

REASONS FOR RECOMMENDATION

The purpose of this report is to provide information to the Board of Supervisors for consideration related to the County Airports Business Plan Update. Administrative staff is expecting further direction from the Board of Supervisors as they see fit.

At its December 12, 2017 meeting, the Board of Supervisors directed staff to proceed with the update to the Business Plan for Reid-Hillview Airport and San Martin Airport.

CRITICAL CONDITION PRECEDENT TO POSSIBLE CHANGED USAGE OF THE AIRPORT PROPERTIES

As the Board considers this Business Plan Update and the possibility of a change in usage of the airport properties, it is important to understand that evaluation of the sites for other uses will require some level of hazardous materials assessment.

PLAN UPDATE

Staff has prepared a draft Business Plan Update for HLUET and the Board's consideration. As indicated in the attached Business Plan Update, key components and goals of the Business Plan Update's analysis include:

- Analyzing the Airport Enterprise Fund's (AEF) and each airport's sources of revenue and types of expenses;
- Identifying trends in the piston-propeller segment of General Aviation and their effect on the type of operations occurring at the County airports as well as their effect on the AEF's longstanding Business Model;

- Developing Long Range Facility Plans (LRFPs) that identify the airports' maintenance and capital improvement needs and their associated costs;
- Developing a new Business Model for the County airports necessitated by the changing nature of the airports' operations;
- Outlining the actions needed to execute the new Business Model and the estimated potential revenue to be realized; and
- Examining the historical role of grant funding from the Federal Airport Improvement Program (AIP) with respect to development of the airports and the appropriate role of AIP grants going forward.

The analysis described above produced the following key conclusions:

- The AEF's longstanding Business Model has relied on revenue from aircraft storage spaces (hangars, tie-downs and shelters) for over 75% of total revenue. This Business Model has enabled the AEF to remain financially self-sustaining for many years. Operating revenue has been sufficient to fund operating expenses, although the condition of both airports could be characterized as run-down, as well as the local match required for grant-funded capital projects, which have been implemented on a pay-as-you-go basis.
- However, the piston-propeller segment of General Aviation is in decline, which has negative repercussions on the financial health related to the ongoing operational and maintenance expenses of the airport system and its ability to remain financially self-sustaining with revenue primarily from aircraft storage. Notwithstanding the decline in based aircraft, the number of operations at the County airports in the last several years has been growing due to the demand for professional pilots (both domestic and foreign) and the associated flight schools required to train them. These trends dictate that the County change its longstanding business model to one with a more diversified and higher-yielding revenue stream.
- The key to generating a more diversified and higher-yielding ongoing revenue stream is to put the airports' real property assets to work by leasing certain parcels for non-aviation commercial development and by restructuring the Fixed Based Operator leaseholds.
- The airports' infrastructure requires approximately \$20 million in investment over the next 10 years, approximately half of which is on the airfield and therefore eligible for Federal funding. The Board approved a \$3 million loan from the General Fund this fiscal year for airfield paving pending the outcome of this Plan Update and the future direction of the airports system. If the County chooses to apply for Federal grants in the future, a portion of the cost of the paving project could be eligible for retroactive grant reimbursement.
- Over the long term, the AEF may be able to generate sufficient revenue to fund anticipated operating and capital costs, including the necessary infrastructure

investment, if the County is able to more effectively utilize the airports' real property assets. In other words, the AEF cannot remain financially self-sustaining unless the airports' real property assets are employed to generate additional revenue. The process for leasing real property is lengthy. It will be several years before the parcels identified in the Business Plan could begin to produce revenue. However, this assumption must be tested and verified through a solicitation process involving the real property assets and execution of leases to confirm the cash flow anticipated by the report.

If the County resumes accepting Airport Improvement Program (AIP) grants, that funding can be used to reduce the backlog of deferred airfield infrastructure improvements. It is important to note that AIP funding cannot be used to fund ongoing facility maintenance and operations, which is the challenge to the longer-term financial viability of the airports system.

Should the County continue to forego AIP grants, it is likely that additional loans to the AEF would be required to fund future needed airfield projects until such time Reid-Hillview's real property assets generate revenue to help pay for these capital projects. This assumes the FAA would provide property releases. However, foregoing the Federal grant funds for Reid-Hillview would allow the County greater flexibility with respect to future use of the airport beginning in 2031 when the existing Federal grant obligations expire. It should also be noted that the County could apply for AIP grants for the San Martin Airport, but not for Reid-Hillview Airport.

COMMITTEE RECOMMENDATION

At the **September 17, 2018 special meeting** of the Housing, Land Use, Environment, and Transportation (HLUET) Committee, the Roads and Airports Department provided the Committee with a supplemental report relating to the County Airports Business Plan Update of the Reid-Hillview and San Martin Airports and sought input from the Committee. At this meeting, staff presented two options regarding the Airports Business Plan Update:

- Staff's recommendation: Maintain Reid-Hillview as an airport while making improvements and paying down debt by accepting Federal grants, applying for property releases from the FAA, and conducting an RFP for leasing properties (Option 1).
- Alternative: Preserve the opportunity for reuse of the Reid-Hillview property for purposes other than an airport in 2031 when grant assurances expire by adopting a policy that the County would accept Airport Improvement Program (AIP) grants, applying for property releases from the FAA, and negotiating leaseholds to make acreage available for non-aviation development (Option 2).

Following the presentation by staff and public comment, Supervisor Cortese requested that the Administration complete additional analysis related to an alternative described as "Option 3" for the possible future consolidation and expansion of general aviation operations at the San Martin Airport and re-use of Reid-Hillview, and directed that the following analysis be completed and returned to the Committee before the Airports Business Plan Update was considered by the Board of Supervisors:

- Business analysis of the capital improvements necessary to consolidate County general aviation operations at San Martin (e.g., additional asset development of Reid-Hillview property for non-aviation uses, investment requirements to improve and expand airport operations at San Martin so that existing assets at Reid-Hillview would be replaced with improved facilities at San Martin so that existing users of Reid-Hillview would not be displaced with such a consolidation and expansion of San Martin).
- Identification of possible legal constraints on the full consolidation by the County of airport operations at San Martin following 2031 when grant assurances at Reid-Hillview expire.

At the close of the **October 18, 2018 HLUET meeting**, Supervisor Wasserman recommended that Supervisor Cortese’s request for additional analysis regarding the Airports Business Plan Update be brought to the full Board for consideration, and the Committee clarified that the request for staff to develop an Option 3 would be placed on a future Board meeting for consideration and to receive possible additional direction.

FISCAL IMPLICATIONS

The Business Plan update sets out a series of policy options with a recommended course of action. The airport system operates through a self-funded Enterprise Fund. Adoption of the Staff Recommendation does not impact the General Fund. If the Board were to choose alternative actions, there are cost implications, some of which are estimated in this report pursuant to requests for information by HLUET.

The Business Plan Update describes a series of interrelated issues involving revenues, expenditures, grant funding and the general aviation market as they relate to the health of the Airport Enterprise Fund. It also discusses the overarching issue of grant funding and grant assurances as they relate to the County’s ability to exert local control over the airports.

Discussion of the Issues around Acceptance of Grants

The Federal government provides grant funding for eligible airport development projects through the Airport Improvement Program (AIP). The AIP program was established by the Airport and Airway Improvement Act of 1982 to provide funding for airport planning and development. The Airport and Airway Trust Fund, which was established by the Airport and Airway Revenue Act of 1970, provides the revenues used to fund AIP eligible projects through taxes or user fees that are collected from the various segments of the aviation community. No general taxpayer funds go into the Airport and Airway Trust Fund.

A portion of current AIP grant funds are assigned to eligible airports on an annual basis. For Reid-Hillview and San Martin, the FAA provides up to \$150,000 per airport per year in “entitlement” funding that can be used for any eligible project. The FAA will allow sponsors to bank their entitlement for up to three years so that in the fourth year, a sponsor will have up to \$600,000 for each individual airport that can be used on an eligible project. After three years, the oldest unused funds are released to the FAA for distribution to another airport through the AIP program. The County has not received FAA AIP grants since 2011.

During part of this period, the County was denied grants due to a dispute involving skydiving at San Martin Airport, and, as a result, \$1.5 million in Federal entitlement funding has been redirected to other airports. Each year that the County does not apply for AIP funding for both airports, an additional \$300,000 in entitlement funding will be redirected to other airports. Or, if the County chooses to receive AIP grants for San Martin, but not Reid-Hillview (RHV), then \$150,000 in entitlement funding would be re-directed. It is possible that those RHV funds could be re-directed to San Martin with FAA approval.

In addition to entitlement funding, AIP grant requests may also be considered for discretionary funding, which are made available to airports on a competitive basis subject to funding availability. Regardless of funding source, (entitlement or discretionary) the AIP program provides up to 90% of the eligible project value in Federal grants funds with up to 4.5% of the project value available through State grant funding. It is important to note again that AIP funding cannot be used to fund facility ongoing maintenance and operations, which is the central long-term challenge facing the system.

The Board of Supervisors recently approved a loan of \$3 million to the Airport Enterprise Fund from the General Fund to repave the runways and taxiways at the airports. This recently completed project was structured to be federally compliant and therefore grant eligible. Should the County resume accepting grants, staff will submit a grant application for this project.

Entitlement funds may be used to retroactively fund projects. Therefore, the County could apply the \$1.2 million in entitlement money accumulated for each of the two airports towards the General Fund loan, and then apply the annual \$300,000 in FAA entitlement funds over the next six years to complete payment on the remaining balance of \$1.8 million. After six years, the County could then accumulate future AIP entitlement grants for other needed projects. During that six-year period, however, the County could still apply for discretionary funding for grant-eligible projects.

Airports require constant maintenance. The runway and taxiway pavement, along with the parking ramp and lighting, signage, and surface markings all have a finite life and must be periodically renewed and replaced, regardless of the demand for aircraft parking. AIP grants can pay up to 90% of those costs with another 4.5% provided by the State. Without grant funding, the County must pay 100% of those costs.

When receiving AIP funding for projects, the grant recipients must agree to a series of thirty-nine grant assurances (assurances). These are binding agreements between the Federal government and the local agency regarding the operation of the airports. The assurances include specific requirements for how the grant funding will be utilized, how the project will be executed, and a variety of requirements on how the airports will be operated. Grant assurance agreements generally last 20 years.

Grant assurances fall into two categories¹; assurances specific to project, of which there are nineteen, and assurances that dictate specific requirements for long-term operations of an airport, of which there are twenty. The attachment provides a brief overview of the different grant assurances and groups them into project specific assurances and airport operation assurances.

The intent of the group of twenty grant assurances relating to operating the airport is to ensure the grant recipient maintains and operates the airport safely and efficiently. Most of the assurances align with the County's desire for safe and efficient airports and make good business sense.

However, several of the assurances may restrict the ability of the County to regulate the airports in ways that may be desirable and to reduce conflict with surrounding land uses without first obtaining FAA approval. For instance, the assurances restrict the County from imposing a time-of-day curfew, and from regulating the size and type of aircraft using the airports, or the types of uses, such as pilot training or skydiving. In addition to the assurances, the Airport Noise and Capacity Act of 1990 also regulates the operation of airports in the United States, including generally prohibiting the enactment of curfews and use restrictions.

Since the County most recently accepted grants in 2011, the most recent AIP grant agreement states that the County is currently obligated to comply with the assurances until 2031.

Grant Acceptance Risks

Another issue regarding grant acceptance relates to risk the County may be exposed to should it elect to accept FAA AIP grant funding going forward. If the airports general aviation business diminishes to the point that the AEF is no longer self-sustaining, the County would be required to keep the airports operating for the duration of the grant assurance period. The AEF budget for FY 2018-19 is approximately \$2.7 million dollars. This is the theoretical annual maximum exposure to the General Fund in today's dollars should airport revenue go to zero for the remainder of the grant assurance period. Of course, if the airport business declines that severely, staff would employ cost saving measures to reduce to the greatest extent possible the General Fund exposure and operate the airports at the minimum viable safety level.

Constraints Related to the Airport Noise and Capacity Act

The Airport Noise and Capacity Act of 1990 (ANCA) regulates local operators of public airports in important ways. Through ANCA, the FAA retains authority over the creation and implementation of access restrictions at all publicly owned airports, regardless of whether jurisdictions accept AIP grants. This means that any restrictions the County might wish to enact regarding the types of uses and time of use restrictions once the existing AIP grant assurances have expired would need to be reviewed and authorized by the FAA. Practically,

¹ There are three grant assurances that are specific to commercial air-carrier airports and consequently do not apply to the County airports. 10. Metropolitan Planning Organization, 12. Terminal Development Prerequisites, and 39. Competitive Access
Board of Supervisors: Mike Wasserman, Cindy Chavez, Dave Cortese, Susan Ellenberg, S. Joseph Simitian
County Executive: Jeffrey V. Smith
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this means that the FAA could likely prevent the County from imposing curfews, even after the grant assurances expire.

Because the Airport Noise and Capacity Act would still require the County to operate the airports similarly to airports receiving AIP grants, staff recommends that the Board of Supervisors approve retroactive use of existing available Federal entitlement moneys to begin paying down the principal of the loan. In addition, Staff recommends that the Board of Supervisors direct the Administration to apply for reimbursement for the remainder of the principal to the maximum amount possible. Acceptance of these monies will require the acceptance of new grant assurances for a new 20-year term.

Property Releases

A key premise of the Business Plan Update is the non-aviation use of airport property. Since Reid-Hillview property was purchased in part with FAA grant funding, the FAA must authorize use of the airport property for non-aviation use, a process referred to as a property release. The FAA frequently allows such development at other airports, but to date, when the County has applied for a property release at the Reid-Hillview parcel at the corner of Capitol and Tully shown in the attachment, the FAA would not release the parcel.

The most recent land release request is attached. Land releases are a critical approval necessary for the success of the business plan and the clearest path to providing funding for ongoing maintenance and operations. Board approval of this business plan is a crucial step in the land release application process. Should the Board agree to move forward with non-aviation development, a property release request would be once again submitted for the airport parcels in question, and the County believes that the FAA would likely be legally required to approve it; however, it is unknown how the FAA will respond.

Strategy for Non-Aviation use of Property

Pending direction from the Board of Supervisors and concurrent with the request for property releases, staff would draft the Request for Proposals for the real property identified in the Business Plan Update. The Board will be asked to approve the RFPs and subsequent leases should the County come to terms with interested land developers. The process including any City of San Jose land development approvals would require a minimum of three years. At this point, the revenue projections for the airport can be adjusted to reflect the new leases and the County would have certainty around the fiscal health of the airports.

Fixed Base Operators (FBO) Strategy

The purpose of the FBO strategy as recommended in the Business Plan Update is to improve competitiveness for aircraft and pilot services, use the airports land more efficiently, and improve quality of the buildings and grounds through the development of “Minimum Standards”. While this strategy is unlikely to result in significant revenue changes for the AEF as FBO lease proceeds are a small fraction of revenue, the consolidation of FBOs would free up land that could then be available for non-aviation ground leases.

The original leases for the FBOs at Reid-Hillview were executed between 1965 and 1973. It can be surmised that nine individual leases provided the best mix of aviation service providers for the airports needs at that time. The nine FBO leases at Reid-Hillview have all

been adjusted to expire concurrently in December 31, 2021. The concurrent expiration is a strategy staff employed to ease implementing the new full service FBO strategy as described in the Business Plan Update.

Of the nine existing FBO leaseholds at Reid-Hillview, only two provide a full range of services. The remainder of the FBOs act more as what the FAA defines as a Specialized Aviation Service Operator. These operators usually provide a single service.

The Plan recognizes the change in the aviation business climate since the mid-1970s and recommends reducing the number of leaseholds from nine small operations to two larger operations. Under the two FBO scenario each of the proposed FBOs will be required to provide a full range of services. As part of the RFP, a minimum standards document will be prepared to ensure that the two FBOs provide a full range of aviation services including fueling, maintenance, parking, rentals, ground support and terminal services. This will provide appropriate market competitiveness for services and eliminate the case where only one service provider sets pricing.

Although the Business Plan Update recommends two full service FBO's for Reid-Hillview, it is possible that the best mix of size and service that the market can support is more than two but fewer than nine. As the staff implements the Board's direction, an RFP can be developed with industry and stakeholder outreach in such a manner to allow flexibility in the number of future FBOs while adhering to the goals of a competitive market, full service and efficient use of land. Any RFPs will be presented to the Board for approval once they are developed and prior to advertising. Significant outreach with new potential vendors as well as existing tenants will be provided during the RFP development period.

In addition, by reducing the number of leases, the FBO layout can be made more efficient by providing a more coherent land side and air side interface. As a result, the lease area can be reduced from 18 acres to approximately 14 acres. The plan proposes the excess land be made available for non-aviation use subject to FAA property release.

Below are two diagrams showing the existing lease layout and the recommended lease layout. The recommended plan provides for an orderly airside and landside interface between the leaseholds and eliminates three "cul-de-sacs" necessary to provide landside and airside frontages for the exiting nine parcels. In addition, the new Plan may eliminate the need for John Montgomery Drive on the land side and free up an additional land that may be used for future non-aviation uses.

Existing Layout of Leases at Reid-Hillview



Proposed layout of leases at Reid-Hillview



The FBO lease at San Martin Airport expires on December 10, 2020. The single FBO at San Martin provides services commensurate with the demand for a smaller airport. The current leaseholder has sublet the various services out to different organizations (SASO) to provide aircraft maintenance and repair, fueling, and flight training. Staff recommendation for San Martin airport is for the County to take over management of the FBO property and lease out the appropriate space to individual SASOs to provide the services necessary for an airport of San Martin's size and activity level. In addition, the County will take over the self-fueling island. With the FBO hangar income, fuel sales and SASO leases, the budget for San Martin airport will be positively affected.

Nonprofit Use of Airport Property

The Business Plan Update identified two properties that occupy airport property that are not paying the AEF market-based rent. This arrangement is not appropriate for an enterprise fund. Both the Eastridge Little League and the San Martin Lions Club provide valuable service to the community. Recognizing the challenge these two organizations would face in acquiring properties, the Plan recommends the County identify funding to appropriately compensate the AEF the value of the real estate asset. This plan does not recommend removing either use.

Discussion of Airport Consolidation and Expansion (Option 3)

The HLUET Committee referred to staff direction to describe the resources needed to evaluate consolidation of Reid-Hillview to San Martin and its expansion as a regional training center, Option 3. In order to evaluate such a scenario, staff would need to prepare a new Master Plan (MP) for San Martin Airport assuming that Reid-Hillview is closed and some portion of the Reid-Hillview operation is relocated to San Martin. In order for the Board of Supervisors to approve a new Master Plan, an environmental assessment of approval of the Master Plan would need to be prepared, and, based upon that assessment, an Environmental Impact Report/Statement (EIR/EIS) would also need to be prepared.

An airport master plan is a technical document generally prepared in accordance with FAA *Advisory Circular 150/5070-6B – Airport Master Plans*. It is a comprehensive study of the airport which typically describes short, medium and long-term plans for airport development.² The advisory circular provides guidelines on the content of a Master Plan and the process by which it is developed, including public outreach recommendations to adequately address stakeholder input, needs and desires.

In most cases, a typical Master Plan would include the following elements which are described in greater detail in the attachment:

- Pre-planning
- Public Involvement
- Environmental Consideration
- Existing Conditions
- Aviation Forecast
- Facility Requirements
- Alternative Development and Evaluation
- Airport Layout Plan
- Facilities Implementation Plan
- Financial Feasibility Analysis

² FAA AC 150/5070-6B Airport Master Plan, pg. 5

The comprehensiveness for each of the elements varies based on the specific circumstances of the airport being studied. Typically, the level of detail necessary for the study are developed during the pre-planning effort.

The FAA recognizes that a Master Plan represents the views, policies and development plans of the airport sponsor, not necessarily those of the FAA. As such, the FAA does not approve a Master Plan but will formally accept it once it is completed. In order to meet Federal requirements however, the FAA must approve the Forecast of Demand and the Airport Layout Plan (ALP) portions of the Master Plan if the airport sponsor desires the airport be eligible for future Federal grant funding.

Master Plans can take some time to develop and have several cost drivers. As an example, the process for the 2006 Master Plan was begun in September 1999 when the Board of Supervisors initially authorized staff to apply for FAA grant funding to complete new Master Plans for Reid-Hillview, San Martin and Palo Alto Airports. The final Master Plans were published in July 2006. At the time, staff was preparing three airport master plans concurrently, so it can be expected that developing a single airport Master Plan should not take as much time. With that in mind, staff expects the best-case scenario for completion of a new San Martin Airport master plan to be three to four years.

The cost of developing a Master Plan varies based on the specific aviation, community and stakeholder needs for the airport being studied. However, for a reference point, in 2001 the San Martin Master Plan budget was approximately \$300,000. The estimate for the EIR/EIS in 2006 was approximately \$1 million. In order for the Board of Supervisors to adopt a new Master Plan, it is likely that an EIR/EIS will be necessary. The Federal EIS is required to conform to NEPA and allow the airport to be eligible for AIP funding in the future. Today, rough estimates for the cost of preparing a Master Plan is \$500,000 and the environmental work is \$2 million. This estimate is very preliminary and does not reflect a comprehensive and updated analysis of the costs.

Master plans and NEPA-required studies are FAA AIP grant eligible. However, they must be included in the five-year Airport Capital Improvement Plan (ACIP) submitted annually to the FAA. Should the Board elect to apply for grant funding for a San Martin Master Plan study, the ACIP will first need to be updated. Practically, this means that the first opportunity to obtain grant funding for these activities would occur in 2020. Also applying grant funding to the master plan-related activities could impact the ability of the AEF to use entitlement grant funding to repay the \$3 million General Fund loan.

Previous Master Planning Effort and Outcome

In 1999 preparation of Master Plans for Reid-Hillview, San Martin, and Palo Alto were authorized to proceed by the Board of Supervisors. The effort was concluded in 2006 and the environmental process was commenced. The cost of the three Master Plans was approximately \$722,000. In 2014, The Palo Alto Airport was relinquished to the City of Palo Alto.

In order to lessen the costs to the AEF, the County applied for grants to fund the environmental study for San Martin Airport. The environmental work for RHV was self-

funded and the work for Palo Alto was not done. In 2008, the County was awarded a \$400,000 AIP grant to complete the Federal EIS to comply with the National Environmental Policy Act for the San Martin Airport Master Plan. Unfortunately, the CEQA EIR costs were not eligible for grant reimbursement and the Airport Enterprise Fund did not have the resources to fund the additional costs. As a result, the EIR/EIS was not prepared and the grant funding was returned.

The 2006 Master Plans studied various growth options for County airports. The Board of Supervisors directed that the maximum number of based aircraft allowed at Reid Hillview be capped, and that the majority of new aviation growth be accommodated at the San Martin Airport. Consequently, the Master Plans for Reid-Hillview and San Martin Airport were developed to accommodate up to 750 and 418 based aircraft respectively. In 2006, Reid-Hillview had 687 based aircraft and San Martin had 115. The number of based aircraft at Reid-Hillview is currently 478 and San Martin has 150.

The 2006 Master Plans for Reid-Hillview and San Martin were developed with the expectation that Reid-Hillview would continue as a general aviation reliever airport. If the County were to consolidate Reid-Hillview through development at San Martin Airport, a new San Martin MP will be required. A basic overview of the types of improvements that would be required at San Martin Airport are described in the 2006 Master Plan. It is probable that the improvements described in the 2006 Master Plan for San Martin would represent a similar scale of development necessary to accommodate a portion of the Reid-Hillview aircraft and operations.

The current MP for San Martin contemplates:

- A new air traffic control tower
- An extended runway
- One new taxiway
- A new terminal building
- A new maintenance building
- Multiple new corporate hangars
- A new tiedown parking ramp
- New water and sewage infrastructure
- One new FBO
- Property acquisitions to protect the airport from incompatible development

Attached is the 2006 South County Airport Master plan, which contains a diagram showing the described improvements.

This Airports Business Plan Update was prepared in response to direction from the Board of Supervisors and represents staff analysis of the options for an updated airports business plan. Contemplation of airport consolidation has been discussed in the report in response to a referral from the HLUET Committee. It is understood that the land use, neighborhood

compatibility, environmental footprint, and environmental justice issues around Reid-Hillview Airport have been longstanding community concerns.

During community hearings and at HLUET, nearby residents and representatives of East San Jose institutions including People Acting in Community Together (PACT) and Somos Mayfair consistently voiced opposition to RHV as a general aviation airport. Some of the representatives spoke to the serious health hazards posed by leaded fuel used by general aviation airplanes, others spoke to the safety concerns of having incompatible land uses (residential neighborhoods adjacent to RHV), while others expressed the urgent need for additional affordable housing that could be placed at RHV through a re-use plan.

The urgent need for substantially more affordable housing in Santa Clara County has been thoroughly analyzed and documented in County Office of Supportive Housing reports as well as in presentations on Nexus Studies for affordable housing impact fees in unincorporated Santa Clara County. However, County staff have not to-date provided analysis addressing consistent community concerns around lead contamination and poisoning in the vicinity of Reid-Hillview Airport.

In light of the County's core mission to promote the health and well-being of the residents of Santa Clara County, and in order to better inform the Board of Supervisors' decision-making process, information about lead contamination and poisoning, the use of leaded fuel in small, piston-engine airplanes, and blood lead levels in Santa Clara County children is provided.

Lead Contamination and Poisoning

Lead was introduced in the 1920s as a fuel additive for use in engines to help boost fuel octane and prevent valve seat recession but is now widely recognized as a significant public health concern. With newer engine and fuel technology, leaded fuels were transitioned out of use over several decades due to the health risk associated with lead exposure. As discussed below, leaded aviation fuel (“avgas”) continues to be used in the piston-engine aircraft that are typically used for recreational aviation.

Lead contamination and poisoning presents serious public health risks. Lead is a confirmed neurotoxin, and even low levels of lead in blood can result in stunted physical and cognitive development in children, leading to lower IQ scores, poor academic performance, poor attention and impulse control, and numerous physical health complications.³ In adults, elevated blood lead levels are associated with kidney and brain damage, increased blood pressure, miscarriages, stillbirths, and infertility. Importantly, the most common way to address lead exposure is to remove the sources of lead.

Environmental Standards for Airborne Lead

In 2008, the Environmental Protection Agency (EPA) considered adjusting the national ambient air quality standards (NAAQS) for airborne lead, taking into account the air-related effects on neurocognitive function loss associated with exposure to varying levels of lead.

³ US Dept. of Health and Human Services, National Toxicology Program, NTP Monograph, “Health Effects of Low-level Lead Evaluation” (June 2012)

The EPA concluded that there are “causal associations between air-related (lead) exposures and population IQ loss.”⁴ At that time, the EPA revised the NAAQS for lead to 0.15 µg/m³ in total suspended particles as a 3-month average and has retained that standard following additional review in 2016. This standard has been maintained despite scientific consensus that there is no safe level of exposure to lead.

Blood Lead Levels

Currently, children with blood lead levels (BLL) equal to or greater than 5 µg/dL of blood are identified as having a BLL of concern by the Center for Disease Control (CDC).⁵ However, the Environmental Protection Agency, the CDC, and California Department of Public Health have concluded that there is no safe blood lead exposure, and no BLL over zero is free of all risk.⁶ Even low levels of lead in blood in children have been shown to result in cognitive decline and reduced IQ⁷ and, although the effects may be small, they are enduring and usually permanent.⁸ Studies find that adults exposed to lead as children show significant neural differences to adults without childhood lead exposure. Persons exposed to lead in early life experience “an unfolding series of adverse behavioral outcomes: behavior problems as a child, pregnancy and aggression as a teen, and criminal behavior as a young adult.”⁹ Because lead exposure often occurs with no obvious symptoms, it frequently goes unrecognized.

Sources of Airborne Lead

Since the removal of lead from gasoline used in automobiles, point sources for concentrated lead emissions, such as smelters, metal foundries, power plants, and airports are now considered the main routes of exposure to lead in outdoor air. However, without a current source of lead emissions, “legacy” contamination from leaded gasoline use in past decades, leached lead from water pipes, and old house paint also contributes significantly to BLLs, as lead particles from these sources are ingested, or inhaled when climatic conditions cause lead particles to become re-suspended in air.¹⁰

Lead Emissions at Reid-Hillview Airport

Although leaded fuel was phased out of use in automobiles beginning in the 1970s and has been banned in California since 1992 for road use, leaded gasoline continues to be used in

⁴ Murphy, D., and Pekar, Z., United States Environmental Protection Agency, “Air-related IQ Loss Evidence-based Framework and Estimates from Quantitative Risk Assessment” (April 2008)

⁵ Centers for Disease Control Fact Sheet, “Blood Lead Levels in Children”

⁶ Vorvolakos, T., Arseniou, S., & Samakouri, M. (2016). There is no safe threshold for lead exposure: A literature review. *Psychiatriki*, 27(3), 204-214. doi:10.22365/jpsych.2016.273.204

⁷ Lanphear, B. P. (2000). Cognitive Deficits Associated with Blood Lead Concentrations. *Public Health Reports*, 115(6), 521-529. doi:10.1093/phr/115.6.521

⁸ Canfield, R. L., Jusko, T. A., & Kordas, K. (2005). Environmental lead exposure and children's cognitive function. *Rivista italiana di pediatria = The Italian Journal of Pediatrics*, 31(6), 293-300.

⁹ Reyes, J. (2015) Lead exposure and behavior: Effects on antisocial and risky behavior among children and adolescents. *Economic Inquiry* 53(3): 1580-1605.

¹⁰ Schmidt, C. (2010) Lead in Air, Adjusting to a New Standard. *Environmental Health Perspectives* 118(2): A76-A79; doi:10.1289/ehp.118-a76

small, piston-engine planes. These planes are typically used for flight instruction, personal recreational or business use, and charter use, operating out of small general aviation airports like Reid-Hillview. Lead is not added to jet fuel that is used in commercial aircraft, military aircraft, or other turbine-engine powered aircraft. Avgas is currently the largest source of lead emissions in the United States,¹¹ estimated by the EPA to account for half of the lead pollution in American skies.

Locally, Reid-Hillview (RHV) is a significant source of airborne lead pollution in the Santa Clara Valley. A 2008 study by the EPA ranked the airport 25th out of 3,414 airport facilities across the country with an estimated 580 kilograms of lead emitted annually.¹² This estimate is based upon data obtained from the Federal Aviation Authority relating to airport activity including statistics relating to the types of aircraft in use and the number of takeoffs and landings. Since 2008, RHV's number of annual flight operations has grown from 141,006 to 162,648 in 2017, which suggests that neighborhood children and the surrounding communities are exposed to more airborne lead pollution than at the time of the study.

RHV was one of 15 airports chosen by the EPA for required monitoring due to expected lead emissions from piston-engine aircraft utilizing the airport. Results through December 2016 indicate that lead concentrations have exceeded 50% of the National Ambient Air Quality Standards – which are standards for harmful pollutants established by the EPA under authority of the Clean Air Act – for airborne lead (0.15 µg/m³), requiring continued monitoring. Three month rolling averages from 2014 through 2016 at RHV ranged from 0.049 to 0.103 µg/m³.¹³

Blood Lead Levels of Children in Santa Clara County

In 2012, the California Department of Public Health published data on children under 6 years old with blood lead levels (BLL) at or above 4.5 µg/dL of blood. Five out of a total of 58 zip codes in Santa Clara County were in the top 200 out of 2,589 zip codes across the state for elevated BLLs in young children, where there were at least 500 children tested. These included the two zip codes adjacent to Reid-Hillview Airport (95122, 95127), and one zip code with a border within one mile of the airport (95116). Each of these three zip codes showed a higher than average percentage of children with elevated BLLs.

¹¹ Health Impact Project, Pew Charitable Trusts, “10 Policies to Prevent and Respond to Childhood Lead Exposure” (August 2017)

¹² United States Environmental Protection Agency, Lead Emissions from the Use of Leaded Aviation Gasoline in the United States, Technical Support Document, EPA420-R08-020 (October 2008)

¹³ Bay Area Air Quality Management District, 2016 Air Monitoring Network Plan (July 2017)

Table 1. Children >6 Years with Elevated Blood Lead Levels (BLL) by Top Zip Codes in Santa Clara County, 2012¹⁴

Zip Code	Region	Percentage of Children with $\geq 4.5\mu\text{g}/\text{dl}$ BLL
95127	San Jose – East (RHV)	3.02%
95122	San Jose – East (RHV)	2.48%
95116	San Jose – East	1.93%
95111	San Jose – South	1.81%
95020	Gilroy	1.68%

Although this data does not demonstrate that the use of leaded fuel at Reid-Hillview Airport (RHV) is the cause of elevated BLLs in adjacent areas, it may be a significant contributing factor. A study at Santa Monica Airport¹⁵ found that the highest lead concentrations occur close to airport runways and decrease exponentially with distance from an airport, dropping down to background levels at about 1 km.¹⁶ Additionally, a 2011 study¹⁷ concluded that there is a significant association between potential exposure to lead emissions from avgas and elevated BLLs in children. The results of the analysis in that study suggest that children living within 500 meters of an airport at which planes use avgas have higher blood lead levels than other children, and that the apparent effect of avgas was evident also among children living within one kilometer of those airports.

For the millions of people nationwide living within a kilometer of airport facilities that service piston-engine aircraft, the continuing flow of lead into the environment remains a potentially serious source of exposure risk, with a recent study of BLLs in children living near airports using avgas in Michigan providing evidence that “elevated BLLs in children proximate to airports is at least partly attributable to avgas deposition from piston-engine aircraft.”¹⁸ This study found that children residing within one kilometer of an airport are 25% and 45% more likely to exceed present and past thresholds of concern than children living at least 4 kilometers away.

¹⁴ Top 200 California Zip Codes for Percentage of Children Age <6 years with Blood Lead Levels of ≥ 4.5 mcg/dl (California, 2012); <https://www.cdph.ca.gov/Programs/CCDC/DEOD/CLPPB/Pages/data.aspx>

¹⁵ United States Environmental Protection Agency, Development and Evaluation of an Air Quality Modeling Approach for Lead Emissions from Piston-Engine Aircraft Operating on Leaded Aviation Gasoline, Technical Report, EPA-420-R-10-007 (February, 2010)

¹⁶ See also Piazza, B. (1999). Los Angeles Unified School District, Health and Safety Branch Santa Monica Municipal Airport: A Report on the Generation and Downwind Extent of Emissions Generated from Aircraft and Ground Support Operations

¹⁷ Miranda, M. L., Anthopolos, R., & Hastings, D. (2011). A Geospatial Analysis of the Effects of Aviation Gasoline on Childhood Blood Lead Levels. *Environmental Health Perspectives*, 119(10), 1513-1516. doi:10.1289/ehp.1003231

¹⁸ Zahran, S., Iverson, T., McElmurry, S. P., & Weiler, S. (2017). The Effect of Leaded Aviation Gasoline on Blood Lead in Children. *Journal of the Association of Environmental and Resource Economists*, 4(2), 575-610. doi:10.1086/691686

Areas with higher than average percentages of children with elevated BLLs are more likely to be populated by people of color and those in lower income groups, with one study finding “extraordinarily high rates of lead toxicity” in black and Hispanic neighborhoods in Chicago, concluding that “lead toxicity is a source of ecological inequity by race and a pathway through which racial inequality literally gets into the body.”¹⁹ Census data indicate a predominantly minority population in the five zip codes in question (Table 2), with a poverty rate exceeding the county average of 9.3% (Table 3).

Table 2: Percentage of Individuals with Hispanic/Latino or Asian Origin in Zip Codes with Higher Rates of Elevated BLLs²⁰

Zip Code	Hispanic or Latino	Asian
95127 (SJ – East RHV)	58.9%	23.2%
95122 (SJ – East RHV)	58.6%	23.4%
95116 (SJ – East)	59.9%	34.7%
95111 (SJ – South)	51.6%	34.4%
95020 (Gilroy)	58.2%	6.1%

Table 3: Percentage Individuals Below Poverty Level in Zip Codes with Higher Rates of Elevated BLLs, with Median Income²¹

Zip Code	Individuals Below Federal Poverty Level	Median Annual Household Income
95127 (SJ – East RHV)	11.8%	\$78,362
95122 (SJ – East RHV)	17.6%	\$62,595
95116 (SJ – East)	19.2%	\$51,399
95111 (SJ – South)	16.7%	\$61,630
95020 (Gilroy)	12.6%	\$86,261
<i>Countywide</i>	9.3%	\$101,173

Recommendations

It is recommended that the Board of Supervisors adopt the following recommendations:

1. Receive the Business Plan Update.
2. Consider options discussed, or others that are appropriate, and provide direction to staff.
3. Direct the County Executive to report back to the Board with a recommended plan to analyze and address any concerns regarding airborne lead and associated concerns.

¹⁹ Sampson, R. J., & Winter, A. S. (2016). The Racial Ecology of Lead Poisoning. *Du Bois Review: Social Science Research on Race*, 13(02), 261-283. doi:10.1017/s1742058x16000151

²⁰ United States Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

²¹ United States Census Bureau, 2012-2016 American Community Survey 5-Year Estimates

4. Direct the County Executive or designee to accept \$1.2 million in FAA entitlement funding to help pay down the \$3 million loan the AEF received from the General Fund in fiscal year 2017. Execute the necessary Grant Agreements to receive the funding from the federal government.
5. Direct the County Executive to apply for Federal and State Grants for the Santa Clara County Airports to the maximum extent possible for the improvement of the airport's infrastructure.
6. Direct the County Executive to apply for property releases from the FAA consistent with the Business Plan Update.
7. Direct the County Executive to prepare Requests for Proposals consistent with the Business Plan Update for leasing properties and consolidating the Fixed Base Operators (FBOs) at Reid Hillview Airport.

Alternative

Alternatively, if the Board of Supervisors desires to preserve the County's options for possible use of the Reid-Hillview Airport for an alternate purpose, the following option may also be considered.

1. Approve a policy statement that the County will not apply for Airport Improvement Program grants for Reid-Hillview Airport.
2. Direct the County Executive or designee to accept \$1 million in FAA entitlement funding related to the airfield repaving project at San Martin Airport to help pay down the outstanding General Fund loan.
3. Direct the County Executive to apply for property releases at Reid-Hillview Airport from the FAA consistent with the Business Plan Update.
4. Renegotiate existing leaseholds to the extent possible to consolidate the FBOs at Reid-Hillview Airport to make available acreage for non-aviation development. This effort may be hindered by a decision to forego Federal grants since the future of Reid-Hillview will be viewed as uncertain by potential leaseholders.

The Board may wish to clearly state its intent regarding Reid-Hillview by:

5. Declaring its intent that the purpose in foregoing certain Federal AIP funds is to ultimately close Reid-Hillview Airport.
6. Directing the County Executive to prepare a new Master Plan for the San Martin Airport in consideration of the future closure of Reid-Hillview Airport.

CHILD IMPACT

The recommended action will impact the health and welfare of children and youth regarding lead contamination and/or ultimate usage of the airport property.

SENIOR IMPACT

The recommended action may also have a health and welfare impact upon seniors.

SUSTAINABILITY IMPLICATIONS

The recommended action will have no/neutral sustainability implications.

BACKGROUND

At the May 9, 2017 Board meeting, staff presented a report that recommended development of an updated business plan (BP) for county airports. With the Board's concurrence, staff was directed to return with an implementation plan that included a time-frame and the costs necessary to produce a new BP. Since that initial meeting, staff has held a series of 17 separate public meetings (attachment), including six Airport Commission meetings, to answer questions and solicit input from stakeholders.

On Dec. 12, 2017, an implementation plan was presented and accepted by the Board with direction to bring the completed business plan update back to the Board in spring 2018.

After completion of a series of stakeholder meetings, staff intended to bring the Business Plan Update to HLUET Committee on May 17, 2018 and the full Board in June. Due to questions about the Business Plan and the desire to obtain additional public input, the HLUET presentation was postponed until June 21, 2018. Due to the length of the June 21 agenda and the anticipated public input during this item, the HLUET presentation was postponed to August 16, the first HLUET meeting after summer recess. Subsequently a request was received from constituents to hold the HLUET meeting in the evening to ensure the greatest level of participation. The HLUET presentation was then scheduled for an evening meeting on September 17, 2018.

At the September 17, 2018 HLUET meeting, the committee requested that staff evaluate a third option to move the Reid-Hillview Airport operations to San Martin and to establish a regional training center, and to bring the updated report back to HLUET prior to submission to the full Board.

At the end of the October 18, 2018 HLUET meeting, a discussion between the Committee members resulted in a request for staff to present the information requested by HLUET relative to Option 3 and the Business Plan to the full Board of Supervisors prior to the end of the 2018 calendar year without a presentation to HLUET first.

Airports Commission Meeting

The Airports Commission will submit its comments on the Business Plan separately directly to the Board of Supervisors. However, the Commission did point out that the time periods for various fiscal analysis in the Business Plan were inconsistent. The Airport Commission also noted that in the Business Plan Update's discussion around the issue of grant acceptance, the report did not fairly balance the pros and cons of grant acceptance.

Reid-Hillview Meeting

Staff held a public meeting on May 22, 2018 between 6:30 P.M. and 8:30 P.M. in the Ocala Middle School cafeteria. Prior to the meeting, notice was posted on the County website, Facebook page, Nextdoor website and on the airport's website and Facebook page. In addition, an email notice was sent to all past registered meeting attendees and all airport

tenants. A flyer was distributed to all airport-based businesses and a postcard notice was mailed to approximately 6,500 properties near Reid-Hillview Airport.

Approximately 100 people attended the meeting. About half of the attendees were from the neighborhoods surrounding Reid-Hillview and the other half were airport users and tenants. Spanish and Vietnamese interpreters were made available to assist in communication.

A slide presentation was provided to the attendees with a question and answer session following. Among the neighbors, the general consensus was that the airport is an undesirable neighbor with numerous comments to close the airport and redevelop it into affordable, multifamily housing and/or community-serving uses such as schools or parks. San Jose State University Aviation Department students attended and expressed the value that the airport holds for them and their efforts to obtain an aviation-based education and the opportunities that are available to the local youth because of the SJSU presence at the airport. Current airport tenants were concerned with the proposal to realign the FBO leaseholds with a desire to understand the mechanics of that change. There was also much discussion on the lack of clarity in the preliminary draft report regarding the benefits Airport Improvement Program (AIP) grant funding provides to the County and what benefits in terms of freedom and flexibility that would be obtained should the County elect not to accept future grant funding and allow the existing grant assurances to expire.

A summary of the meeting with comments and responses is attached.

San Martin Meeting

On May 23, 2018 between 6:30 P.M. and 8:30 P.M., a public meeting was held at the San Martin Airport to discuss the preliminary Business Plan Update. The meeting notice was posted on the County website, Facebook page, Nextdoor, and on the airport's website and Facebook page. In addition, an email notice was sent to all past registered meeting attendees and all airport tenants. A postcard notice was mailed to approximately 500 properties near San Martin Airport.

Approximately 50 people attended this meeting and fewer than five attendees identified themselves as being from the surrounding community. The remainder were airport users and tenants.

The same slide-show presentation from Reid-Hillview was presented at the San Martin Airport. The discussion at San Martin was largely about what will happen when the FBO leasehold expires in 2020. The FBO leasehold includes hangars that will revert to County ownership upon expiration of the FBO lease. Some occupants of the FBO hangars claim ownership of the hangars. This is not consistent with the FBO lease. Additional discussion was held on the value of accepting AIP grant funds, and the existing Airport Master Plan that includes possible additional development at the airport, including a lengthened runway.

A summary of the meeting with comments and responses is attached.

Meeting with the Federal Aviation Administration

Staff met with the FAA, Airport District Office (ADO) on July 27, 2018 to present the preliminary draft Business Plan Update and discuss its intent and purpose.

County staff presented the Plan to the FAA staff in attendance. Staff explained the intent of monetizing excess land and realignment of the FBOs at Reid Hillview in the context of improving the fiscal outlook for the Santa Clara County Airports.

The FAA staff expressed continued concerns about the County's failure to apply for AIP grant funding. The FAA staff indicated that failure to apply for grants is usually a precursor to an attempt to close an airport. In addition, property release requests are also frequently seen as an effort by an airport operator to justify future closure of an airport. The FAA indicated that past property releases submitted by the County were viewed in that context.

After an in-depth discussion of the Plan's strategy, including the property releases, the FAA staff indicated that there is likely to be an opportunity to negotiate the property releases once the Business Plan Update is approved.

The FAA was receptive and appreciative of the efforts the County has made and expressed a desire to actively partner on improving the airports. To that end, staff and the ADO office will meet again in the fall of 2018 to review the outcome of the HLUET and Board of Supervisors actions.

CONSEQUENCES OF NEGATIVE ACTION

The County would continue to operate the airports with the existing leasehold mix; revenue and expenditures would largely remain the same with expenses rising relative to economic conditions and increases to rents indexed to the Consumer Price Index (CPI).

The FY 2019 budget for the Airports division calls for a \$268,000 transfer from Retained Earnings to the operating budget. Without additional revenue sources, this is a trend that is expected to continue indefinitely. The deficit does not include any capital investment. All capital needs will necessitate additional funding. Under this scenario, a long-term subsidy of approximately \$20 million dollars over ten years is required.

STEPS FOLLOWING APPROVAL

Send notification of completed processing to:

1. Pam Rebillot, Roads and Airports Department, Administration
2. Eric Peterson, Roads and Airports Department, Airports Division

ATTACHMENTS:

- RHV Public Meeting Summary 05/22/18 (PDF)
- San Martin Public Meeting Summary 05/23/18 (PDF)
- Written Public Comments (PDF)
- Grant Assurances (PDF)
- FAA Release Requests (PDF)
- Airports Business Plan Update (PDF)
- Comments from Airports Commission(PDF)
- Public Comment - CAAPSO (PDF)
- Written Public Comments Addendum (PDF)
- Airports Business Plan Presentation 9-17-18 (PDF)
- Public Comment 9-17-18 (PDF)
- Meeting Schedule (PDF)
- Airports Business Plan - redline view (PDF)
- Reid-Hillview Airport Masterplan (PDF)
- San Martin Airport Master Plan (PDF)
- Typical Elements of an Airport Master Plan (PDF)
- Public Comment relating to DART (PDF)
- Public Comment 12-3-18 (a) (PDF)
- Public Comment 12-3-18 (b) (PDF)
- Public Comment 12-3-18 (c) (PDF)
- Public Comment 12-3-18 (d) (PDF)
- Memo from Vice President Chavez (PDF)
- Airports Business Plan Update Presentation Final (PDF)
- Public Comment 12-4-18 (e) (PDF)
- Public Comment 12-4-18 (f) (PDF)
- Public Comment 12-4-18 (g) (PDF)
- Public Comment (PDF)
- Written Comment (PDF)
- Written Comment (PDF)