



A MASTER PLAN PILOTTED BY THE COMMUNITY



# MEMORANDUM

TO: TTAD Board

FROM: Tony Tezla, Project Manager

DATE: June 3, 2013

SUBJECT: Preliminary Input/Direction, Alternatives Analysis

PROJECT No. 2013700-114396

The purpose of this memo is to outline the expectations for the upcoming technical work. The timing of this input is being requested at the conclusion of the community outreach efforts that launched the planning study. This memo contains a list of the topics Mead & Hunt currently expects to address as part of the Master Plan. Mead & Hunt is looking for concurrence, discussion, direction, and any relevant limitations before undertaking these critical tasks. We are also looking to identify alternatives. Our scope calls for the initial screening of 4 alternatives and a more comprehensive analysis of 2 finalist alternatives. To facilitate the discussion, Mead & Hunt anticipates using the information contained in this memo to identify example alternatives for TTAD consideration and to interactively explore the options.

The systematic review of airport facilities typically progresses outward from the runway environment. Each area of discussion is given a topic name, a brief background description of the driving factors, and a consultant expectation (or recommendation). Because a master plan typically focuses on facility needs, it may be appropriate to identify another venue (e.g., strategic plan) for certain topics or to identify how the issue will be addressed within the master plan.

## Airside/Airspace

### New Runway Alignment

Purpose— to align the runway away from neighboring communities to reduce community noise impacts.

Community Input— concept developed during MPOC meeting. The community and pilot reaction was generally negative.

Consultant Opinion— aeronautical, engineering, environmental, construction, and cost challenges would be significant.

### Extend Runway 10-28 and Displace Threshold

Purpose— to reduce noise by increasing the altitude over residential/ community centers; the increased distance between the aircraft and the ground will result in a noise reduction. The increased runway length may provide a safety benefit for a high altitude airport.

Community Input— generally positive; concerns were related to the potential to allow larger airplanes to operate, proceeding with an airport expansion under the guise of noise reduction, and future implications to allow larger airplanes over time.



Consultant Opinion— anticipate a noise reduction (for the same activity levels and aircraft types). The potential application of declared distances (a varying runway length method) may be confusing to some pilots. The east runway protection zone will likely extend off property and across Martis Dam Road. Sub-alternatives include a pure shift to the east, and extending the takeoff east while physically removing pavement the same amount on the west side could address community concerns about growth.

#### Widen Runway 2-20

Purpose— to encourage greater use of this runway so as to disperse air traffic and reducing the average or repetitive annoyance experienced by neighboring communities.

Community Input— No significant community support was received during the outreach process.

Consultant Opinion— The analysis for this concept to achieve the desired objective will be largely anecdotal and opinion-based. We have some initial safety concerns about how runway width is perceived by a pilot: more width normally means more length and landing attempts during stronger crosswinds.

#### Improved Approach to Runway 20

Purpose—to increase accessibility during inclement weather and crosswind conditions; to reduce circling approach procedure. There is also a potential benefit to increase traffic dispersion during inclement weather.

Community Input—the input was received during the pilot meeting.

Consultant Opinion— The feasibility, analysis, and design of new approach procedures is particularly complicated at TRK and a master plan evaluation would be limited to close-in final approach and missed-approach areas. RPZ-size implications and on-airport upgrade requirements would be identified.

#### Weather, Communications, Instrumentation, and Surveillance Improvements

Purpose: to improve aeronautical safety, reliability, and efficiency.

Community Input— issues raised primarily by the pilot community included difficulties contacting Oakland Center via radio, obtaining weather information immediately around the airport and at elevation, daytime activation of vertical guidance lights, and obtaining approach clearances due to airspace void time restrictions.

Consultant Opinion—these issues are all likely resolvable over the course of the planning period. The master plan may document these issues and recommend future funding allocations that will be included on FAA capital improvement program priorities and/or through reimbursable or self-funded agreements. Many of these issues are driven by FAA policy and procedure lagging behind technical advancements and new operational arrangements. The concern is often about assigning jurisdictional control and liability of airspace matters. Federal policy will likely resolve these issues in the near future. The lighting and radio contact seem to be more readily resolvable.

### Air Traffic Control Tower

Purpose: to enable additional local control of airspace as a means of improving safety and reducing noise annoyance impacts.

Community Input— minimal support from pilot and local communities.

Consultant Input— In addition to typical control tower installations, the master plan could explore new/emerging control options such as remote monitoring or multi-facility control towers. The new/emerging options are largely untested. Controller input may offer better ability to disperse traffic when compared to self-directed flight. However, it is unclear how significant these benefits would be perceived in the community if successful, and the degree of success given wind and the individual aircraft operational requirements. We would not anticipate a favorable benefit-cost relationship, particularly if a local tower facility is to be constructed and staffed. If there is value, it would seem more likely achievable through the newer remote monitoring options.

### Real Property Needs

Purpose: Relates to aeronautical need and not open space or community needs that would be assessed separately. A typical master plan will assess the adequacy of real property for accommodating the facilities envisioned.

Community Input: Most input indicated a desire for open space. Discussions about acquiring noise impacted homes generally indicated a concern about costs and additional options being available.

Consultant Input: some of the runway alternatives would require direct ownership control through fee simple or easement acquisition. These include airport control of runway protection zones, approach/departure areas and noise impacted residences. Acquiring noise impacted homes may have a more positive benefit-cost result than other options for reducing community impacts.

### Scheduled Commercial Service

Purpose: posed to the community in part for educational clarity and in part to confirm TTAD's understanding of community interest.

Community Input: Generally, the community favored maintaining the current character of the airport with moderate growth consistent with the community- the existing character does not include scheduled airline service. Many comments included the proximity of Reno Airport eliminating the need for airline (and even business/corporate jets) at TRK. However, some support for limited scheduled service was voiced.

Consultant Input: There were more favorable comments than we had anticipated. It seems that the discussion can be tabled indefinitely or until such time that a combination of community support and/or airline interest renews the discussion. In the meantime, our recommendation would be to reserve adequate space for aviation growth to accommodate airline, or other not yet identified future aviation need.

### Emergency Support Facilities

Purpose: identify the types of emergency response services to be located at the airport.

Community Input: Very positive. General support for further enhancements. Some negative feedback concerning off-airport heliport locations- the concern being ability to restrict use into the future.

## MEMORANDUM

June 3, 2013

Page 4 of 8

Consultant Input: Currently unclear what additional facilities are needed. Anticipate identifying these needs during June and July.

### Consolidate versus Disperse Tracks

Purpose: obtain community input about the best means for reducing community annoyance given two distinctly different "schools of thought".

Community Input: The dot selection used at during the community meetings were evenly split. The written comments received favored the dispersion method (which is the current aim with emphasis on increasing the amount of dispersion).

Consultant Input: Based on input, anticipate evaluating potential means to increase dispersion. Of the two major options, close-in dispersion of flight tracks is the more difficult to achieve. This topic has little impact to the planning of airport facilities, but does affect the noise modeling efforts to be undertaken to estimate future noise levels.

### Nighttime Operations

Purpose: to gauge community concerns about nighttime operations and means to address it. There is some rationale that the relative percentage of nighttime operations could increase as a result of increased business activity and aircraft system and navigation technologies.

Community Input: Mixed. Nighttime noise may not be a driving concern today. General interest in enhancing voluntary programs to reduce nighttime impacts. Some felt the voluntary programs were successful; others did not.

Consultant Input: TRK has fewer nighttime operations than comparable lowland airports. This will likely be the case for many years. Enhanced technologies and use by business jet aircraft would likely increase incrementally over time and we can make reasonable assumptions for modeling purposes. Because these aircraft also tend to be quieter, there may not be a positive benefit-to-cost benefit for imposing restrictions that may be resisted. Other options may be available, such as limiting facilities or services, or through adaptive price policies. May be advisable to track nighttime statistics and set a threshold for further study before incurring additional costs. This topic has little impact to the planning of airport facilities, but does affect the noise modeling efforts to be undertaken to estimate future noise levels.

### Community Perceptions about Recreational Aviation Facilities

Purpose: identify uses that are fairly unique to a destination/recreational region. Gliders, helicopter tours and ski programs.

Community Input: Most of the input on these items concerned noise.

Consultant Input: Significant focus in past years on fixed wing traffic patterns. Community concerns included tow plane operations and flight patterns, aerial tour operations, helicopter traffic patterns, and off-airport helicopter operations. Consider enhancing the procedures for these unique operations being conducted by local operators.

### Community Perceptions about Jets

Purpose: TTAD has done much regarding community outreach and noise in recent years that has generally been received positively. Some key observations were noted:

Community Input: Much more concern about jets than smaller/ piston airplanes. Noise and safety are often cited as the primary concern related to jets. Other concerns include: visual impact, perception of

being an “urban” airport versus a “country” or “small” one, or just a negative “feeling”. Some of the commenters understood that jets are generally quieter.

Consultant Input: The informational efforts of TTAD are clearly visible. Although a lot of emphasis is placed on noise over the years, the visual and negative “feelings” associated with jets should be better understood so that they can be addressed. Some community members may still perceive jets to be louder. Also, safety record of jets compared to light piston aircraft may require greater communication as the safety record for jets is much better than it is for light pistons. In terms of national trends, jets are increasing while pistons are decreasing. The incremental change will affect the business footing of TTAD and private servicers over time.

### **Airport Design Standards (No specific community input)**

#### Airport Reference Code (now and future)

Purpose: a necessary step for assessing an airport's configuration in relation to the aircraft using it over time.

Consultant Input: Anticipate recommending one future upgrade in design level for both runways in an effort to preserve adequate safety setbacks are met over many years. Another option would be to upgrade crosswind runway to the same design code as the primary runway. The upgrade may be more helpful in dispersing flight tracks between the two runways than changes to the runway width.

#### Runway-Taxiway Separation

Purpose: the separation between the runways and parallel taxiways may need to increase to 1) meet current design standards, 2) meet future approach procedures, or 3) to help disperse the flight patterns.

Consultant Input: Taxiway G is 180 feet (centerline-centerline) from Runway 2-20. A separation of 225 to 300 feet is more appropriate (depending on design classification and approach type). Likewise, Taxiway A is located 250 feet; it may be advisable to shift this taxiway to 300 feet.

#### Taxiway Orientation, Configuration, and Location

Purpose: The FAA standards affecting taxiway location and configuration have changed significantly.

Consultant Input: Anticipate replacement of two acute angled taxiways with right-angled ones. General assessment of runway access restrictions.

### **Security**

#### Perimeter Fencing and Access

Purpose: Airport security has become a primary concern for airports and FAA. Perimeter fencing and gate access controls are the primary means of providing security and smaller airports like TRK. Perimeter fencing is also used to minimize wildlife hazards such as deer and to reduce the potential for inadvertent access by vehicles and pedestrians.

Consultant Input: While the entire airport property does not need to be fenced, our recommendation is to fence and control access to the airport operating area: runways, taxiways, and aircraft parking aprons.

## **Aviation Development**

### Excess T-hangars

Purpose: the airport reports several vacant T-hangars. Unless the long term trend reverses, the space may need to be reallocated.

Community Input: The pilot community commented that lowering the rental fee may draw airplanes from other airports that otherwise want to base at TRK.

Consultant Input: Although the forecasts will be used to identify future T-hangar demand, the expectation is that unless TRK increases its proportional share of the market, the number of vacant hangars will likely increase. Also, in our experience, aircraft owners are reluctant to absorb the higher rental costs.

### Executive Hangar Wait List, Forecast Demand, Size

Purpose: the airport reports a waiting list for executive "box" hangars. Expectation is that the list will grow.

Consultant Input: Typically, an airport master plan would identify the number of hangars (by size) based on the forecasts. Generally, the larger hangars are used by larger airplanes (turbo-props and jets). That sector is expected to grow and typically can absorb the allocated rates. The expectation is that the master plan will identify new hangars to be constructed at intervals over the forecast period.

### Deice / Community-Use Hangar

Purpose: to provide a multi-use facility that can be used for both aeronautical and community purpose. During the winter, the facility can be used to overnight transient aircraft. Part of the benefit is to reduce the number of jet operations caused by drop-off and return flights.

Community Input: Generally receptive to the dual-use facility.

Consultant Input: It is anticipated that a facility location and size will be developed as part of the master plan. Another option may be to install a deicing pad and related equipment and compare it to the building concept perhaps at a significantly reduced cost.

### Hangar One

Purpose: to better utilize this hangar.

Consultant Input: Hangar One is not currently leased to any tenant. It functioned as a maintenance facility in the past. Its size is slightly small for many of the maintenance and aircraft storage roles it would otherwise have. It is used on occasion as a community resource. The expectation is to identify a potential use or reallocation of the space.

### Shade/Cover Hangars

Purpose: to explore different product lines and cost points that may be desired by the aviation community.

Community Input: Mixed. The concept was seen to benefit primarily transient operators, whose participation during the outreach efforts was low. The structural cost of constructing a shade versus a T-hangar may be comparable. Sometimes solar panel facilities provide the primary

benefit as a shade hangar; additional research is needed for solar panel placement in areas of heavy snow.

#### Paved Apron (Transient, Based, Helicopter)

Purpose: a typical item to be assessed as part of any master plan.

Consultant Input: the expectation is to identify demand over the forecast horizon and work with staff concerning operation-specific requirements.

#### Emergency Service / Support Facilities

Purpose: to allow opportunity to expand these aviation-related facilities and services important to the community.

Consultant Input: discussions with service departments and airport staff needed to determine what facilities are needed and the amount of space to be allocated.

#### Aviation-Reserve Space

Purpose: to identify sufficient space to accommodate aviation activity in the future.

Consultant Input: The expectation is that the master plan will utilize conservative aviation planning criteria to establish development setbacks. The primary objective is to avoid the need to undertake costly relocations and/or acquisitions in the reasonably foreseeable future. Aviation growth areas would be expected to remain clear/undeveloped until needed or redefined by a future plan update.

#### Land Lease Hangar Development

Purpose: to allow aviation development funded by a private entity for long-term use.

Community Input: Generally not supported for aviation development. There is a general desire to control the number of jet aircraft operating at the airport.

Consultant Input: To date, TTAD has not attempted a land lease. A land lease would typically offer a means to share risk in the development of a larger aviation facility and is often used to entice a large corporate operator that would contribute significant fees and economic benefits to the community. The issue indirectly affects the facility planning. Will TTAD directly construct hangars larger than the executive box hangars or allow a private developer to do so? The facility objective is to determine the best location to reserve for larger aviation facilities, if desired. The issue may be adequately addressed by providing adequate aviation reserve space.

#### Non-Aviation Development

Purpose: Typical airport planning establishes the long-term aviation vision to be accommodated and identifying all other land as surplus. What can be developed on each individual parcel and how it can be developed for an operating profit often depends on how the property was acquired by the airport (i.e., conveyance, federal grant, or non-grant). Primary options anticipated to be explored, include:

- Commercial, Business, Industrial
- Community Recreation
- Retain undeveloped

Community Input: Mixed. There was general support for keeping undeveloped and for various community uses. Commercial development had favorable and unfavorable responses, but leaned

MEMORANDUM

June 3, 2013

Page 8 of 8

more toward favorable on the basis of economic benefits to the community. Items specifically identified include:

Commercial, Business, Industrial

- Clear Capital Location

Community Recreation

- Trails
- Campgrounds
- Library
- Transportation Museum
- Aviation vocational schools

Non-Facility Discussions

- Off-airport education
- Aviation training / scholarships

Consultant Input: Once surplus property has been agreed upon, the assignment of the type of use is largely driven by the owner's goals and objectives. Therefore, TTAD needs to prioritize its non-aviation goals. Mead & Hunt anticipates documenting the goals and parceling property into specific land uses as a result of this input. The depiction of specific non-aviation facilities will be conceptual.