



TRUCKEE TAHOE AIRPORT DISTRICT BOARD OF DIRECTOR STAFF REPORT

AGENDA TITLE: Review and Approval of the 2021 Update to the District Pavement Maintenance/Management Plan (PMMP)

MEETING DATE: September 22, 2021

PREPARED BY: Kevin Smith, General Manager

RECOMMENDATION: Review and approve the 2021 update to the District Pavement Maintenance and Management Plan.

In addition to acceptance of the PMMP, staff recommends the Board consider a policy instruction at the October meeting establishing a stricter load bearing standard, restricting Maximum Take Off Weight (MTOW) to 50,000 pounds single wheel and 80,000 dual wheel (50/80) for runway 11/29 and 35,000 pounds single wheel and 50,000 dual wheel for runway 2/20.

BACKGROUND: As part of our regular airport maintenance and management program, the District keeps and maintains various maintenance and management plans. These include the Facilities Maintenance Plan, the Land Management Plan, and the Pavement Maintenance /Management plan (PMMP). The PMMP was last updated in 2014. As the condition of pavement changes (sometimes rapidly), it is vital to update this plan every 5 to 7 years. The FAA asks that airports who receive federal funds update their plans on a regular basis to be eligible for Federal Airport Improvement Program (AIP) Grants. The District receives these funds annually.

At the August 10, 2021 Board of Directors meeting the Board considered the updated and revised pavement maintenance plan. As part of our review, the Board requested that staff review current pavement conditions and their associated strength and load bearing to ascertain what the goals and program planning metrics should be for their future pavement maintenance and reconstruction. This request was primarily related to airport runways and their load bearing. Specifically, the Board wanted to know what the current load bearing capacity of our

runways are at the time of the study prior to any rehabilitation or other maintenance. Attached to this staff report is a Memorandum from District Aviation Engineer Damon Brandley of Brandley Engineering outlining current Runway 2/20 and 11/29 load bearing capacity, along with information about establishing load limits. The memo also outlines the various changes made to the previous draft of the PMMP. The PMMP attached to this report is the current updated version. Please review this information and let us know if you have any questions. Mr. Brandley will attend the meeting to answer questions.

Recommendation for new MTOW Policy Instruction: Based on Board discussion at our August 10, 2021 meeting and additional review, staff feels it prudent and advisable for the District to establish a more firm policy on Maximum Take Off Weight or MTOW for aircraft using the Districts runways. While staff currently monitors aircraft operations to assure operations meet current load bearing standards of 50/80 for Runway 11/29 and 35/50 for Runway 2/20, staff cannot weigh each aircraft or provide absolute assurance of compliance. In addition, this policy instruction recognizes the Districts authority to account for local experience and conditions related to our pavements that are unique to our location. These include large daily temperature swings, freeze/thaw cycles, snow and ice cycles, snow removal operations, etc. All of these conditions have the potential to weaken and damage pavements. In order to achieve the goal of having our pavements last 20 years, staff recommends instituting a firm MTOW policy restricting aircraft to the 50/80 standard for Runways 11/29 and 35/50 for Runway 2/20. Staff can prepare this policy and return for Board consideration at the October 27, 2021 Board Meeting.

OVERVIEW AND DISCUSSION OF PMMP DOCUMENT: This PMMP is a full update to our previous 2014 Plan. This is a valuable tool used by staff frequently to plan ahead for pavement projects, apply for FAA grant funding, build our 5-year FAA Airport Capital Improvement Program, and use for our annual budgeting process. The Plan contains 5 Chapters, each with important information. As it is a somewhat large document, please see the following guide to highlight these chapter as well as important sections to review:

Chapter 1 - Introduction. Pages 1-1 to 1-2.

Chapter 2 – Data Collection. This provides background on what data was collected and how it was collected. Additionally, there is some forecasting in this section too. It is approximately 10 pages long and a bit technical but gives a good background. An important summary of this info is found in Plates 2-1, 2-2, 2-3 at the end of this section. (plate numbers are in the bottom left-hand corner of the larger fold out maps within the plan) These maps give an indication of the overall condition of our pavements over time between 2011 and 2020. The first plate is 2011 and the last is 2020. The PMMP uses an index called PCI or Pavement Condition Index which is a scale between 1 and 100. 1 is the poorest condition of pavement with 100 being brand new pavement. Plate 2-3 is our current condition. The areas that are “Fair” to “Poor” on that Plate are now under construction or will be paved within the next few years.

Chapter 3 – Pavement Classification Numbers (PCN). This chapter goes into detail regarding PCN. This chapter is a required analysis to be included in FAA funded pavement maintenance plans. The calculations it includes are provide per FAA Advisory Circular 150/5335-5C. In that this plan is self-funded by the District it is not required to be included in this plan.

Chapter 4 – Analysis and Evaluation. This section contains more detail on how Brandley Engineering analyzed our pavements and the methodology they used to forecast remaining life of pavement. Page 4-10 to 4-11 are interesting in that they give average cost per sq. foot to rehabilitate pavements. That then creates a rehabilitation Code which is used to assess cost on a pavement section. Plates 4-1 and 4-2 are interesting in that they show the remaining pavement life related to deep seated distress between our regular forecast of traffic vs. an enhanced forecast which forecasted higher use of aircraft over 40,000 lbs. The District is not planning to modify or change to the enhanced forecast but recognizes this is a typically comparison in PMMPs to give perspective on remaining pavement life.

Chapter 5 – Conclusions and Rehabilitation Plan and Schedule. Section 5-1 is a good overview of this chapter. It reviews the various rehabilitation techniques and recommendations of projects we need to do to keep our PCI index at an appropriate level. Typically, we want to keep our pavements above a 60 PCI. Section 5-3 (page 5-10) starts the Recommended Rehab Schedule. That is a valuable section of Chapter 5 to review. Pages 5-14 to 5-17 are of high importance for review to gain understanding of recommendations of the PMMP. These pages contain the schedule and proposed costs to maintain our pavements projecting out to 2040. This information is then depicted graphically starting on Plates 5-3 to Plate 5-7. Staff use these Plates frequently.

FISCAL IMPACT: Cost to implement this plan vary from less than \$200,000 to approximately \$5,000,000 depending on the year and project. It is important to note that the majority of these projects will be funded by the FAA’s Federal AIP program. The PMMP cost \$90,000 which was funding in Fiscal year 2020 and 2021.

MOTION: I move to accept the 2021 District Pavement Maintenance and Management Plan as provided and direct staff to prepare a Policy Instruction establishing a not to exceed load bearing standard, restricting Maximum Take Off Weight (MTOW) to 50,000 pounds single wheel and 80,000 duel wheel (50/80) for runway 11/29 and 35,000 pounds single wheel and 50,000 duel wheel for runway 2/20.

Note: The Board should accept the plan rather than approve. Each year the Board and staff use the PMMP to create our annual Airport Capital Improvement Program which is submitted to the FAA. The Board will annually have an opportunity to approve projects as found in the plan.

ATTACHMENTS:

2021 Pavement Maintenance/Management Plan

Memo from Brandley Engineering