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Title: Receive a report, hold a discussion and provide direction regarding the design and project schedule for the proposed parallel runway at the Denton Enterprise Airport.

Sponsors:

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Attachments: 1. Exhibit 1 - Runway Overview, 2. Exhibit 2 - PowerPoint Presentation

Date	Ver.	Action By	Action	Result
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Agenda Information Sheet

DEPARTMENT: Transportation

DCM: Bryan Langley

Date: April 11, 2017

SUBJECT

Receive a report, hold a discussion and provide direction regarding the design and project schedule for the proposed parallel runway at the Denton Enterprise Airport.

BACKGROUND

The Denton Enterprise Airport is one of eleven designated general aviation airports in the Dallas Fort Worth Metroplex designated by the Federal Aviation Administration (FAA) as a Reliever Airport. In FY 2015, the Denton Airport experienced more than 165,000 operations and in FY 2016 the Denton Airport experienced more than 137,000 operations. In FY 2015, in terms of total operations (one landing or one departure) the Denton Airport ranked 7th in the State of Texas as compared to all airports including commercial service airports statewide. The number of operations taking place at Denton Airport is impressive due to fact that the airport has a single runway. Each of the airports exceeding the number of operations experienced at Denton have multiple runways, which enhances the ability of those airports to support additional operations.

Based on the volume of air traffic experienced at the Denton Airport, the 2015 Airport Master Plan recommended the design and construction of a parallel runway. The Texas Department of Transportation, Aviation Division (TxDOT) embraced this recommendation and included the cost of design and construction of a west parallel runway in their annual Capital Improvement Program (CIP) planning document. TxDOT's justification for funding the west runway was to separate the high volume of training traffic which is typically a slower, lighter, single engine aircraft, from the remaining air traffic operations on the primary runway that includes heavier faster jet and turbine aircraft. To this end, TxDOT agreed to fund an auxiliary runway of 4,500

feet long and, 75 feet wide with an aircraft design weight of 12,500 pounds. The additional capacity this runway provides serves the principal purpose of enhancing safety by separating light training type aircraft from operations on the primary runway.

The 2015 Airport Master Plan (AMP) calls for a more robust runway design capacity to include an additional 500 feet in length and 25 feet in width to establish a runway measuring 100 feet wide and 5,000 feet long with an initial weight bearing capacity of 12,500 pounds. The additional length to extend the runway to 5,000 feet is important in providing a longer “take of run” which is a requisite for heavier and faster aircraft to operate. The additional width also provides benefits however, the cost benefit of the additional width is not as substantial as investing similar resources to improve the weight bearing capacity of the runway. Increasing the weight bearing capacity of the runway to 30,000 pounds and a length of 5,000 feet will increase the capacity of the runway to service up to 70-percent of the aircraft operations of the primary runway in certain conditions. The ability to service a wider range of aircraft (speed, size and weight) on the auxiliary runway is important to airport operations given the Airport is currently a single runway configuration. An occasional scheduled or unscheduled closure of the primary runway for maintenance activities or emergencies has a substantial negative impact to those dependent on access to an adequate runway facility.

The Denton AMP states the local entity, Denton Airport, would fund 100-percent of an additional 500 feet to lengthen the proposed runway to 5,000 feet. In addition to this local share contribution, the 2015 AMP recommends that the local entity also contribute 100-percent of the cost to widen the proposed runway from 75 feet wide to 100 feet wide. In other words, Denton would fund the full cost of the additional 25 feet by 5,000 feet of pavement/construction costs rather than participate at the customary 90:10 grant match with TxDOT.

After consulting with airport tenants, multiple aviation professionals, design consultants and the Airport Advisory Board, Denton Airport staff recommends the investment of resources in the enhanced weight bearing capacity of the proposed parallel runway rather than investing in pavement width. Staff contends this investment better serves the current and future needs of the Denton Airport by providing access to a wider range of aircraft, should the primary runway be out of service for any length of time. The investment to strengthen the pavement is currently estimated to cost approximately \$100,000 more than investing in a wider pavement section. Current estimates indicate the 5,000 feet long x 75 feet wide, 30,000 pound design will cost the Denton Airport \$2.6 million while the 5,000 long x 100 wide 12,500 pound design will cost the Denton Airport \$2.5 million.

TxDOT Aviation indicates that upon clarification of design and formal direction to move forward, final design of the west runway would be complete by mid-June and the project could be advertised for construction in late July. If this schedule is maintained, construction on the 270-day project could begin by October 1, 2017.

OPTIONS

1. Advance the parallel runway design scope of 5,000 feet x 75 feet with a weight bearing capacity of 30,000 pounds. Total estimated cost is \$8.5M (TxDOT \$5.9M, Denton \$2.6M)
2. Advance the parallel runway design scope of 5,000 feet x 100 feet with a weight bearing capacity of 12,500 pounds. Total estimated construction cost of \$8.4M (TxDOT \$5.9M, Denton \$2.5M).
3. Advance the TxDOT, Aviation scope of 4,500 feet x 75 feet with a weight bearing capacity of 12,500 pounds Total estimated construction cost of \$7.5M (TxDOT \$5.9M/Denton \$1.6M).

RECOMMENDATION

Denton Airport staff and the Denton Airport design consultant KSA recommends Option 1, 5,000 feet x 75 feet with a weight bearing capacity of 30,000 pounds. Total estimated cost is \$8.5M (TxDOT \$5.9M, Denton \$2.6M).

ESTIMATED SCHEDULE OF PROJECT

Final design is estimated to take six to eight weeks for the consultant to complete and an additional three weeks for TxDOT Aviation to provide final review comments. Project could be advertised for bid by August 1 with construction start of early October.

PRIOR ACTION/REVIEW (Council, Boards, Commissions)

- Preliminary runway scope and justification was established in the 2015 Airport Master Plan.
- Airport Advisory Board was briefed on the benefits of the revised scope, Option 1, at the March 8, 2017, monthly meeting.

FISCAL INFORMATION

The FY 2017 TxDOT Aviation CIP for the Denton Airport outlines a total project cost of \$8.853 million; \$5.874 million TxDOT and \$2.979 million local share. Preliminary estimates of the west runway construction cost for Option 1, as provided by the Denton Airport design consultant KSA, demonstrates the total project cost of \$8.5 M, \$5.9 million TxDOT and \$2.6 million local. TxDOT is requiring the City of Denton as the local entity to cover 100-percent of additional costs above and beyond the scope of 4,500 feet x 75 feet with a 12,500 pound weight bearing capacity. Staff budgeted \$3.56 million for the runway project in the FY 2017-18 CIP Budget. Since TxDOT plans to begin the project this fiscal year, staff plans to bring a reimbursement ordinance forward to City Council to fund the City's portion of project cost and issue Certificates of Obligation in FY 2017-18.

STRATEGIC PLAN RELATIONSHIP

The City of Denton's Strategic Plan is an action-oriented road map that will help the City achieve its vision. The foundation for the plan is the five long-term Key Focus Areas (KFA): Organizational Excellence; Public Infrastructure; Economic Development; Safe, Livable, and Family-Friendly Community; and Sustainability and Environmental Stewardship. While individual items may support multiple KFAs, this specific City Council agenda item contributes most directly to the following KFA and goal:

Related Key Focus Area: **Public Infrastructure**

Related Goal: **1.6 Collaborate with local, regional, state, and federal partners**

EXHIBITS

1. Denton Airport West Runway Overview
2. West Parallel Runway - PowerPoint

Respectfully submitted:
Mark Nelson
Director of Transportation