APPENDIX M

ALTERNATIVE EVALUATION MATRIX

DURANGO –LA PLATA COUNTY AIRPORT

ALTERNATIVE EVALUATION MATRIX

	Alternative 1	Alternative 2	Alternative 3
Quantitative			
Complies with FAA safety & design standards			
Maximizes operational efficiency			
Meets the 20-year facility requirements, plus room to grow			
Balances benefits and costs			
Qualitative			
Promotes safety and efficiency of airport operations			
Enhances security of airport and airline operations			
Improves customer satisfaction/convenience			
Fosters Durango/Four Corners' Image			
Minimizes construction phasing impacts to tenants and users			
Incorporates sustainable design elements where appropriate			
Sensitive to environmental resources			

☑ - More ability to meet

☐ - Some ability to meet

☒ - Less ability to meet

Qualitative Evaluation Criteria - considered to be subjective; despite their subjectivity they are valuable to the evaluation process as they seek to measure the long-term effects and benefits of an alternative

Promotes safety and efficiency of airport operations – Does the terminal space allow for efficient and safe operations of the airlines and maintenance staff? Does the roadway and public access system provide clear and efficient routes for the traveling public? Is the commercial aircraft apron laid out in a manner that allows safe and efficient aircraft operations? Is the auto parking and pedestrian access located in areas that minimize distances from the terminal?

Enhances security of airport and airline operations – Does the alternative provide adequate space for airport and airline operations? Are TSA space requirements met?

Improves customer satisfaction/convenience – The alternatives weighed the benefits in terms of ease of use by those using the facility with a goal to achieve Level of Service "C".

Fosters Durango/Four Corners' Image – The Airport serves an area that has a mix of tourism, business development, and industry (oil and gas) and the Airport serves as the gateway to the region for many. Therefore, the aesthetic and visual impacts of the public facility are critical to express the area's image.

Minimizes construction phasing impacts to tenants and users – This criterion mainly revolves around the implications that phasing of facilities will have on airport operations and the traveling public.

Incorporates sustainable design elements where appropriate – Sustainability is a broad term that encompasses a wide variety of practices applicable to the management of airports.[1] The overall goal of this criterion in reference to DRO is for the development to:

- Maintain economic stability with room for growth (Economic Growth)
- Conserve natural resources (Environmental Stewardship)
- Recognize the needs of the community and region (Social Responsibility)
- These three components are referred to as the "Triple Bottom Line"

Sensitive to environmental resources – development that provides for minimal environmental disruption (wetlands, endangered species habitat, cultural resources, water quality, air quality, noise impacts, etc.).

[1] Airport Cooperative Research Program, Synthesis 10, *Airport Sustainability Practices, A Synthesis of Airport Practice*, 2008.

Quantitative Evaluation Criteria - those that are objective and verifiable

Complies with FAA safety and design standards – This is a non-negotiable criterion but it is included here to highlight the fact that there are elements of these concepts that are sized and located to comply with critical design standards that airports must meet. The most easily recognized design element resulting from this criterion is the distance the buildings, aircraft, and other objects must remain from the runway. However, for various concepts it also stipulates the need for other airfield facilities, the protection of those facilities, and the protection of airspace that surrounds the runway.

Maximizes operational efficiency – This criterion speaks to the fact that for a system to work well, the elements that make up the system should be located, sized, and situated to allow for that element to operate at its peak capacity. An example of this would be that auto parking should be designed and situated to allow for passengers to quickly find parking within a minimum distance to the terminal entrance.

Meets the 20 year facility requirements with room to grow – There are quantifiable performance measures that each alternative concept must be able to meet. This allows for the "apples to apples" comparison to have meaning. Thus, if a concept is considered for analysis and it is not able to meet the 20-year facility requirements of PAL 2, or it is not reasonably feasible to do so, then the concept is eliminated.

However, this criterion goes a bit farther in that the concept should also offer additional feasible growth opportunities for all airport uses beyond the planning period. This captures the thinking that given the size of the investment, better concepts will propose facilities that remain useful for meeting demand levels much longer than 20 years by offering additional expansion opportunities.

Balances benefits with costs – This criterion is very important considering the relatively high costs associated with each alternative. The costs are certainly a quantifiable way to compare alternatives and those costs have been estimated and are included in this chapter. The key to using this criterion well is in understanding the costs and then comparing concepts to consider what opportunities might be gained from a concept that has a higher estimated cost. Conversely, concepts can be compared as to whether lower investment in the near term ultimately limits revenue opportunities and removes feasible growth options in both the short and the long range. The balancing of benefits and costs will come in the form of deciding whether there is enough potential benefit derived from the selection of a particular alternative.

As a final note on costs – For this analysis the study team has prepared estimates that allow for the comparison of alternatives. There will be further refinement of estimates in the upcoming study phase as the preferred concept is broken down into individual projects that comprise a development program. These individual projects have varying eligibility for grant assistance. The financial implementation analysis and narrative text (to be performed after the preferred alternative is selected) has much to add on this topic. The reason to point this out is that a valid question to pose when considering costs is, "How much does this alternative cost the local community?" Until this analysis is performed and grant applications submitted, this would be pure speculation only.

PAC Matrix Results

	Alternative 1			Alternative 2			Alternative 3		
	More Ability to Meet	Some Ability to Meet	Less Ability to Meet	More Ability to Meet	Some Ability to Meet	Less Ability to Meet	More Ability to Meet	Some Ability to Meet	Less Ability to Meet
QUANTITATIVE									
Complies with FAA safety & design standards	7	4	5	9	7	0	16	0	0
Maximizes operational efficiency	0	2	13	4	10	1	12	3	0
Meets the 20 year facility requirements, plus room to grow	2	2	12	5	6	5	15	1	0
Balances benefits and costs	1	4	10	4	6	4	6	5	4

JVIATION

PAC Matrix Results

	Alternative 1			Alternative 2			Alternative 3		
	More Ability to Meet	Some Ability to Meet	Less Ability to Meet	More Ability to Meet	Some Ability to Meet	Less Ability to Meet	More Ability to Meet	Some Ability to Meet	Less Ability to Meet
QUALITATIVE									
Promotes safety and efficiency of airport operations	3	8	4	7	8	0	14	1	0
Enhances security of airport and airline operations	2	8	5	4	10	1	10	5	0
Improves customer satisfaction/convenience	3	3	9	8	4	3	12	1	2
Fosters Durango./Four Corners' Image	2	7	5	6	8	0	11	2	1
Minimizes construction phasing impacts to tenants and users	1	2	13	3	9	4	13	1	2
Incorporates sustainable design elements where appropriate	3	5	7	8	5	2	12	2	1
Sensitive to Environmental Resources	5	6	3	5	7	1	4	6	4
Totals:	29	51	86	63	80	21	125	27	14