

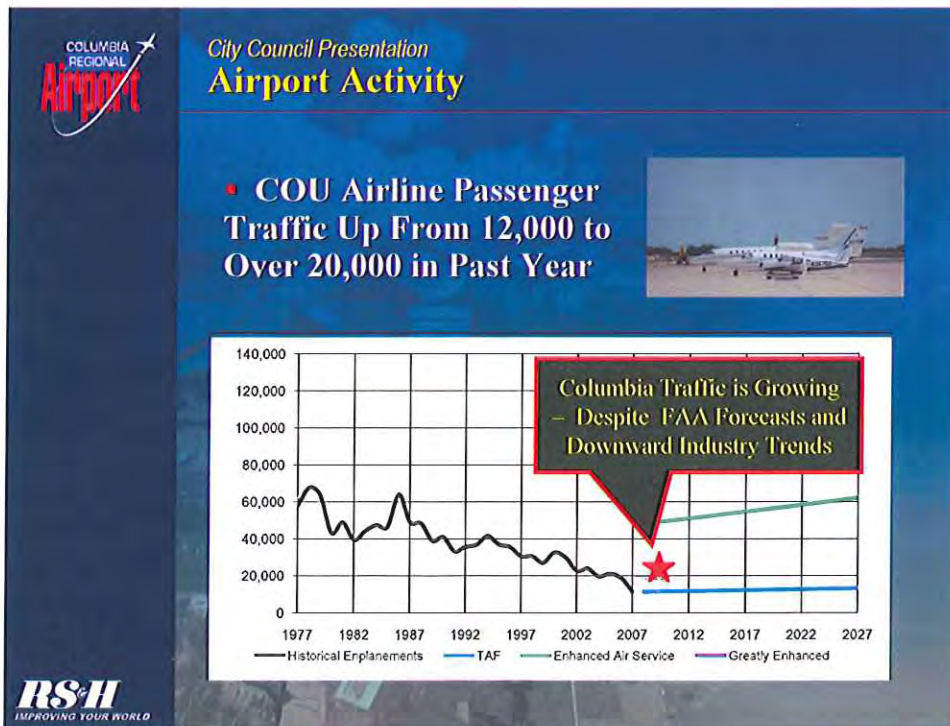
**COLUMBIA REGIONAL Airport**

# Master Plan Update Columbia Regional Airport City Council Presentation

October 5, 2009 /  
October 19, 2009

**RS&H**  
IMPROVING YOUR WORLD


Welcome To Columbia



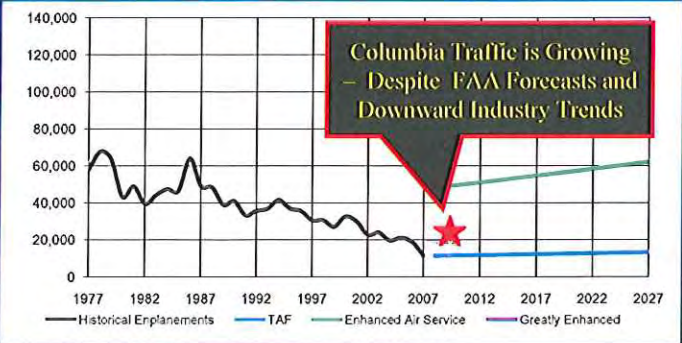
**COLUMBIA REGIONAL Airport**

## City Council Presentation Airport Activity

- COU Airline Passenger Traffic Up From 12,000 to Over 20,000 in Past Year



Columbia Traffic is Growing  
– Despite FAA Forecasts and Downward Industry Trends

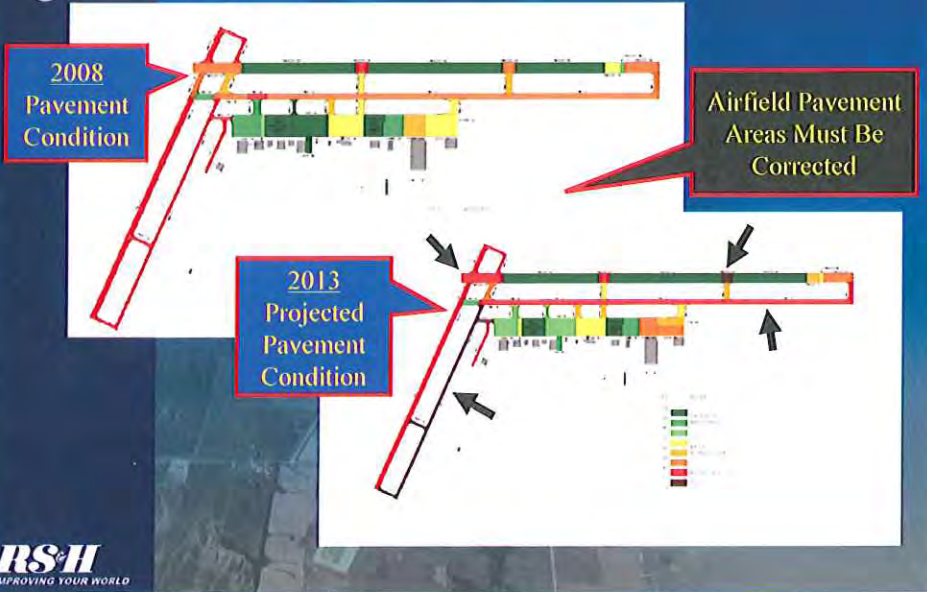


Year	Historical Enplanements	TAF	Enhanced Air Service	Greatly Enhanced
1977	~65,000	-	-	-
1982	~45,000	-	-	-
1987	~55,000	-	-	-
1992	~40,000	-	-	-
1997	~35,000	-	-	-
2002	~25,000	-	-	-
2007	~12,000	-	-	-
2012	-	~15,000	~50,000	~10,000
2017	-	~15,000	~55,000	~10,000
2022	-	~15,000	~60,000	~10,000
2027	-	~15,000	~65,000	~10,000

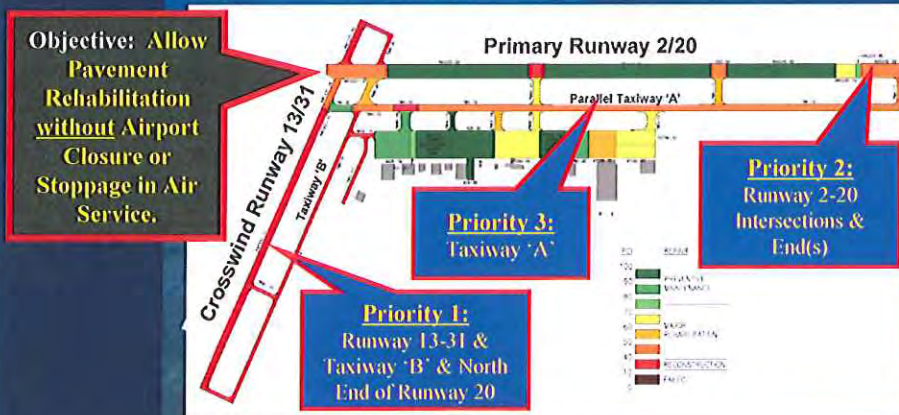
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## Pavement Condition Deterioration (2008 to 2013)



## City Council Presentation Airport Pavement Condition Index (PCI)



Pavements in Poor Condition (Requires Near-Term Rehabilitation):

- Crosswind Runway 13/31 & Parallel Taxiway System
- Primary Runway 2/20 Ends & Intersection(s)
- Primary Runway 2/20 Parallel Taxiway System



## City Council Presentation Airfield Issues and Objectives

Master Plan Update Had to Resolve These Issues

- FAA Standards – Runway Intersection Geometry
  - Taxiing on Runway 13/31
  - Safety/incursion issue
- FAA Standards – Runway Visibility Zone
- Pavement Repairs - Airport open for airlines
  - Operate on Taxiway A, or
  - Extend Crosswind to 5,000' (Saab 340)
- Strategic Vision – Primary Runway Extension to 7,400'



## City Council Presentation Runway Intersection Geometry

**Compliance Issue:** Existing Runway Geometry Does Not Conform to FAA Standards - Risk of Runway Incursion

**Problem:** Runway 20 Departures Simultaneously Occupies Two Runways

**Problem:** Lack of Turnaround for Large Aircraft

**Problem:** Encourages Intersection Takeoff Along a Crossing Taxiway Segment

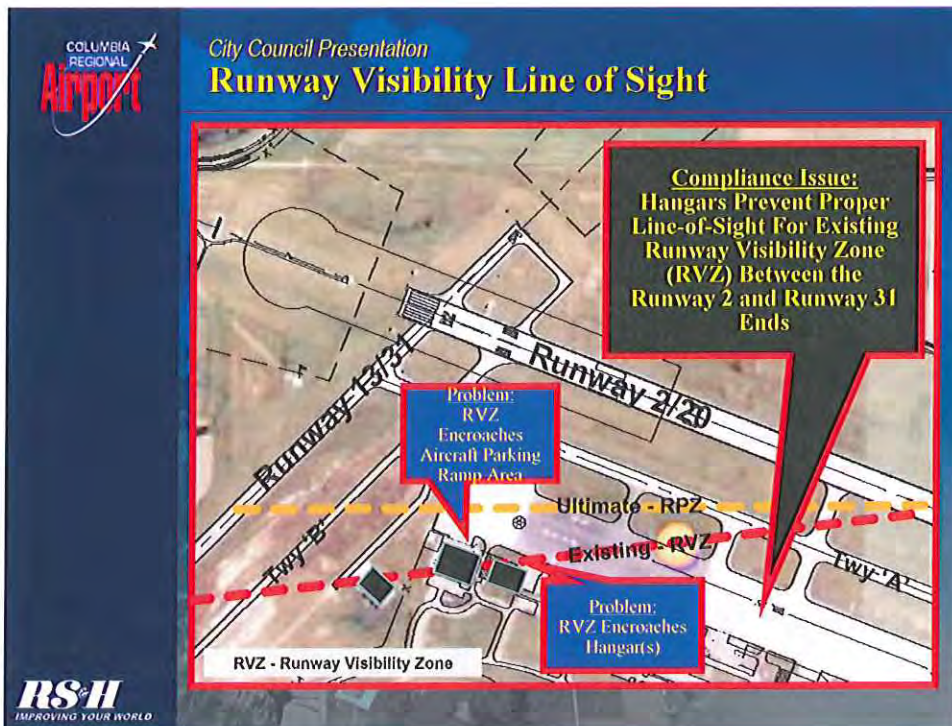
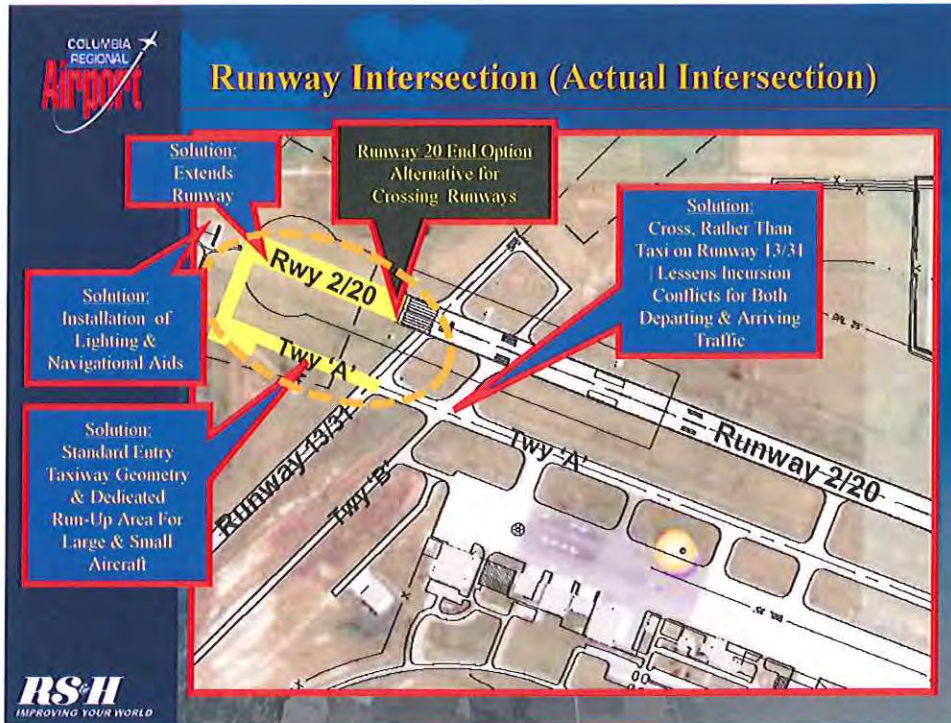
**Problem:** Non-Conforming Entry Taxiway Design & Insufficient Crosswind Pavement Strength

**Problem:** Holdshort Operations for Landing Runway 2 Traffic

**Problem:** Poor Traffic Pattern Visibility Particularly for High-Wing Aircraft.

**Problem:** Congestion Point, and Departure Intentions Unclear for Hold and Run-Up Operations Especially at Night & Tower Non-Operational

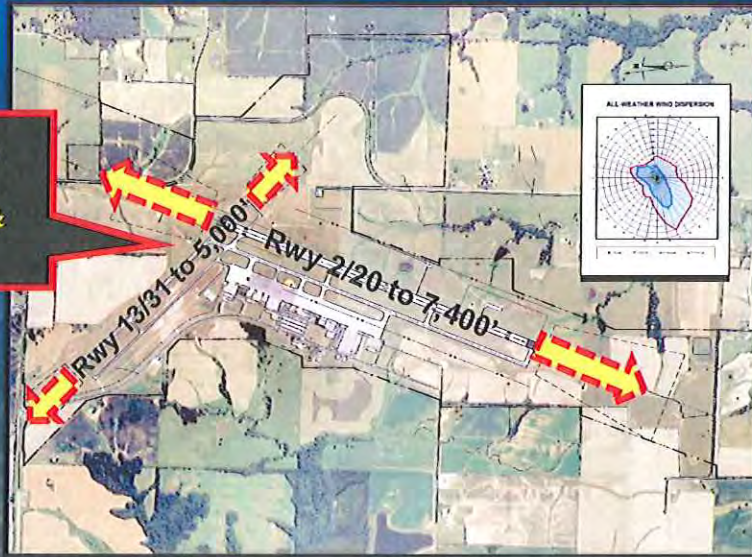






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**Strategic Vision – Runway Extension**

**50 Runway Options Identified & Screened**



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**Airfield Alternatives – Evaluation Matrix**

**Preferred Runway Alternative – ALT. 2G**

		CROSSWIND RUNWAY 13-31						
		A	B	C	D	E	F	G
	Differentiation of Runway Alternatives	No Rwy 13-31 Change   Ops. On TWY 'A'	Extend Rwy 31 End 600' East	Extend Rwy 13 End 600' West	Extend Rwy 250' East and 250' West	Close Rwy 13-31	Shift Rwy 1,000' East   Ops. on TWY 'A'	Shift Rwy 1,000' East   Ext. 600' East
RUNWAY 2-20	1	Extend Rwy 2 End 1,300' South	Ruled Out	Ruled Out	Ruled Out	Ruled Out	Ruled Out	Ruled Out
	2	Extend Rwy 20 End 900' North	Ruled Out	Ruled Out	Ruled Out	Ruled Out	Ruled Out	Ruled Out
	3	Extend Rwy 20 End 600' North & Rwy 2 End 300' South	Ruled Out	Ruled Out	Ruled Out	Ruled Out	Ruled Out	Ruled Out
	4	Extend Rwy 2 End 900' South & Re-Align Rwy 13-31	4A	4B	Ruled Out	Ruled Out	Ruled Out	Ruled Out
	5	Re-Align Rwy 2-20 East (New Alignment)	Ruled Out	Ruled Out	Ruled Out	Ruled Out	Ruled Out	Ruled Out
	6	Relocate Rwy 2 End 1,000' North & Extend Rwy 20 900'	Ruled Out	Ruled Out	Ruled Out	Ruled Out	Ruled Out	Ruled Out
	7	Extend Rwy 2 End 900' South & Re-Align Rwy 13-31	7A	7B	N/A	N/A	Ruled Out	N/A



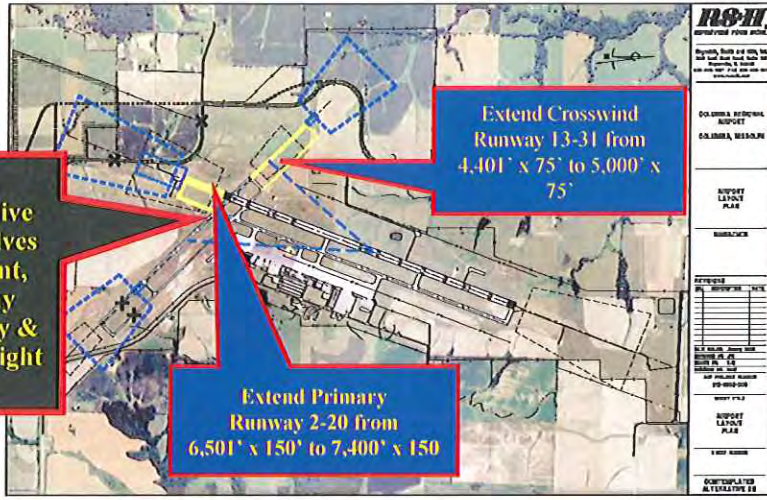
**Alternatives 2G Consistently Ranked the Highest – Alternative 2G Selected as 'Preferred'**





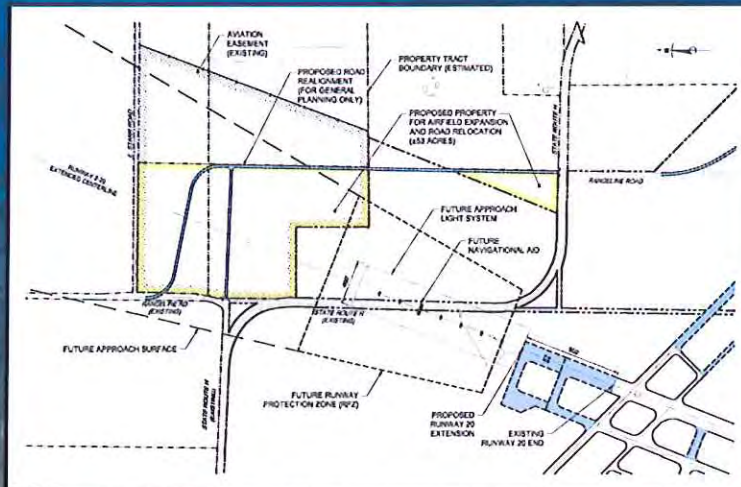
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**Alternative 2G (Preferred Airfield Option)**

**Alternative 2G Resolves Pavement, Runway Geometry & Line-of-Sight**



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**Alternative 2G (Roadway Re-alignment)**

**Preferred**





City Council Presentation

## Alternative 2G (Preferred Airfield Option)

**Alt 2G:** Does not require closure of the Airport during periods of extended pavement repairs

**Alt 2G:** Successfully integrates critical pavement rehabilitation/reconstruction projects in coordination with the overall airfield phasing plan

**Alt 2G:** Resolves FAA compliance issues without modification to design standards

**Alt 2G:** Minimizes operational disruption during construction and the relocation of infrastructure and navigational aids

**Alt 2G:** Achieves the recommended primary Runway 2/20 length of 7,400 feet.



## Terminal Requirements

→ **Passenger Building is Aging and Requires Eventual Updating -- Functional Limitations:**

- 'Temporary' Passenger Holdroom Addition has Limited Lifespan and Limited Amenities
- Limited Restaurant Visibility – Desirable View
- Access to Airport Manager's Office

→ **Parking Lot Approaches Capacity When Passenger Boardings (Enplanements) Reach 2,000 Per Month**

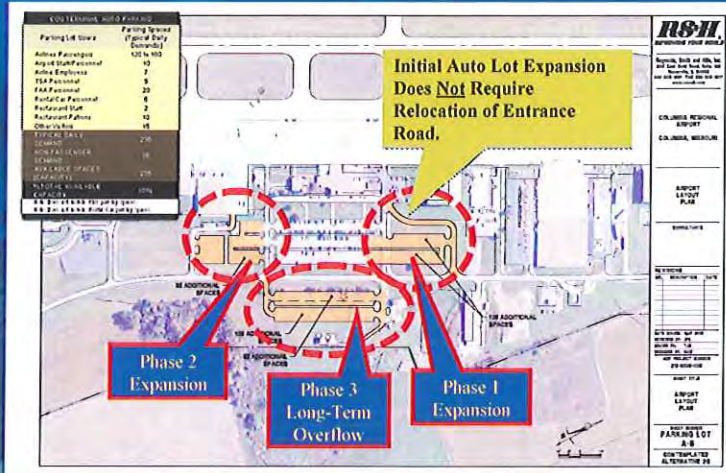
→ **Terminal Building Strategies:**

- Reuse & Modify Building
- Replace Building



## Auto Parking Option / Road Entrance

Preferred



**Overview:** Provides space through lateral parking lot expansion, and eventual new entrance roadway circulation.

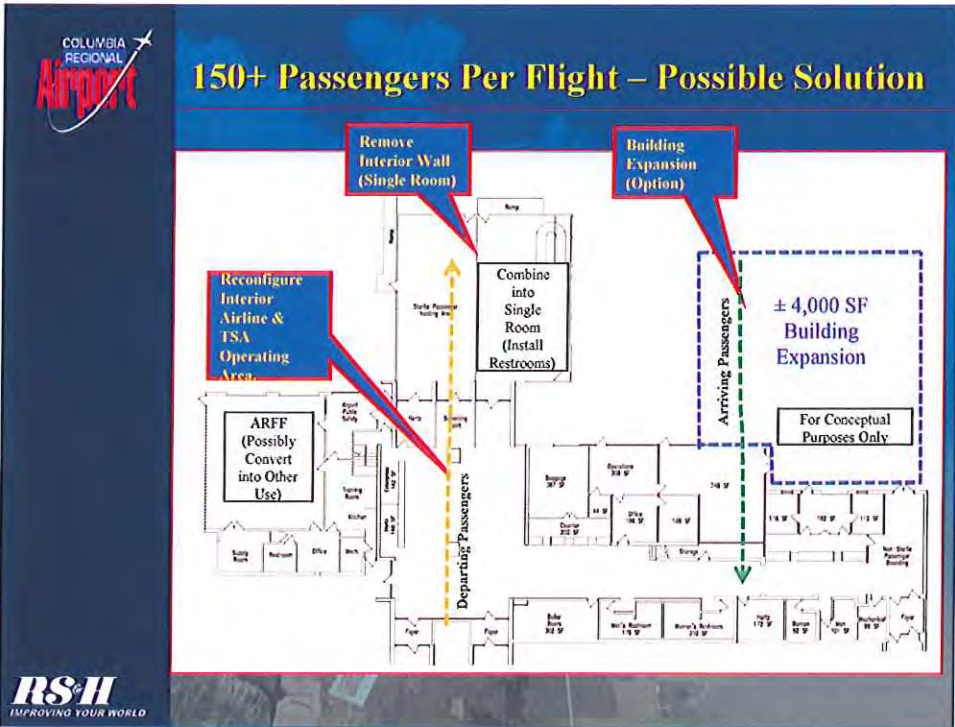
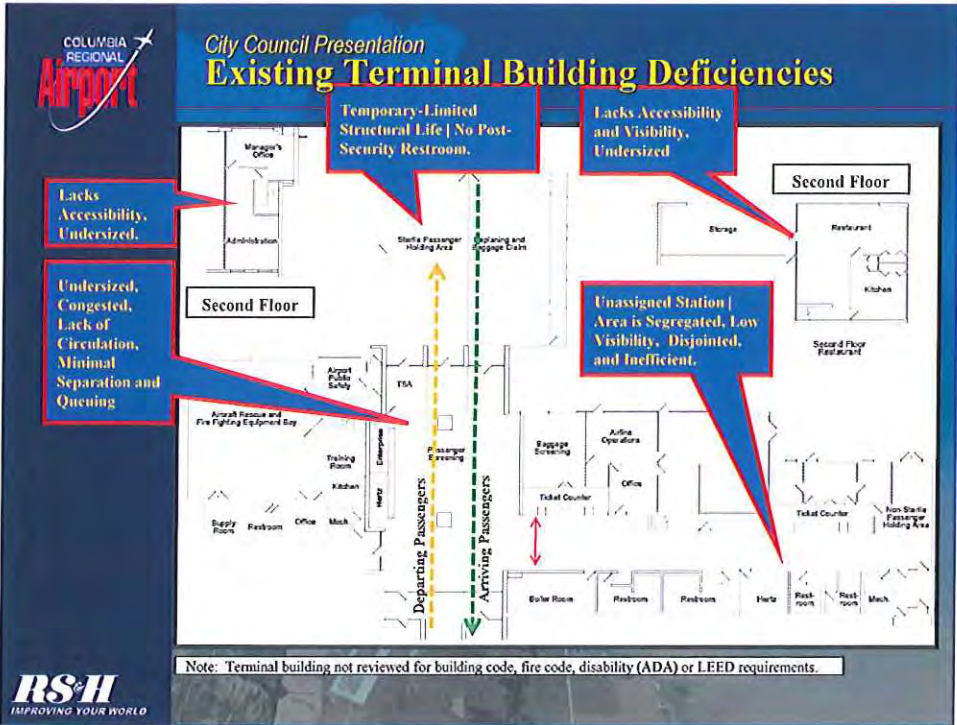
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## Terminal Building Improvements

Available solutions to the terminal space allocation deficiencies overall include terminal improvements using the following alternatives. Terminal improvement alternatives for these items addressed consist of the following:

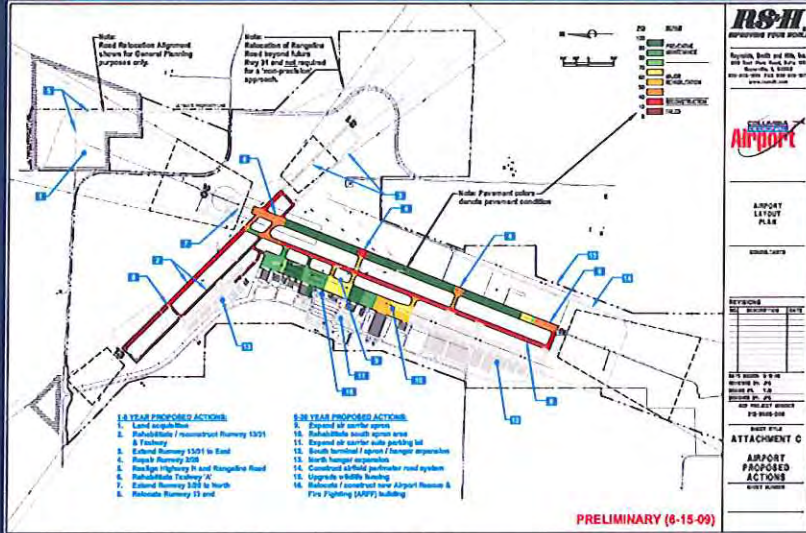
- Level 1:** Basic renovation of furnishings, seating, equipment and displays
- Level 2:** Relocation of non-airline tenants and office space
- Level 3:** Interior wall modifications of areas with un-utilized space
- Level 4:** Reconstruct a section of the terminal building
- Level 5:** Expand a section of the terminal building
- Level 6:** Replace terminal – new site







## City Council Presentation Major Airport Project Improvements



## City Council Presentation Short & Long Term Airport Project Costs

### Critical Airfield Capital Improvement Projects

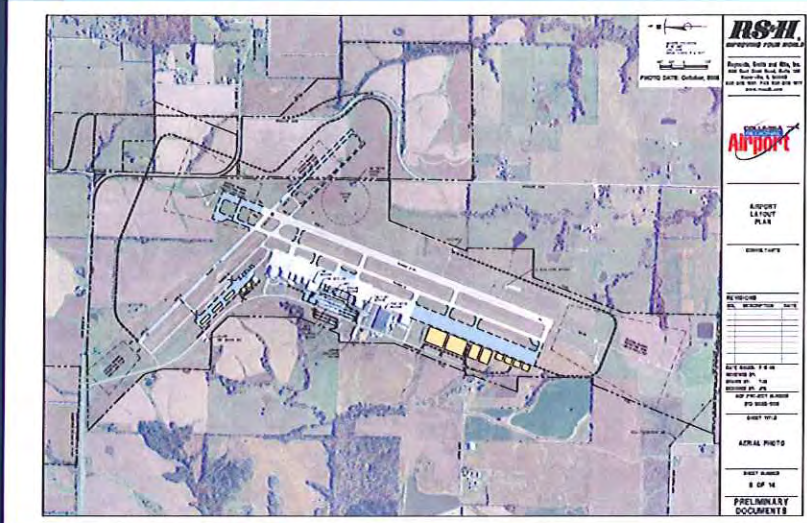
Design FY	Construct/ Implement FY	Project Description	FAA Federal	MODOT State	Local Airport		Total
			Funds	Funds	Funds	Funds	
	2010	NEPA Environmental Assessment (EA)	\$228,000	\$0	\$12,000	\$240,000	
	2010-2011	Airport Land Acquisition - Runway 20 Extension & Road Re-Alignment Project	\$940,500	\$0	\$49,500	\$990,000	
2010	2011	Re-Align Hwy H / Rangeline Road Around Rwy 20 End (4,500 LF)	\$3,144,500	\$0	\$165,500	\$3,310,000	
2011	2012	Rehabilitate Crosswind Runway 13/31 & Parallel Taxiway System	\$4,513,545	\$0	\$237,555	\$4,751,100	
2011	2012	Extend Crosswind Runway 13/31 to 5,000' x 75' & Taxiway System	\$6,482,331	\$0	\$341,175	\$6,823,507	
2012	2013	Rehabilitate Primary Runway 2/20 Sections (Concrete Option)	\$3,649,520	\$0	\$192,080	\$3,841,600	
2012	2013	Construct New Exit Taxiway Extension (A5) 300' x 75' / Infield Drainage Improvements	\$458,285	\$0	\$24,015	\$482,300	
2012	2013	Widen Taxiway A4 From 50' to 75' Wide	\$159,600	\$0	\$8,400	\$168,000	
2013	2014	Rehabilitate Taxiway 'A' System	\$5,190,800	\$0	\$273,200	\$5,464,000	
2013	2014	Rehabilitate South Apron Area & Connecting Taxiway	\$0	\$2,084,400	\$231,600	\$2,316,000	
2013	2014	Expand Apron/Ramp Towards Taxiway 'A' (4120' x 4950')	\$0	\$1,328,400	\$147,600	\$1,476,000	
2014	2015	Extend Primary Runway 20 North (7,400' x 150') & Taxiway System   Taxiway By-Pass	\$9,785,488	\$0	\$515,028	\$10,300,513	
			\$34,550,589	\$3,412,800	\$2,197,651	\$40,161,020	

Term	Total Cost	Federal	State	Local
Short-Term Development	\$48,594,907	\$40,250,772	\$3,412,800	\$4,931,335
Long-Term Development	\$16,424,273	\$1,142,190	\$2,877,120	\$12,404,963
<b>Total Development Cost</b>	<b>\$65,019,180</b>	<b>\$41,392,962</b>	<b>\$6,289,920</b>	<b>\$17,336,298</b>
Percent of Total		63.66%	9.67%	26.66%





## Airport Proposed Actions



## City Council Presentation Presentation Outline

WHAT NEXT ?





## Airport Master Plan Meetings / Workshops

- 08-05-08 PAC & TAC Master Plan Kick-Off Mtg.
- 11-18-08 PAC & TAC Mtg. (Inventory & Forecasts)
- 11-18-08 Public Workshop (Inventory & Forecasts)
- 12-10-08 PAC & TAC Mtg. (Facilities & Initial Alternatives)
- 01-27-09 PAC & TAC Mtg. (Airfield Alternatives)
- 01-27-09 Public Workshop (Airfield Alternatives)
- 02-05-09 FAA Mtg. (Airport ARC / Airfield Alternative)
- 02-26-09 PAC & TAC Mtg. (Preferred Airfield Alternative)
- 02-26-09 Public Workshop (Preferred Airfield Alternative)
- 05-05-09 PAC & TAC Mtg. (Terminal Alternatives)
- 05-29-09 FAA Mtg. (Final Alternatives / CIP / Environmental)
- 08-04-09 PAC & TAC Mtg. (ALP Drawings / Environmental)
- 08-05-09 Public Workshop (ALP Drawings / Environmental)
- 10-06-09 Final Airport Board Presentation / Approval
- 10-19-2009 City Council Presentation

We Are Here



## 1 to 5 Year Proposed Actions:

### Major 'Facility' Projects:

- Land acquisition
- Rehabilitate / Reconstruct Runway 13/31, Parallel Taxiway B System
- Extend Crosswind Runway 13/31
- Construct Taxiway A5 Extension
- Repair Runway 2/20 at taxiway intersections
- Realign Highway H and Rangeline Road
- Rehabilitate Taxiway A
- Extend Primary Runway 2/20
- Relocate Runway 13 End





## 6 to 20 Year Proposed Actions:

### Major 'Facility' Projects:

- ➔ Expand air carrier apron
- ➔ Rehabilitate south apron area
- ➔ Expand air carrier auto parking lot
- ➔ Expand south terminal / apron /hangar area
- ➔ Expand north hangar area
- ➔ Construct airfield perimeter road system
- ➔ Upgrade wildlife fencing
- ➔ Relocate / construct new Airport Rescue & Fire Fighting (ARFF) building



### City Council Presentation

## Major Airport Project Improvements

