April 30, 2015

McClellan-Palomar AIRPORT MASTER PLAN

Public Workshop #3

Kimley»Horn

Meeting Agenda

- Status of Master Plan Update
- Evolution of the McClellan-Palomar Airport (CRQ)
- The Challenge
- Potential Airport Alternatives
- Narrowing the Alternatives
- Next Steps
  - Future Workshop Planned
- Open House Format for Questions

Master Plan Status

- Inventory, surveys, and data collection
- Aviation forecasts and demand capacity analysis
- Facility requirements
- Alternatives development ← *We are here!*
- Financial feasibility and environmental overview
- Implementation plan for development
- Airport Layout Plan (ALP)

Subsequent County Process: →

- CEQA Review: Program Environmental Impact Report
- Board of Supervisors Hearing

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Airport History

1959 -- Airport opens

1973 -- FAA control tower opens

1991 -- Airline begins commercial service from Carlsbad to LA

1996 -- FAA issues certification to permit aircraft to carry 30 or more passengers

2000 -- Peak commercial service at 78,500 enplanements

2006 -- North side GA ramp opens (small aircraft)

2014 -- United Express announces end of service

2015 -- Other airlines considering providing service

Airport Role in North San Diego County

- CRQ serves as a significant center of corporate aviation activity for San Diego County
- Since 1991 CRQ has also provided regional commercial airline service
- Community benefits include transportation connectivity, tax revenues, economic and business opportunities, & public safety
- What is the future role of CRQ?
  - Provide regional commercial airline service for North County community
  - Serve local businesses and accommodate corporate Airport users
  - Serve private recreational fliers
  - Enhance public safety

Airport's Economic Contribution

- Direct
  - $22 million in personal income earned by 360 employees, top 20 employer in the City of Carlsbad
  - $117 million in business revenue generated by Airport industries
  - State/local tax revenues of $10 million
- Indirect
  - $62 million in Airport visitor sales (hotels, restaurants, retail, etc.)
  - State/local tax revenues of $5 million
- Multiplier Effect of Airport Impacts
  - 1,446 jobs, $45 million in personal income, $158 million in revenue, $6 million in state/local tax revenues

* Information taken from the 2008 Economic Vitality Analysis Study

The Challenge

- Current activity
  - Larger corporate aircraft operating at Airport
  - Existing activity drives need for revised design criteria
- Design criteria driven by operating aircraft, based on:
  - Approach Speed
  - Wing Span
- Airport should plan a “reasonable, feasible” solution
  - Economically possible
  - Technically viable
- Needs to recognize on & off Airport environment

Aircraft Design Criteria

- Primary Characteristics
  - Wing Span
  - Approach Speed
- Evolving Aircraft Characteristics & Capabilities Driving Industry
  - Landing & Takeoff Capability, Range and Fuel Efficiency

Approach Speed Category

Aircraft Approach Category	Approach Speed (knots)
A	Less than 91
B	91 to 120
C	121 to 140
D	141 to 166

Design Group Wingspan

Airplane Design Group	Wing Span (feet)
I	Up to 49
II	49 to 78
III	79 to 117

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Airplane Design Group (ADG) Examples		Airplane	Wingspan
A-1		Cessna 172	36’
A-1		Beech Bonanza	33.4’
B-II		Cessna Citation	53.3’
B-II		Cessna Citation X	63.9’
B-II		EMB-120	65.0’

Airplane Design Group (ADG) Examples		Airplane	Wingspan
D-I		Lear 35	39.5’
C-II		G 450	77.8’
C-II		Challenger 600	61.8’
C-II		CRJ-700	76’

Airplane Design Group (ADG) Examples		Airplane	Wingspan
C-III		G 550	93.5’
C-III		Global 7000	104’
C/D-III		G 650	99.7’
C-III		EMB-170	85.3’

Users Trending to New Technology Aircraft

2012 Total Operations	143,048
Aircraft Classification	*Itinerant (Based) Operations*
B-II	7,238
C-I	788
C-II	2,654
C-III	790
D-II	256
D-III	1,520

Over 6,000 Itinerant C/D Operations

Evolution of McClellan-Palomar Airport

- Currently a B-II Design Criteria Airport
- The 1997 Master Plan predicted a shift to larger wingspan aircraft (C/D – III Size)
  - Larger Wingspan = greater range and fuel efficiencies
- Today, the Airport is seeing a shift to C/D-III aircraft
  - Gulfstream G650
  - Global Express
  - Global 7000/8000

FAA Order 5090-3C

"Airport dimensional standards (such as runway length and width, separation standards, surface gradients, etc.) should be selected which are appropriate for the critical aircraft that will make substantial use of the airport in the planning period. Substantial use means either 500 or more annual itinerant operations, or scheduled commercial service. The critical aircraft may be a single aircraft or a composite of the most demanding characteristics of several aircraft. The critical aircraft (or composite aircraft) is used to identify the appropriate Airport Reference Code for airport design criteria.:"

Growing Aircraft Size/Speed Leads to Challenge

Item	Dimension	B-II	C/D-II	C/D-III	Change (B-II to C/D-III)
ROFA	Width	500’	800’	800’	+300’
RSA	Width	150’	500’	500’	+350’
	Length Beyond Runway	300’	1000’	1000’	+700’
TOFA	Width	131’	131’	186’	+55’
TSA	Width	79’	79’	118’	+39’
Runway	Width	75’	100’	150’	+75’

ROFA – Runway Object Free Area
TOFA – Taxiway Object Free Area
RSA – Runway Safety Area
TSA – Taxiway Safety Area

* Assumes Current Visibility Minimums: Not less than ¾ mile

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Existing Configuration

Runway Length - 4897’

Taxiway N – 300’ From Runway

Taxiway A – 297’ From Runway

RSA – 150’ wide by 600’ Long

ALTERNATIVE OPTIONS

4 Alternative Options

- B-II Compliance, All Existing Services Maintained
- C/D-III Full Compliance, All Existing Services Maintained
  - Does not remain on existing airport property
  - Cost prohibitive, not feasible to consider
- C/D-III Full Compliance, Remains on Airport Property
  - North apron eliminated
  - impact to leaseholds
- C/D-III Modified Compliance, 367.5’ Centerline Separation
  - 75’ North Runway Centerline Shift
  - North Apron is Potentially Eliminated
  - Impact to Leaseholds

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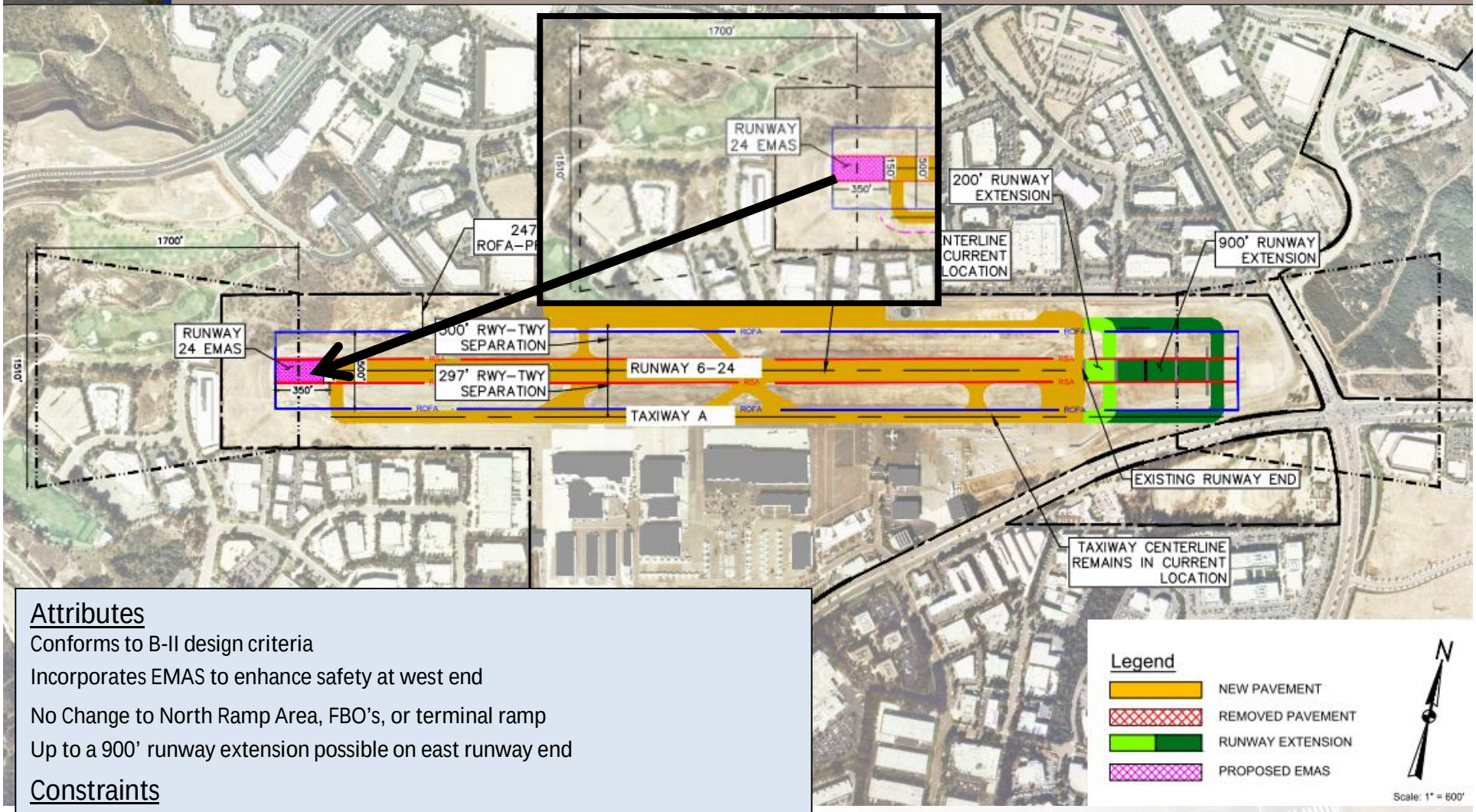
ADG B-II Alternative



Attributes

Conforms to B-II design criteria

Incorporates EMAS to enhance safety at west end

No Change to North Ramp Area, FBO's, or terminal ramp

Up to a 900' runway extension possible on east runway end

Constraints

Existing ADG III operations exceed design standards

Several thousand operations by higher approach speed aircraft not addressed

Wing span standards not addressed

Impacts to commercial aviation regional carrier aircraft that may serve CRQ

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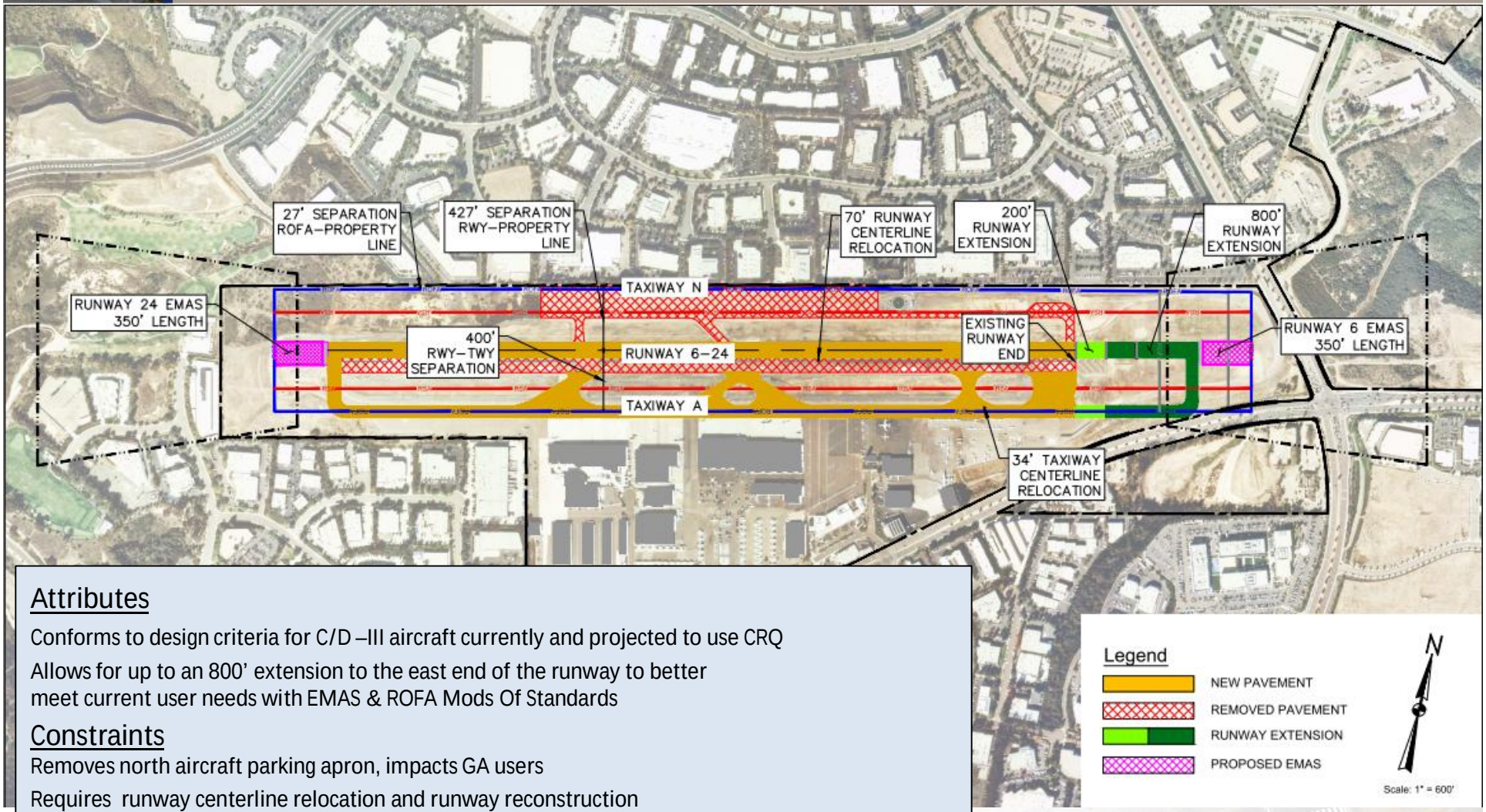
ADG C/D-III Full Compliance Remaining On Property



Attributes

Conforms to design criteria for C/D –III aircraft currently and projected to use CRQ

Allows for up to an 800' extension to the east end of the runway to better meet current user needs with EMAS & ROFA Mods Of Standards

Constraints

Removes north aircraft parking apron, impacts GA users

Requires runway centerline relocation and runway reconstruction

Expanded Taxiway Object Free Area significantly impacts FBO, Terminal; and GA parking on south side of Airport

Impacted FBO and GA parking cannot be replaced elsewhere on facility

Need for 2 Engineered Materials Arresting systems (EMAS) increases costs with maximum extension

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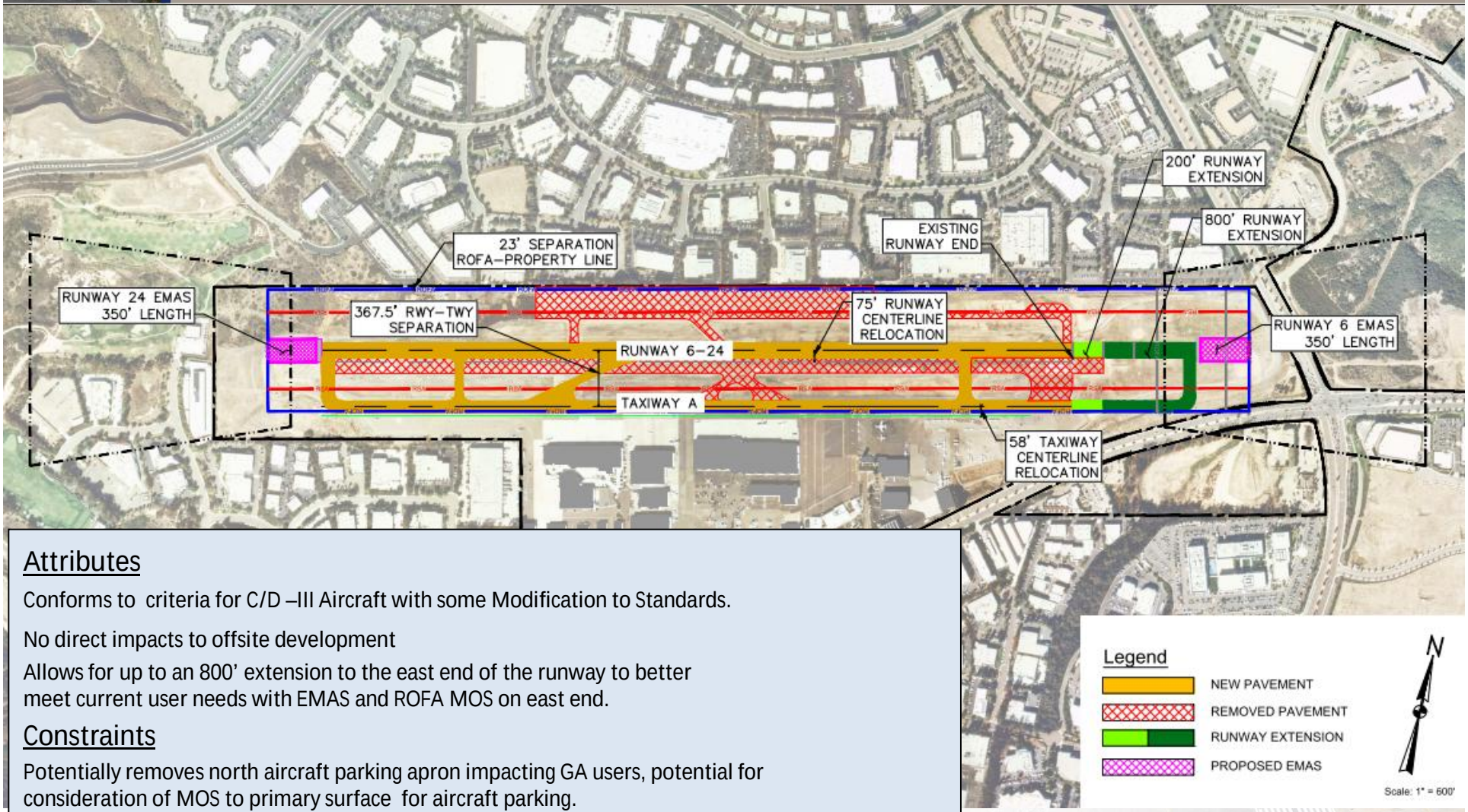
ADG C/D-III Modified Standards



Attributes

Conforms to criteria for C/D –III Aircraft with some Modification to Standards.

No direct impacts to offsite development

Allows for up to an 800' extension to the east end of the runway to better meet current user needs with EMAS and ROFA MOS on east end.

Constraints

Potentially removes north aircraft parking apron impacting GA users, potential for consideration of MOS to primary surface for aircraft parking.

Requires runway centerline relocation and full runway reconstruction

Expanded Taxiway Object Free Area impacts FBO, Terminal, and GA parking to a limited degree.

Need for 2 Engineered Materials Arresting systems (EMAS) increases costs with maximum extension.

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Narrowing Alternatives

- The project team plans to receive input and feedback from:
  - This meeting
  - E-mail comments (Palomar.MP@Kimley-horn.com)
  - Community members
  - Cities of Carlsbad, Vista, Oceanside, San Marcos, and Encinitas
  - Airport Operators, tenants, and users
  - FAA and other regulatory agencies
- Input gathered will be considered in selecting the recommended alternative

Next Steps

- Recommended Alternative
  - Capital Improvement Plan
  - Financial Plan
  - Next Public Meeting – fall 2015
- CEQA Environmental Process
- Final Action by County Board of Supervisors

THANK YOU

Questions - Comments