AIRPORTS COUNCIL INTERNATIONAL
NORTH AMERICA

NextGen Begins and Ends at Airports

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Pacific Grove, California

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Why NextGen Begins and Ends at Airports

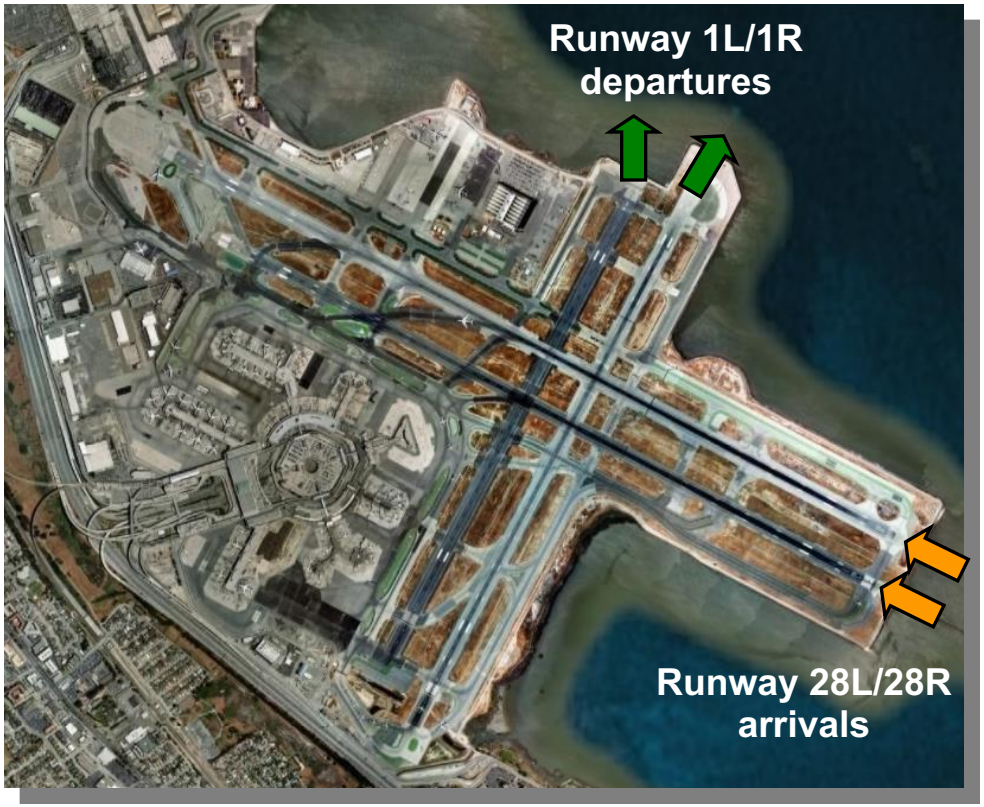
- Many key US airports—especially those in congested urban areas—are near or beyond capacity
- These airports act as bottlenecks and impede flow throughout the NAS
- Eliminating these bottlenecks is essential to reliable passenger air service and timely air cargo delivery

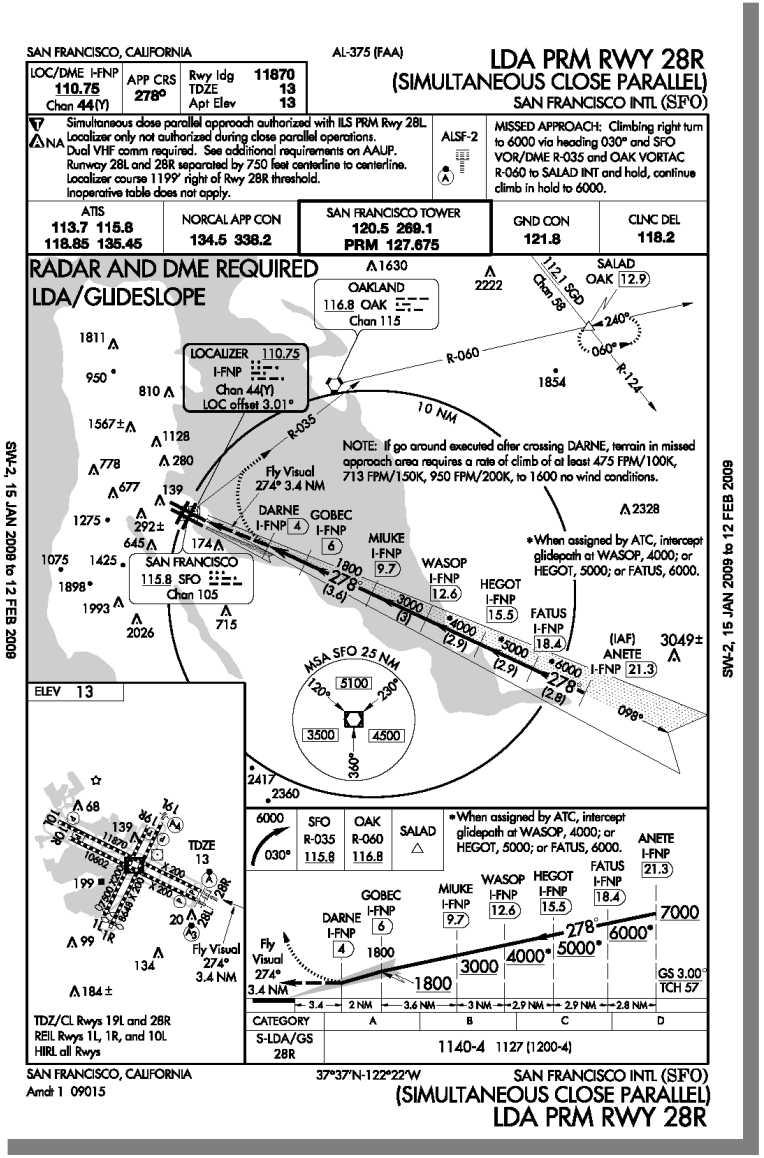
Another Compelling Reason—Credible Airport Analyses Take Time

- Airports need NextGen solutions tailored to their unique operational issues
  - Procedure development
  - Benefit-cost analysis
  - Environmental evaluation
  - Infrastructure
- Unlike many other components of the NAS, airport solutions require local knowledge involvement and support

Time and resources are needed at the local level to prepare and evaluate local solutions

Highlighting the Local Challenge: SFO





What Do Airports Want From NextGen?

Ability to accommodate current and future aviation activity safely, efficiently, and conveniently in a cost-effective and environmentally responsible way

- ✈ Increased capacity
- ✈ Improved operational reliability
- ✈ Enhanced operational flexibility
- ✈ Improved margins of safety
- ✈ Reduced environmental footprint
- ✈ Improved access

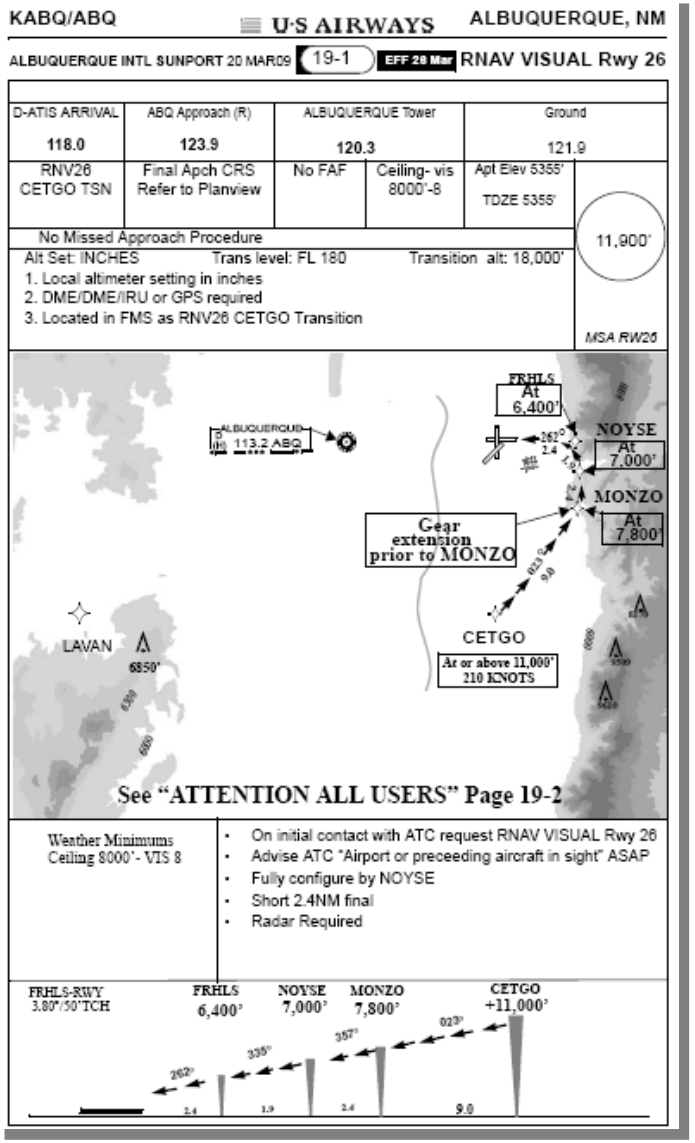
In Terms of Capacity Enhancement and Operational Reliability…

- Increase percent of time that approaches can be conducted visually
- Reduce impact of wake vortex separations
- Reduce in-trail separations and associated "buffers"
- Deconflict multiple airports in congested terminal areas
- Improve closely-spaced parallel runway operations
- Improve surface flows and situational awareness
- Revisit intersecting runway procedures

Increasing VMC capacity is good, but reducing capacity losses in MVMC and IMC is probably better

Increase Percent of Time that Visual Procedures Are Available

- Reduce visual approach minima, taking advantage of RNP containment for equipped aircraft
- Expand use of RNAV/RNP procedures that avoid obstructions
- "Navigate to visual conditions" via wider application of SOIA, RPAT, and other procedures



Reduce Impacts of Wake Vortex Separations

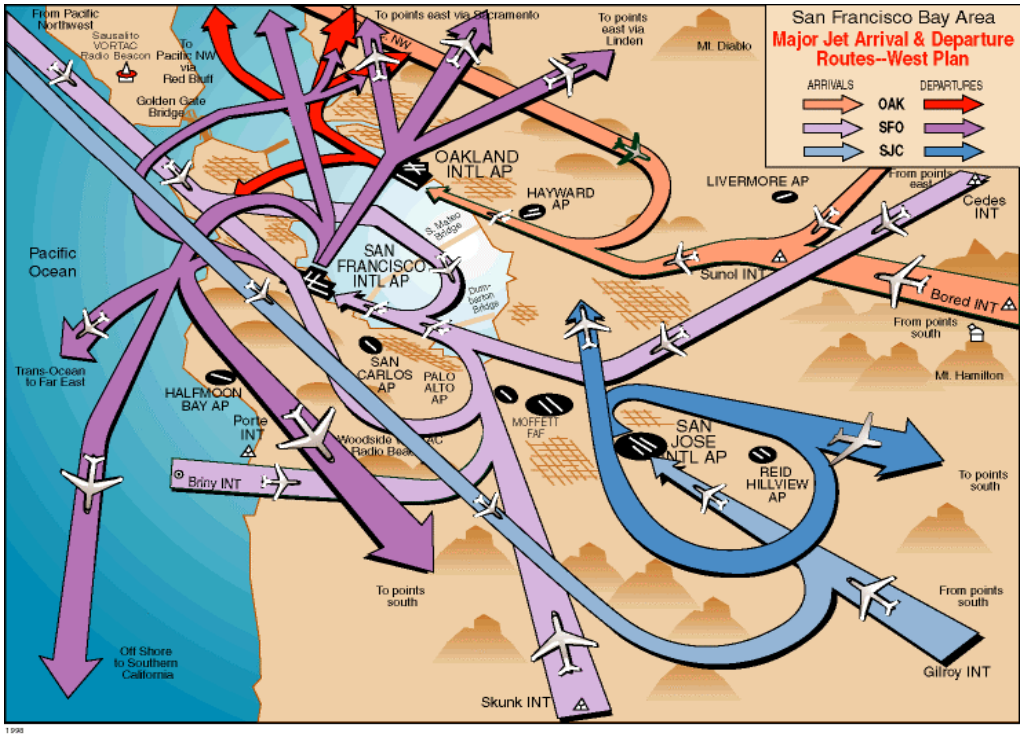
- Expedite development of wake prediction and mitigation tools
- Intentionally displace thresholds if beneficial
- Minimize wake penalties via approach sequencing automation and surface management

Reduce In-Trail Separations and "Buffers"

- Enhance controller and pilot positional accuracy and situational awareness
- Enhance merging and spacing within the terminal environment, possibly through improved time-based metering, to reduce gaps in arrival streams
- Re-examine existing departure divergence requirements within the NextGen environment
- Improve exit taxiway geometry and/or implement operational guidance to pilots for runways where 50 second average runway occupancy times can't be demonstrated

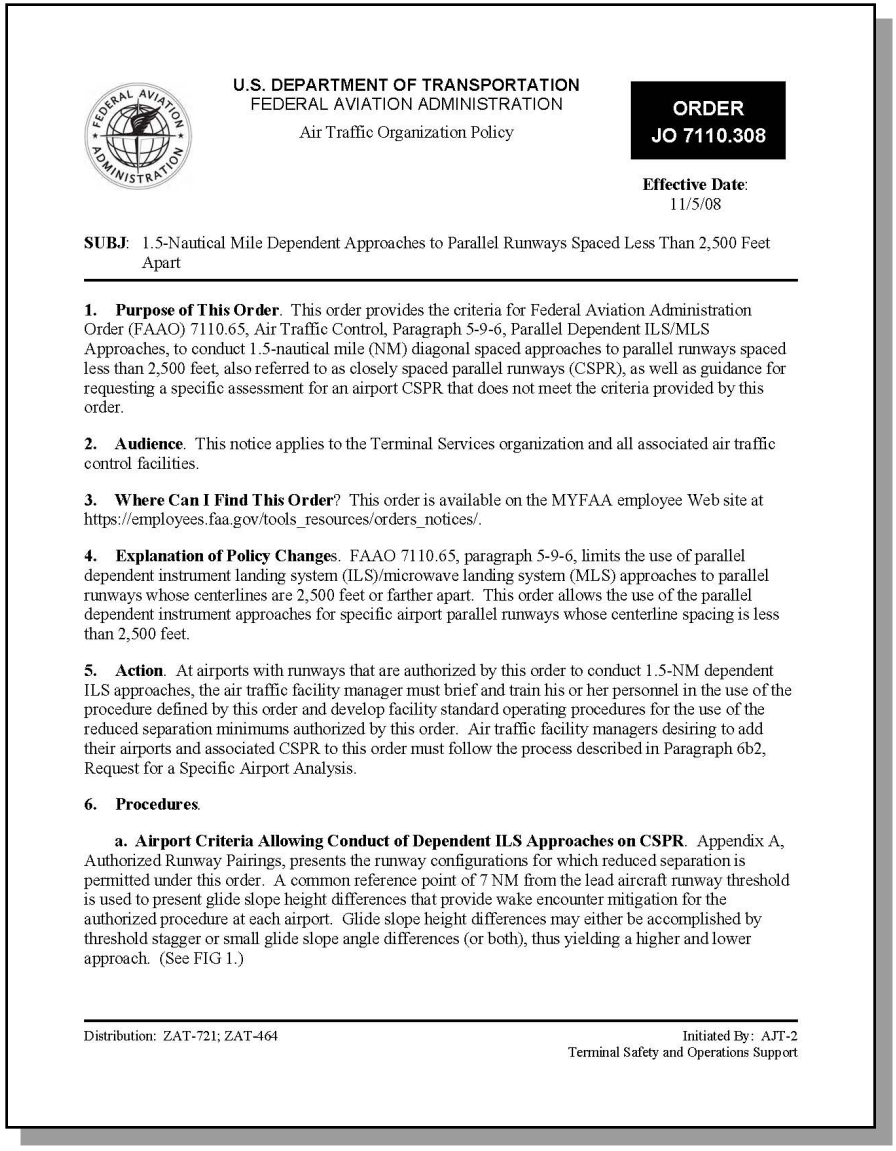
Deconflict Airports in Congested Terminal Areas

- Use RNP/RNAV procedures and containment area concepts to separate aircraft from aircraft and reduce procedural conflicts
- Use high-precision STARs to feed final approaches



Enhance Closely-Spaced Parallel Runway Operations

- Expand application of JO 7110.308 dependent approach procedures
- Develop near-visual approach and departure procedures for equipped airplanes during marginal VMC
- Ultimately, reduce separation standards for independent instrument procedures to parallel runways for equipped users



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Air Traffic Organization Policy

ORDER JO 7110.308

Effective Date:
11/5/08

SUBJ: 1.5-Nautical Mile Dependent Approaches to Parallel Runways Spaced Less Than 2,500 Feet Apart

1. Purpose of This Order. This order provides the criteria for Federal Aviation Administration Order (FAAO) 7110.65, Air Traffic Control, Paragraph 5-9-6, Parallel Dependent ILS/MLS Approaches, to conduct 1.5-nautical mile (NM) diagonal spaced approaches to parallel runways spaced less than 2,500 feet, also referred to as closely spaced parallel runways (CSPR), as well as guidance for requesting a specific assessment for an airport CSPR that does not meet the criteria provided by this order.

2. Audience. This notice applies to the Terminal Services organization and all associated air traffic control facilities.

3. Where Can I Find This Order? This order is available on the MYFAA employee Web site at https://employees.faa.gov/tools_resources/orders_notices/.

4. Explanation of Policy Changes. FAAO 7110.65, paragraph 5-9-6, limits the use of parallel dependent instrument landing system (ILS)/microwave landing system (MLS) approaches to parallel runways whose centerlines are 2,500 feet or farther apart. This order allows the use of the parallel dependent instrument approaches for specific airport parallel runways whose centerline spacing is less than 2,500 feet.

5. Action. At airports with runways that are authorized by this order to conduct 1.5-NM dependent ILS approaches, the air traffic facility manager must brief and train his or her personnel in the use of the procedure defined by this order and develop facility standard operating procedures for the use of the reduced separation minimums authorized by this order. Air traffic facility managers desiring to add their airports and associated CSPR to this order must follow the process described in Paragraph 6b2, Request for a Specific Airport Analysis.

6. Procedures.

a. Airport Criteria Allowing Conduct of Dependent ILS Approaches on CSPR. Appendix A, Authorized Runway Pairings, presents the runway configurations for which reduced separation is permitted under this order. A common reference point of 7 NM from the lead aircraft runway threshold is used to present glide slope height differences that provide wake encounter mitigation for the authorized procedure at each airport. Glide slope height differences may either be accomplished by threshold stagger or small glide slope angle differences (or both), thus yielding a higher and lower approach. (See FIG 1.)

Distribution: ZAT-721; ZAT-464

Initiated By: AJT-2
Terminal Safety and Operations Support

Improve Surface Flows & Situational Awareness

- Expedite installation of ASDE-X and multilateration-based surface monitoring at congested airports
- Implement passive surface surveillance and data distribution to airport operators
- Develop surface traffic flow management automation aids
- Optimize T/W and holding apron layouts to reduce surface congestion

Revisit Intersecting Runway Procedures

- Revisit land-and-hold short rules in a highly-controlled RNAV environment
- Refine converging runway display aid (CRDA) or similar technologies (e.g., VAST, TBM) to accommodate RNAV approach geometries

Industry Efforts— Leveraging Local Resources

- Airports have a key role
  - National Alliance to Advance NextGen
  - Other airport efforts (e.g., ATL, SFO, DFW)
  - More airport/metroplex studies are needed
- Airline initiatives are also critical
  - Development of numerous special procedures
  - Technology trials (e.g., UPS CDTI and self-separation trials)

We Need to Find Ways to Expand and Enhance These Local Efforts

Challenges that We Cannot Overlook

- Incorporating NextGen into mainstream airport planning
  - What, when, and where?
  - Continuing need for "traditional" capacity enhancements
- Addressing environmental challenges
  - Global—greenhouse gas emissions/climate change
  - Local—noise, local emissions, "metal overhead"
  - Role of NextGen in National Environmental Policy Act studies and determinations
- Assessing how to make "system solutions" effectual
  - Supporting airports
  - Other modes
  - …even congestion management
- Funding the future
  - Equipage in the air *and* on the ground
  - Local NextGen planning and implementation