

Navy BRAC'05 Airfield and Airspace Baseline Development

North American SIMMOD
Users Group Meeting

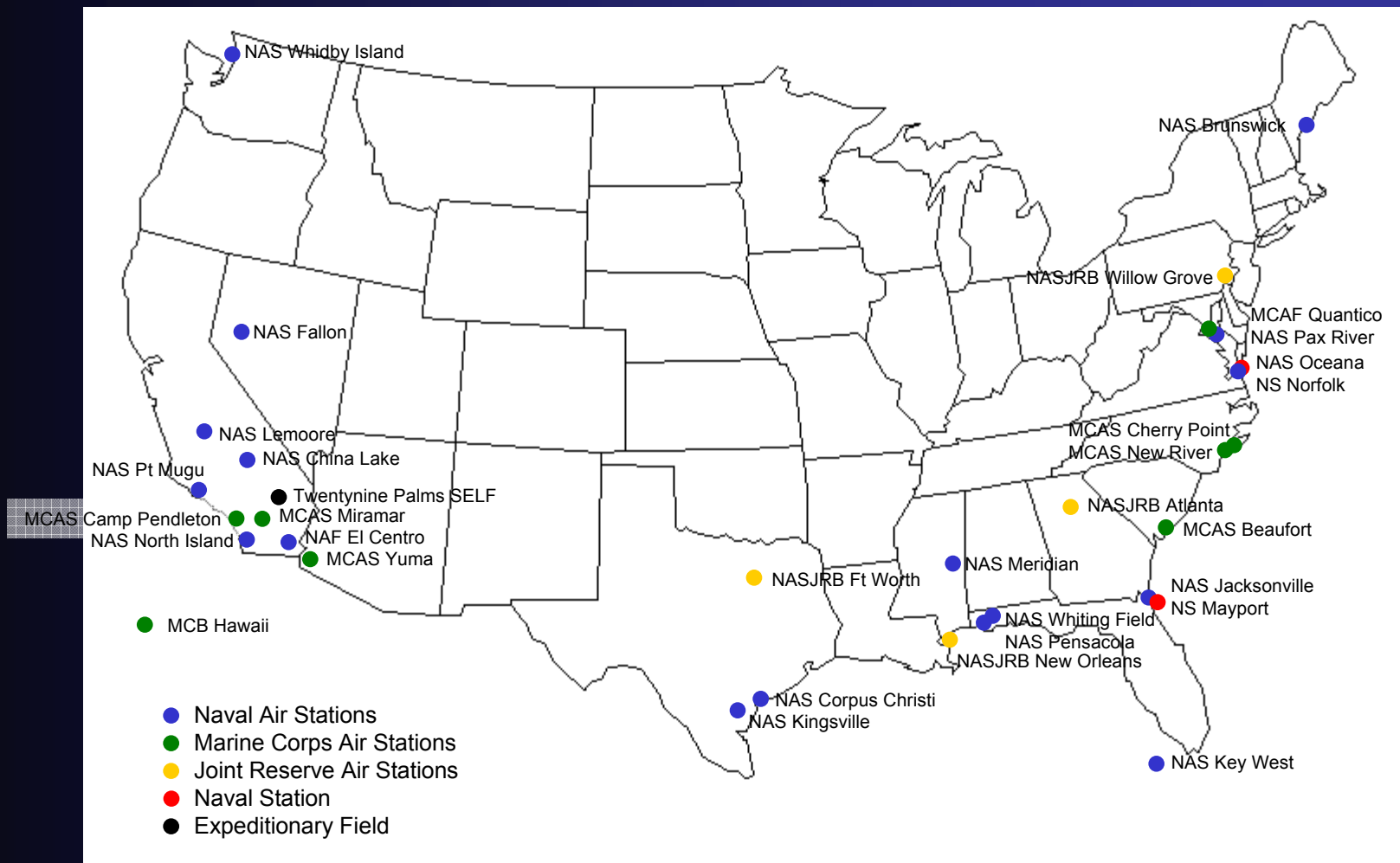
Alexandria, VA
16 March 2005



PROJECT'S GOAL

- Develop baseline airfield and airspace simulation models to be used during the BRAC'05 decision process
- Project included all Navy and Marine Corps facilities with air operations
 - Naval Air Stations – 17
 - Marine Corps Air Stations – 8
 - Joint Reserve Bases – 4
 - Naval Stations – 2
 - Expeditionary Field – 1

NASMOD Baseline Models

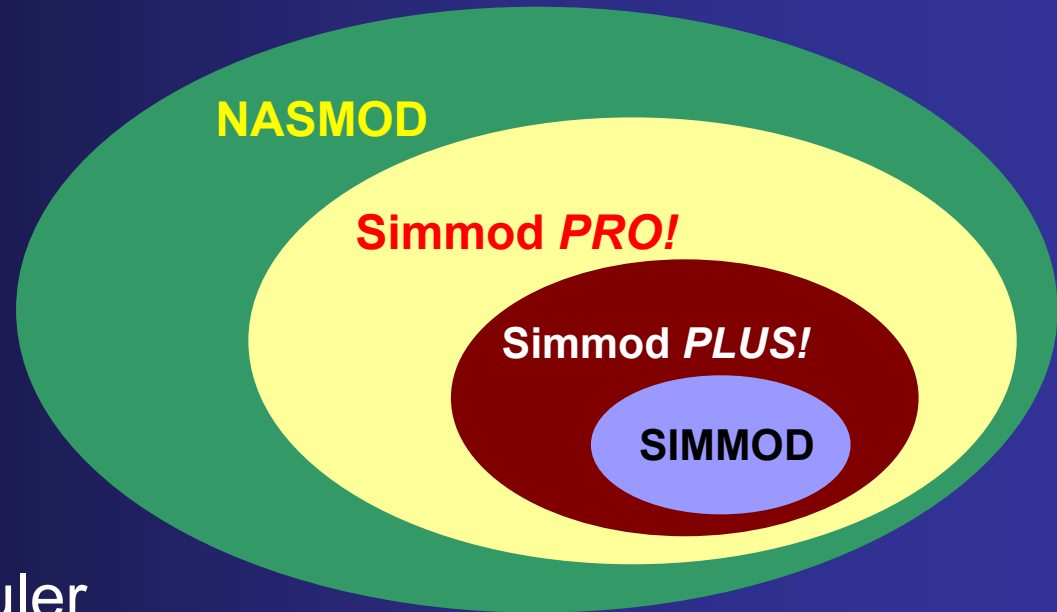


NASMOD BACKGROUND

- First Navy analysis tool to address airspace and airfield operational issues and capacity
- Incorporates SIMMOD as the core simulation engine
- Provides defensible information for planning and decision making regarding airfield, airspace, and range capacity, requirements, and utilization in support of:
 - Proposed operational alternatives
 - Introduction of new aircraft types and missions
 - Changes in special use airspace and ranges
 - Changes in pilot training rates and requirements
 - Noise and environmental impact studies
 - Base closings and realignments
- First studies performed for BRAC'95



MODEL DIFFERENCES



- Day Loop
- Event Scheduler
- Performance Calculator
- Output Database

STUDY DIFFERENCES

- Timeframe
 - NASMOD simulated for 12-27 months
- Demand
 - Training Syllabus -> students -> classes
 - Training & Readiness Matrix -> periodic training
 - Deployments and Detachments
 - Backlogged events

STUDY DIFFERENCES

- Flight Profiles
 - Dep – Train – RTB, Out-and-in, Two-turn-two
 - Training areas selected by percent of use or preference
 - Single aircraft, section, division flight
 - Adversary/Support aircraft
 - Superset – coordinating numerous aircraft
 - Return to Base activities – training event dependant
 - Instrument approaches
 - Touch & Go practice

STUDY DIFFERENCES

- Extensive helicopter operations
- Unusual operations
 - Runway Traps
 - Field Carrier Landing Practice (FCLP)
 - Assault runway training
 - Fuel pits
 - Arm-dearm

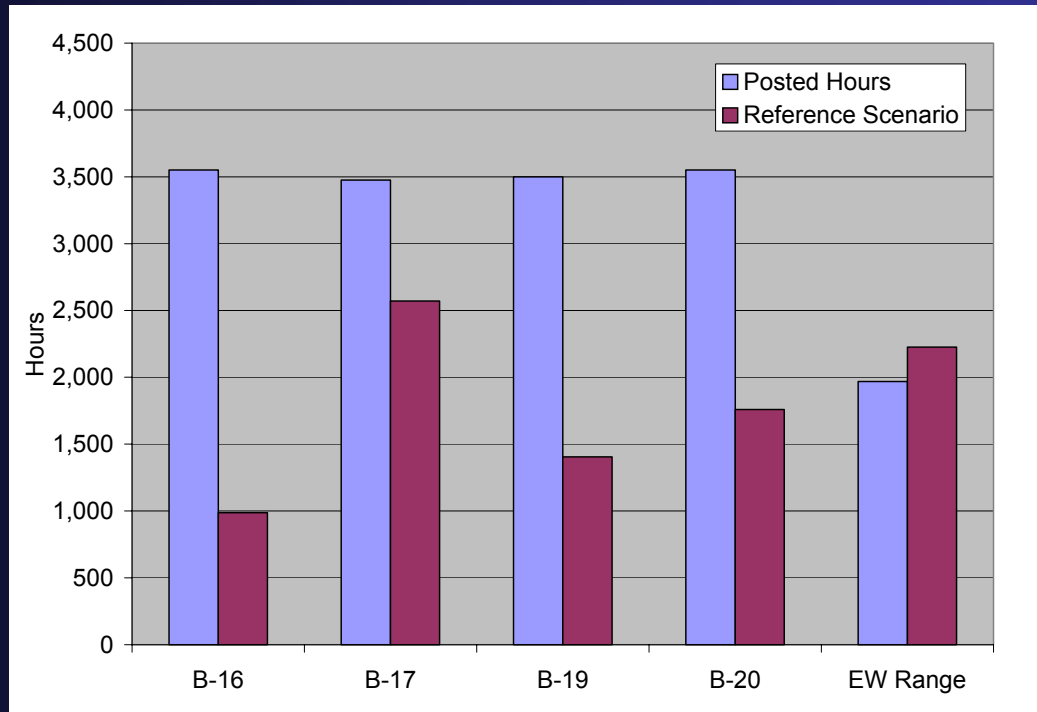
NASMOD ANALYSIS

- Range Capacity
- Range Consolidation
- New Aircraft Types
- Civilian Interaction
- Facility Requirements

RANGE CAPACITY

Impact of TOPGUN and TOPDOME at NAS Fallon

Annual Training Range Hours at FRTC

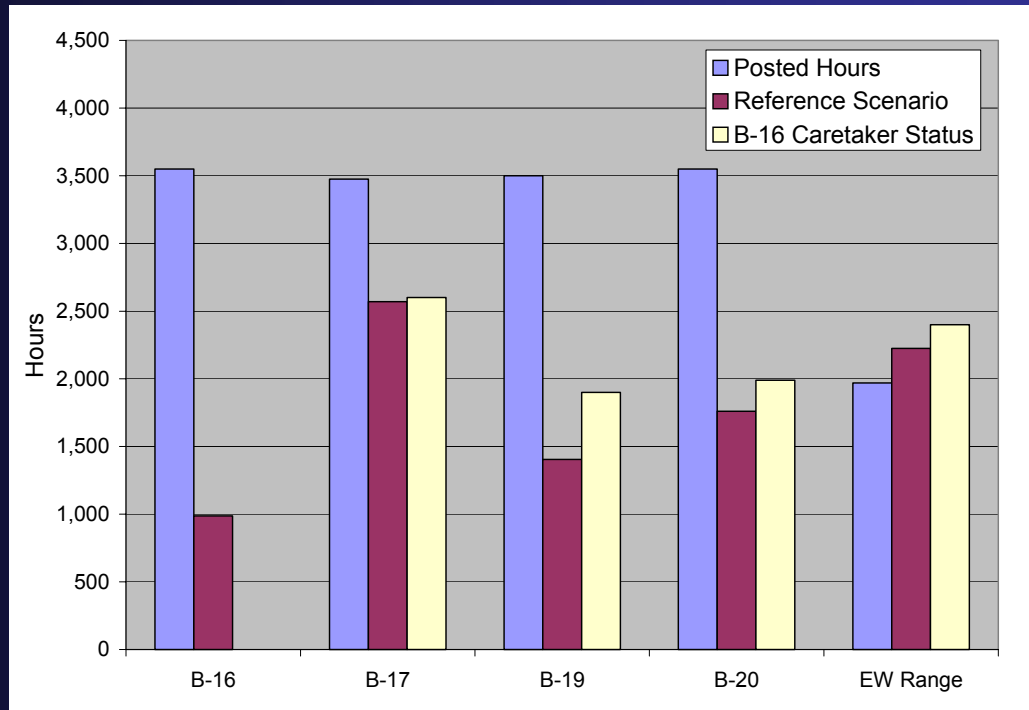


- B-17 is the most requested bombing range (75% utilized)
- Electronic Warfare (EW) range exceeds existing posted hours by 13%

RANGE CONSOLIDATION

Impact of Closing B-16 at NAS Fallon

Annual Training Range Hours at FRTC

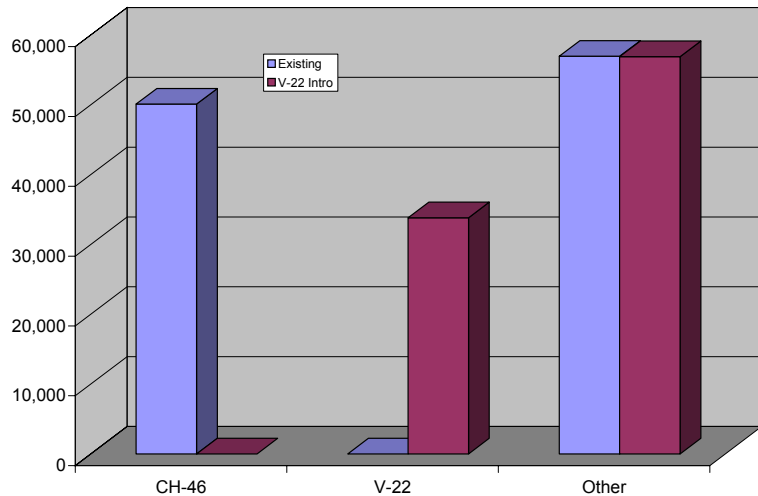


- B-16 utilized 27% of posted hours
- Other ranges (except EW) can absorb training requirements if B-16 is placed in caretaker status

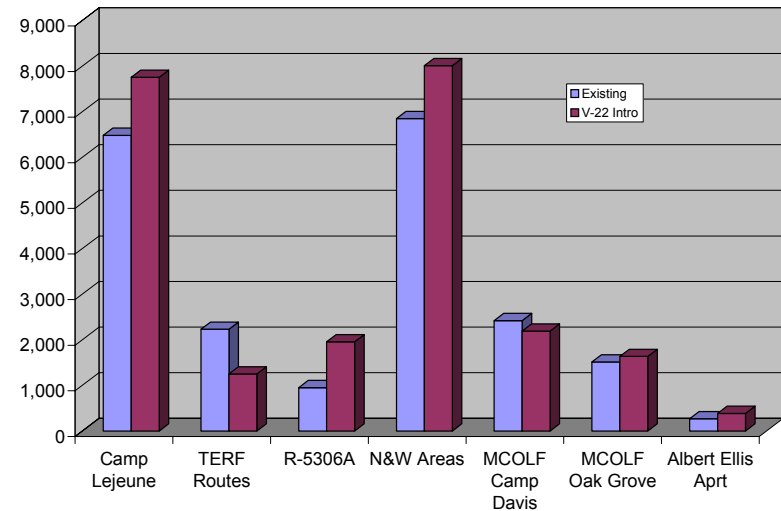
NEW AIRCRAFT TYPES

Impact of V-22 at MCAS New River

MCAS New River Airfield Operations



Training Area Annual Sorties



- 1.5% more flights but 15% fewer airfield operations with V-22 because no autorotations.
- Camp Lejeune, Northern and Western Areas, and R-5306A (with BT-9 and BT-11) most affected.

CIVILIAN INTERACTION

Impact of Changing SUAs and Ranges at NAS Fallon

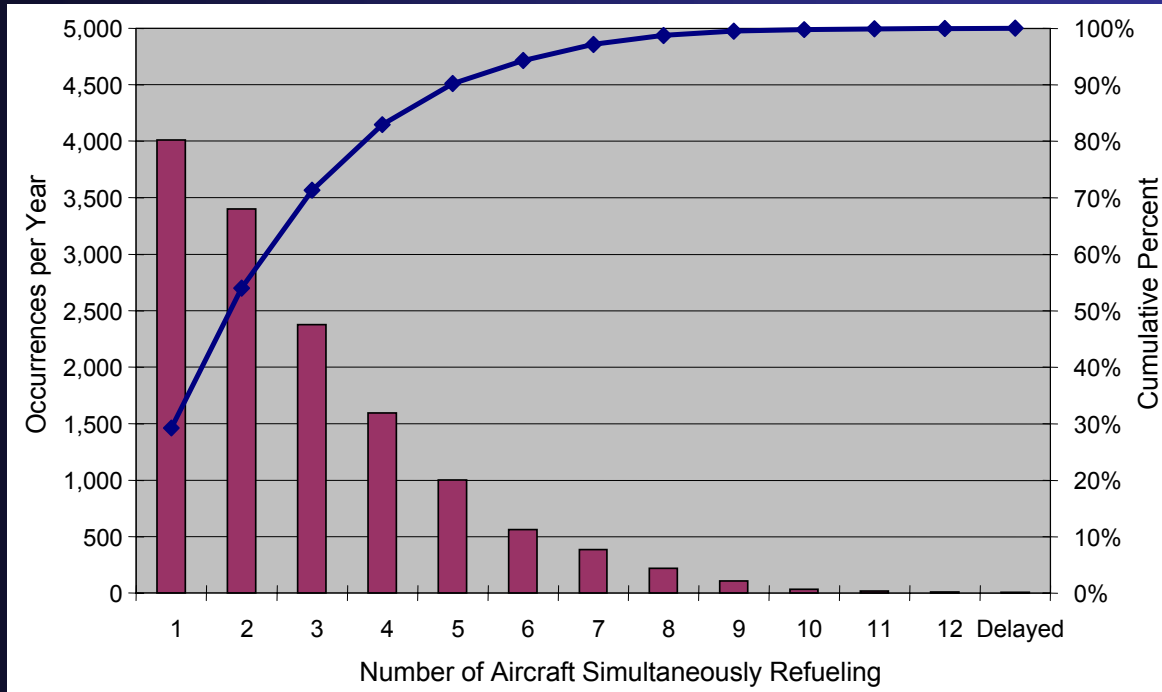
| | Non-Direct Routings (flights/yr) | Average Added Travel Distance (miles/ft) | Average Added Flight Time (min./ft) | Added Operating Costs (\$1,000, 1994) |
|---|--|--|---|---|
| Reference Scenario | 27,590 | 10.0 | 1.6 | \$984 |
| New Diamond, Duckwater, Smokey MOAs/ATCCAs to FL280 | 30,180 | 10.4 | 1.6 | \$1,102 |
| B-16 Caretaker Status, Demand Shifted to B-17, B-19, B-20 | 27,800 | 10.0 | 1.6 | \$987 |
| B-16 Caretaker, Permanent F/A- 18 FRS Detachment Relocated | 24,986 | 10.1 | 1.6 | \$892 |
| High-Altitude Bombing to FL450 in B-17 and B-20 | 28,118 | 10.1 | 1.6 | \$1,008 |

- Over 80% of impact is on commercial jets at FL240-FL270
- Excludes delay and cost effects of increased traffic density on non-direct airways

FACILITY REQUIREMENTS

Hot Refueling System at MCAS Camp Pendleton

Annual Fuel Pit Activity Levels



- 55% of refueling activity occurs with 1 or 2 aircraft
- 99% of refueling requirements can be met without delay with 8 refueling points