

NextGen: the United States' Modernization Plan

For: ICAO Workshop on
ASBUs Framework

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FAA's Role in International Harmonization

- Supported the creation of ASBUs
- Support of the GANP and block upgrades at the ICAO Assembly
 - ✦ We believe that the GANP offers a solid blueprint for global modernization
 - ✦ Block upgrades can be tailored to a country's needs, capabilities, and requirements
- Interoperability is key
- NextGen is the United States' upgrade plan



NextGen: *Delivering safety, sustainability, flexibility and economic viability*

Today's National Airspace System

- Ground-based Navigation and Surveillance
- Air Traffic Control Communications By Voice
- Disconnected Information Systems
- Cognitive-Based Air Traffic "Control"
- Fragmented Weather Forecasting
- Airport Operations Limited By Visibility Conditions
- Forensic Safety Systems
- Focus on major airports
- Inefficient routes & fuel consumption



NextGen

- Satellite-based Navigation and Surveillance
- Routine Information Sent Digitally
- Information More Readily Accessible
- Automation, Decision Support Tools
- Forecasts Embedded into Decisions
- Operations Continue Into Lower Visibility Conditions
- Prognostic Safety Systems
- Focus on metropolitan areas
- Shorter flight paths/ fuel saving procedures; alternative fuels; reduced noise



NextGen Program Organization

- Implementation Portfolios (8)

1. Improved Surface Operations
2. Improved Approaches and Low-Visibility Operations
3. Improved Multiple Runway Operations
4. On-Demand NAS Information
5. Collaborative Air Traffic Management
6. Separation Management
7. Time Based Flow Management
8. Performance Based Navigation

- Infrastructure (8)

1. ADS-B
2. Data Communications
3. NAS Voice System (NVS)
4. SWIM
5. CATM
6. Demonstration
7. Future Facilities
8. Airport Improvement

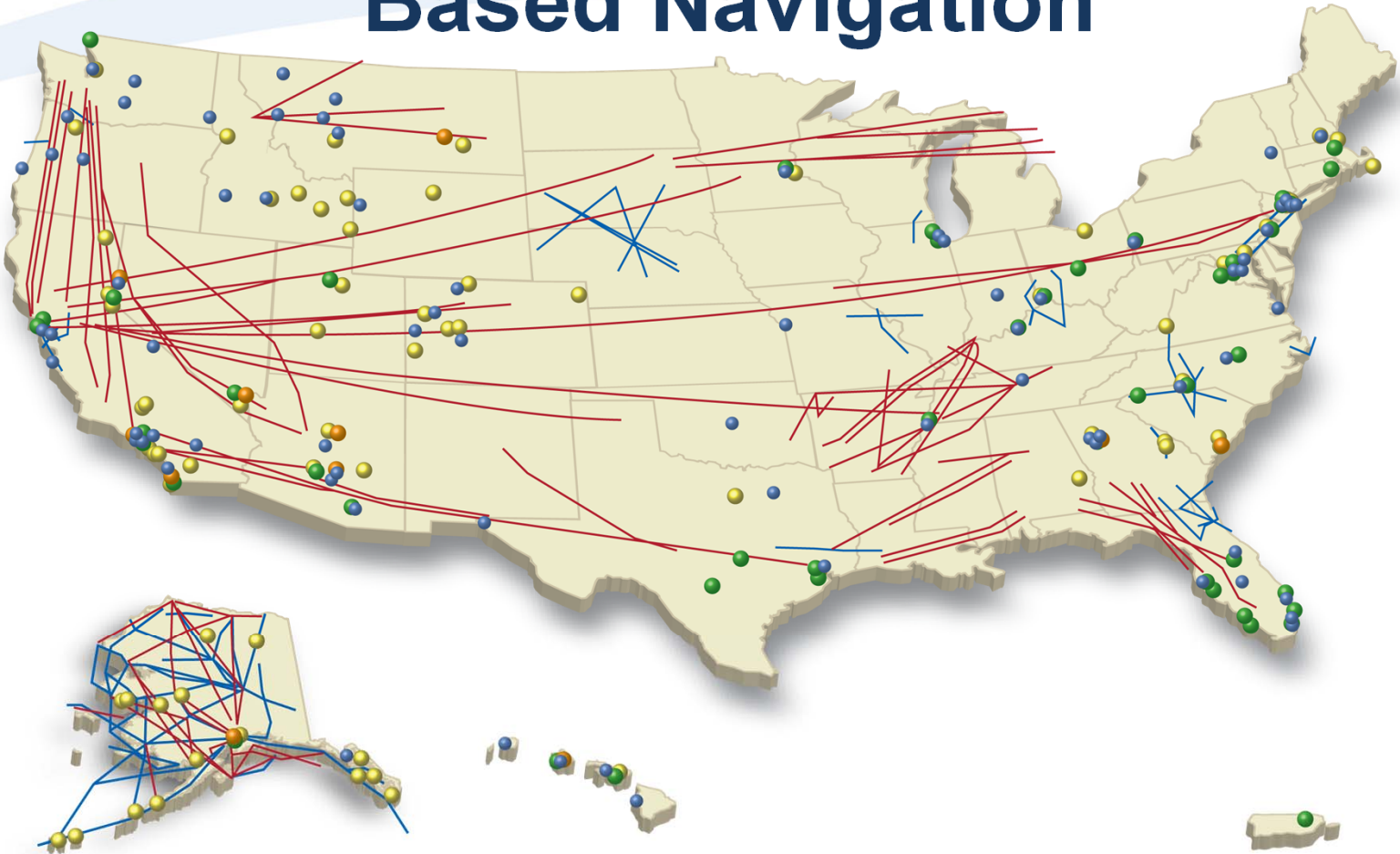


NextGen Implementation Portfolios

NextGen Portfolios	ASBUs PIA (approximate)
Improved Surface Operations	PIA 1: Airport Operations
Improved Approaches and Low-Visibility Operations	PIA 1: Airport Operations
Improved Multiple Runway Operations	PIA 1: Airport Operations
On-Demand NAS Information	PIA 2: Globally Interoperable Systems and Data
Collaborative Air Traffic Management	PIA 3: Optimum Capacity and Flexible Flights
Separation Management	PIA 3: Optimum Capacity and Flexible Flights
Time Based Flow Management	PIA 4: Efficient Flight Paths
Performance Based Navigation	PIA 4: Efficient Flight Paths



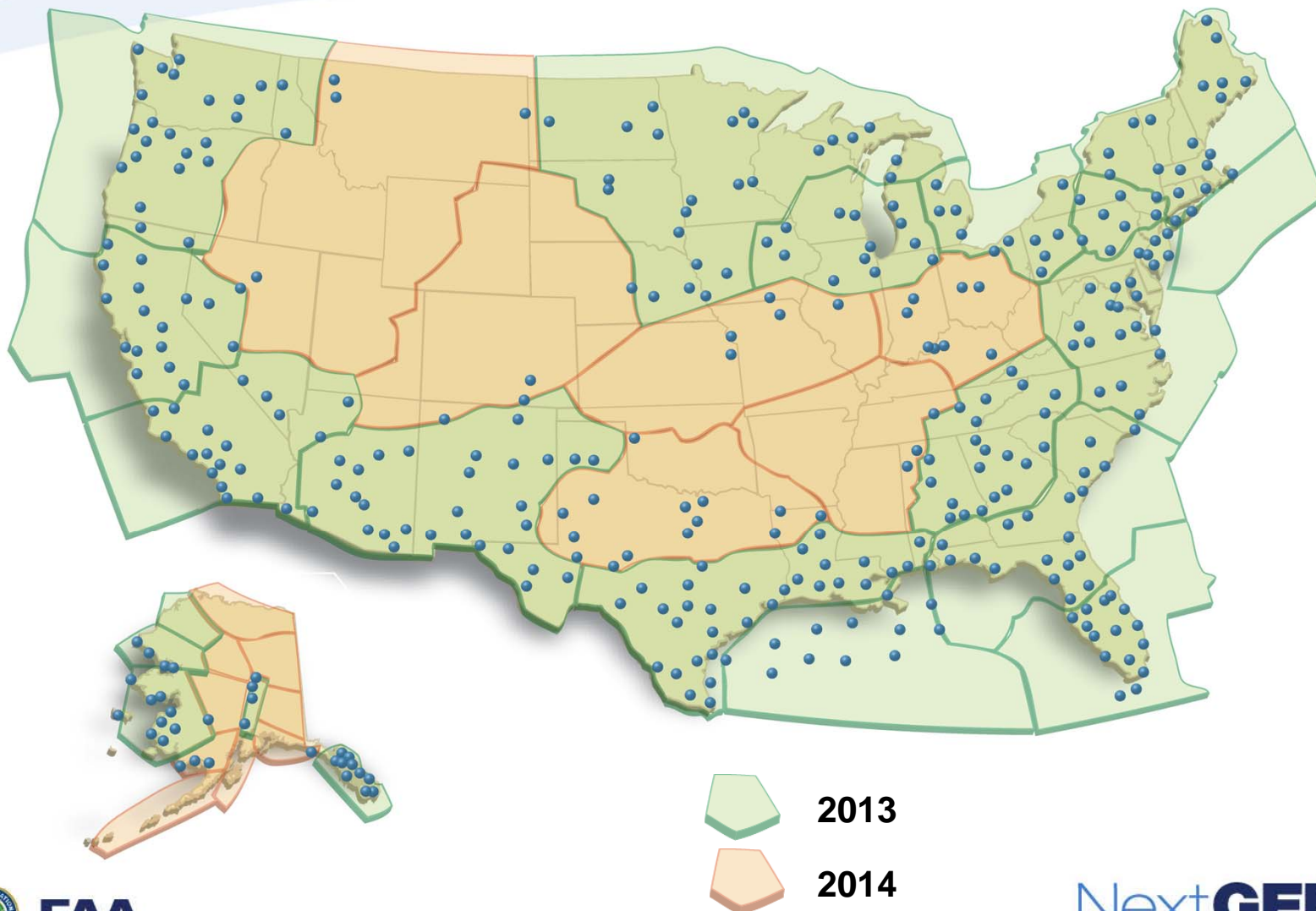
Increased Benefits of Performance Based Navigation



— Q-Route — T-Route ● SID ● STAR ● RNP ● OPD



Expansion of ADS-B



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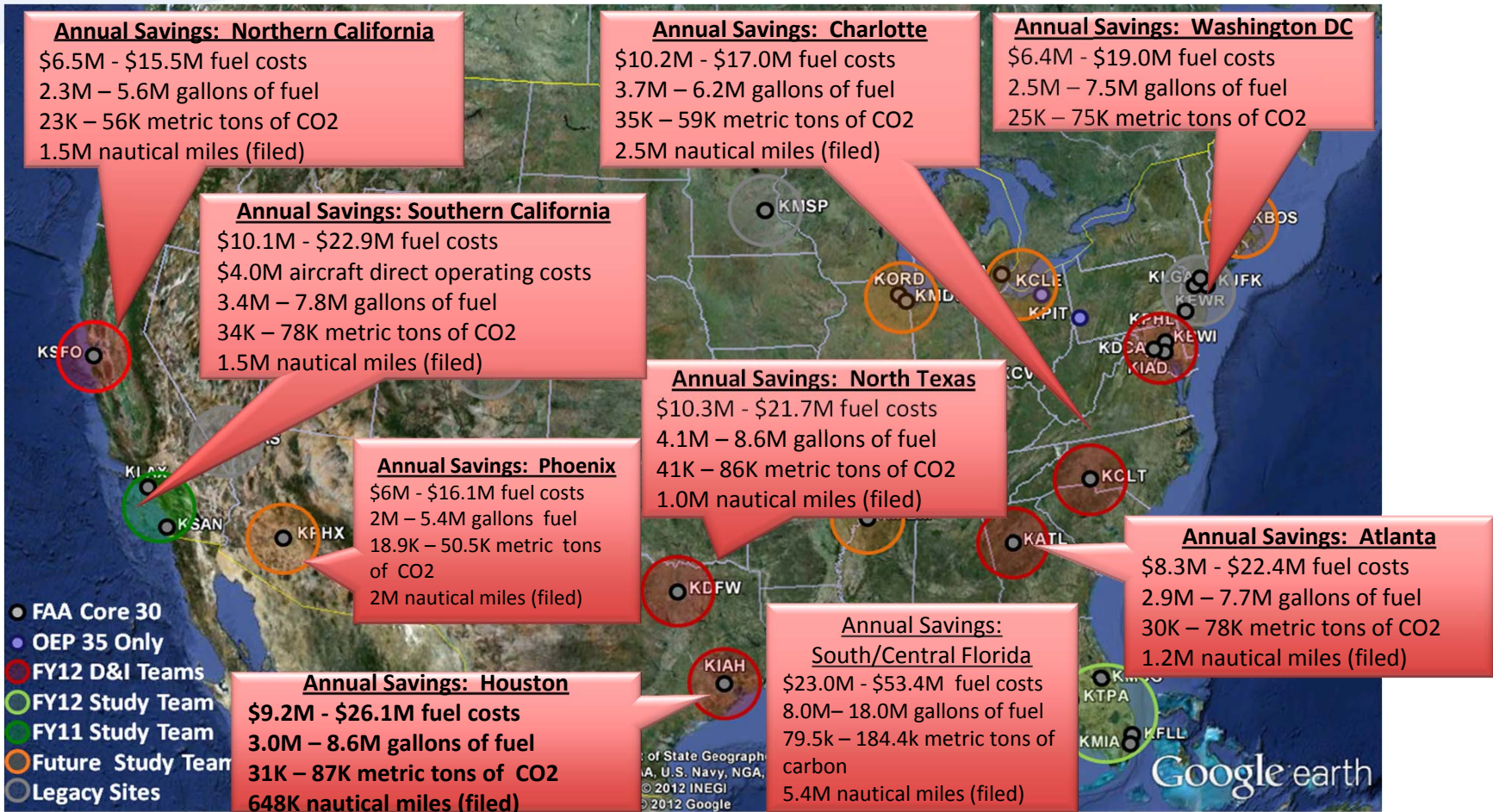
2013



2014

NextGEN

Metroplex Efforts

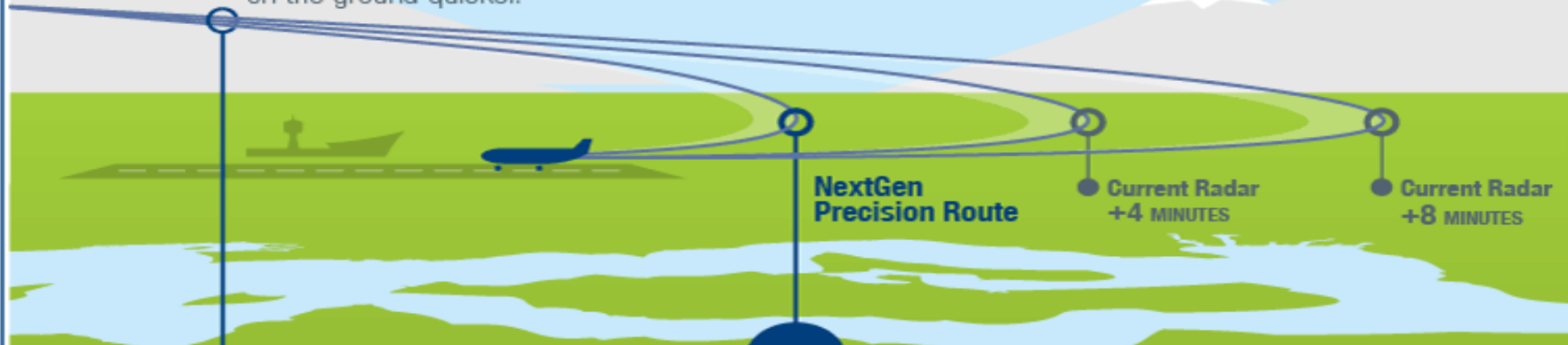


Greener Skies – Seattle

Greener Skies

SEA

New NextGen satellite procedures over Elliott Bay in Seattle are saving airlines money and fuel, and getting passengers on the ground quicker.



NextGen Precision Route

Current Radar +4 MINUTES

Current Radar +8 MINUTES



Alaska Airlines



154

FLIGHTS PER DAY

SAVE

:06
MINUTES
PER FLIGHT

2 BARRELS
PER FLIGHT



112,420

BARRELS ANNUALLY



ANNUAL SAVINGS POTENTIAL

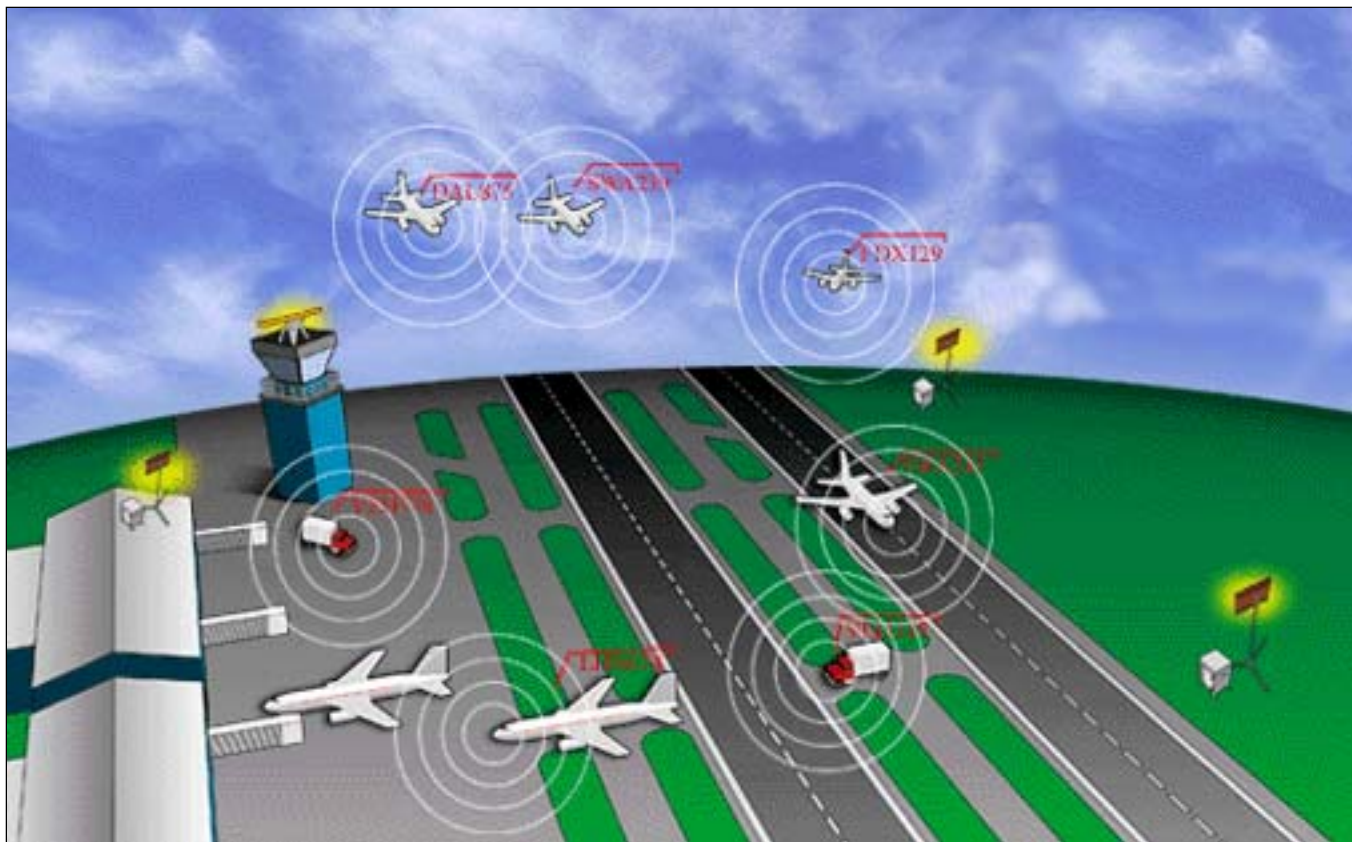
\$13,490,400

www.faa.gov/nextgen

NextGEN

Other Airport Improvements

More Efficient Ground Operations



Latest on Data Comm – Strategy Roadmap



Segment 1 Phase 1

- Tower Service

Tower
IOC

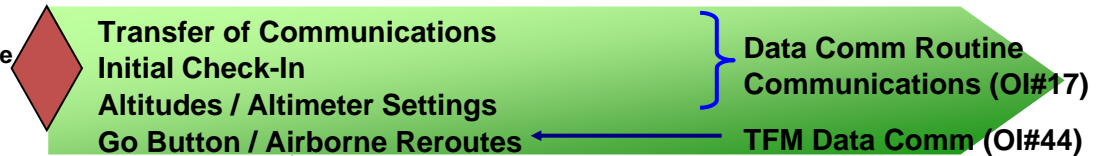


Segment 1 Phase 2

- Initial En Route Services

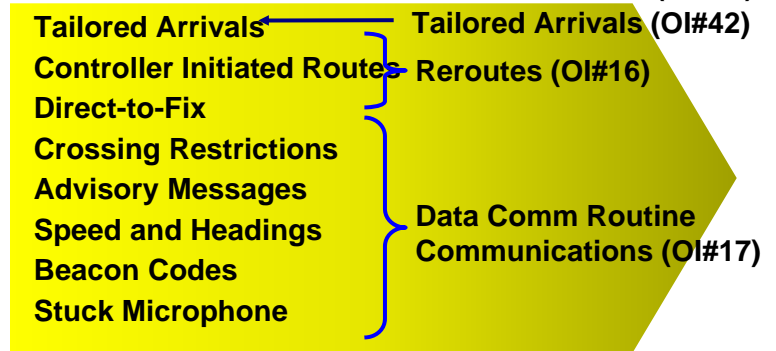
Initial Services
& Infrastructure

En Route
IOC



- Full En Route Services

Subsequent En
Route Capabilities



Segment 2

- Advanced Services

Segment 2
IOC



Avionics



Ground System



Range for start of deployment based upon funding and Baseline 2 availability



LPV & ADS-B: Improving General Aviation



FAA

Next**GEN**

NextGen Priorities based on ASBUs

(as of July 2013)

PIA 1	PIA 2	PIA 3	PIA 4
B0-WAKE (8)	B1-SWIM (1)	B2-ACAS (6)	B0-CCO (3)
B0-RSEQ (12)	B1-FICE (2)	B1-ASEP (7)	B1-CDO (4)
B1-RSEQ (12)	B1-DAIM (10)		B1-TBO (5)
B1-SURF (13)	B1-AMET (11)		B1-RPAS (9)
B1-APTA (14)			
B1-RATS (15)			



NextGen: America's Plan for Modernization

www.FAA.Gov/nextgen

2013 NextGen Implementation Plan now
available online



FAA

Next**GEN**