

Service Road Map Legend

FY 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025

ATC-Separation Assurance / Separation Management

TM-Synchronization / Trajectory Management

TM-Strategic Flow / Flow Contingency Management (Strategic Flow)

Airspace Management / Capacity Management (Airspace)

ATC-Advisory & Flight Planning, Emergency and Alerting, Infrastructure-Information Management / Flight and State Data Management

Key

•NAS EA Service / NIP Function

 •Near-Term Commitment

•2008-2012

 •MidTerm Capability

•2012 -2018

 •Far Term Capability

 •FAA Is Not OPR

•(Initial Operating Capability targeted within the box)

Approved

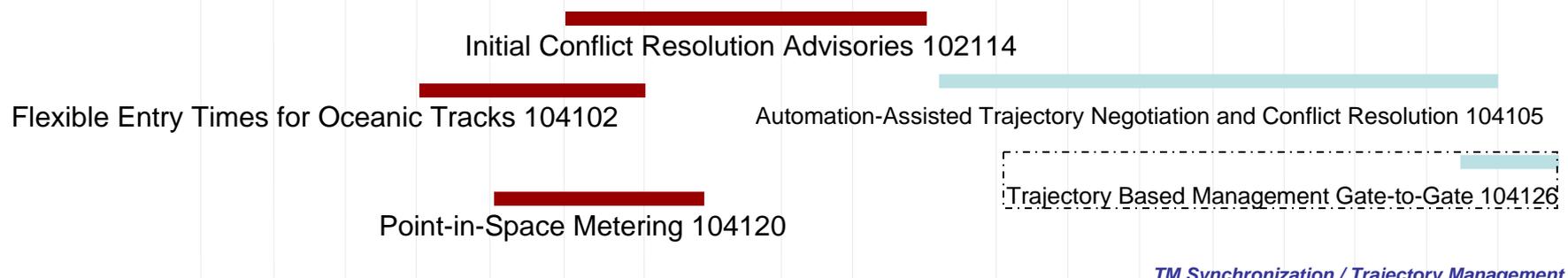
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Initiate Trajectory-Based Operations 1 Of 2

FY 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025



ATC Separation Assurance / Separation Management



TM Synchronization / Trajectory Management

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Initiate Trajectory-Based Operations 2 Of 2

FY 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025

TM Strategic Flow / Flow Contingency Management (Strategic Flow)

Flexible Airspace Management 108206

Increase Capacity and Efficiency Using RNAV and RNP 108209

Flow Corridors – Level 1 Static 108105

Flow Corridors – Level 2 Dynamic 108106

Dynamic Airspace Performance Designation 108213

Airspace Management / Capacity Management (Airspace)

Provide Interactive Flight Planning from Anywhere 101103

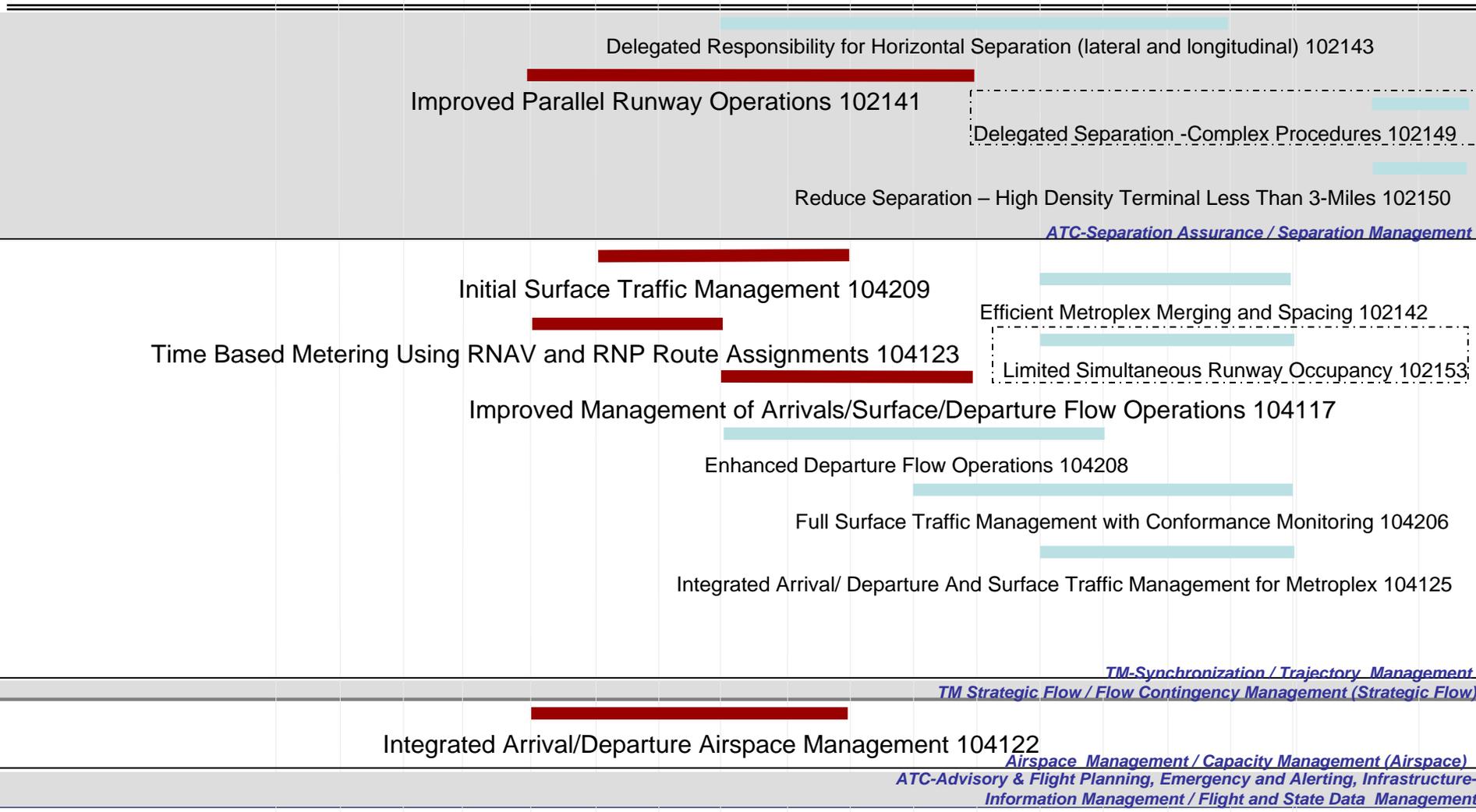
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Increase Arrivals/Departures at High Density Airports

FY 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025



Increase Flexibility in the Terminal Environment (1 of 2)

FY 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025

Wake Turbulence Mitigation for Departures (WTMD): Wind-Based Wake Procedures 102140

Single Runway Departure Wake Mitigation 102151

Dynamic, Pairwise Wake Turbulence Separation 102152

Ground Based Augmentation System (GBAS) Precision Approaches 107107

Provide Surface Situation to Pilots, Service Providers and Vehicle Operators for Near-Zero-Visibility Surface Operations 102409

Expanded Radar-Like Services to Secondary Airports 102138

Wake Turbulence Mitigation for Arrivals: CSPRs 102144

Single Runway Arrival Wake Mitigation 102145

ATC-Separation Assurance / Separation Management

Use Optimized Profile Descent 104124

Low Visibility Surface Operations 107202

Low Visibility/Ceiling Approach Operations 107117

Low Visibility/Ceiling Landing Operations 107118

Low Visibility/Ceiling Takeoff Operations 107115

Low Visibility/Ceiling Departure Operations 107116

Expanded Low Visibility Operations using Lower RVR Minima 107119

TM-Synchronization / Trajectory Management

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Increase Flexibility in the Terminal Environment (2 of 2)

FY

2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025

TM-Strategic Flow / Flow Contingency Management (Strategic Flow)

Airspace Management / Capacity Management (Airspace)

Expanded Traffic Advisory Services Using Digital Traffic Data 103206

Provide Full Surface Situation Information 102406

Enhanced Surface Traffic Operations 104207

Improved Runway Safety Situational Awareness for Controllers 103207

Improve Runway Safety Situational Awareness for Pilots 103208

ATC-Advisory & Flight Planning, Emergency and Alerting, Infrastructure-Information Management / Flight and State Data Management

Improve Collaborative ATM

FY 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025

ATC-Separation Assurance / Separation Management

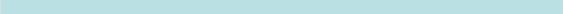
TM-Synchronization / Trajectory Management



Continuous Flight Day Evaluation 105302



Traffic Management Initiatives with Flight Specific Trajectories 105208



Full Collaborative Decision Making 105207

TM-Strategic Flow / Flow Contingency Management (Strategic Flow)



Improved Management of Airspace for Special Use 108212

Airspace Management / Capacity Management (Airspace)



Provide Full Flight Plan Constraint Evaluation with Feedback 101102



On-Demand NAS Information 103305

ATC-Advisory & Flight Planning, Emergency and Alerting, Infrastructure-Information Management / Flight and State Data Management

Reduce Weather Impact

FY 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025

ATC Separation Assurance / Separation Management

Initial Integration of Weather Information into NAS Automation and Decision Making 103119

TM Synchronization / Trajectory Management

Full Improved Weather Information and Dissemination 103121

TM Strategic Flow / Flow Contingency Management (Strategic Flow)

Airspace Management / Capacity Management (Airspace)

Initial Improved Weather Information from Non-Ground Based Sensors 103116

Deploy FIS-B Nationally 103104

Full Improved Weather Sensor Network 103122

Full Integration of Weather Information into NAS Automation and Decision Making 103123

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Increase Safety, Security, and Environmental Performance

FY 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025

ATC-Separation Assurance / Separation Management

TM-Synchronization / Trajectory Management

TM-Strategic Flow / Flow Contingency Management (Strategic Flow)

Airspace Management / Capacity Management (Airspace)

Safety

Enhance Emergency Alerting 106202

ASIAS-Information Sharing and Emergent Trend Detection 109303

Enhanced Aviation Safety Information Analysis and Sharing 109304

Improved Safety for NextGen Evolution 109305

Increased International Cooperation for Aviation Safety 109306

Improved Safety Across Air Transportation System Boundaries 109307

Enhanced (Automated) Aviation Safety Information Sharing and Analysis Scope and Effectiveness 109308

ATC-Advisory & Flight Planning, Emergency and Alerting, Infrastructure-Information Management / Flight and State Data Management

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Increase Safety, Security, and Environmental Performance

FY 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025

ATC-Separation Assurance / Separation Management

TM-Synchronization / Trajectory Management

TM-Strategic Flow / Flow Contingency Management (Strategic Flow)

Airspace Management / Capacity Management (Airspace)


Operational Security Capability for Threat Detection and Tracking, NAS Impact
Analysis and Risk-Based Assessment 109302


Operational Security Capability with Dynamic Flight Risk Assessment
for Improved Security Airspace Planning and Management 109317

*ATC-Advisory & Flight Planning, Emergency and Alerting, Infrastructure-
Information Management / Flight and State Data Management*

Security

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Transform Facilities

FY 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025

ATC-Separation Assurance / Separation Management

TM-Synchronization / Trajectory Management

TM Strategic Flow / Flow Contingency Management (Strategic Flow)

NAS Wide Sector Demand Prediction and Resource Planning 105104

Airspace Management / Capacity Management (Airspace)

Remotely Staffed Tower Services 109402

Automated Virtual Towers 109404

ATC-Advisory & Flight Planning, Emergency and Alerting, Infrastructure-Information Management / Flight and State Data Management

Service Roadmap Changes February 1st to September 30th 2009

February 2009

Aligned Service Roadmaps to reflect changes from February OI Review Meetings.

Increase Arrivals/Departures at High Density Airports

- Changed title of OI – 104117 – to read Improved Management of Arrival/Surface/Departure Flow Operations; moved IOC date range to 2015-2018 and updated description
- Changed title of OI – 102118 – to read Delegated Responsibility for Horizontal Separation (lateral and longitudinal); updated description to reflect title change. Also changed OI number to 102143
- Changed title of OI – 102141 – to read Improved Parallel Runway Operations; updated description to reflect title change; adjusted IOC date range.

Increase Flexibility in the Terminal Environment

- Updated description OI – 107202 – Low Visibility Surface Operations
- Added OI – 107117 – Low Visibility/Ceiling Approach Operations
- Added OI – 107118 – Low Visibility/Ceiling Landing Operations
- Added OI – 107115 – Low Visibility/Ceiling Takeoff Operations
- Added OI – 107116 – Low Visibility/Ceiling Departure Operations
- Added OI – 103207 – Improved Runway Safety Situational Awareness for Controllers
- Added OI – 103208 – Improved Runway Safety Situational Awareness for Pilots
- Added OI – 107119 – Expanded Low Visibility Operations using Lower RVR Minima
- Changed IOC date range on OI 103206 from updated information received Added OI – 102144– Wake Turbulence Mitigation for Arrivals: CSPRs
- Added OI – 102145 – Wake Turbulence Mitigation for Arrivals: Single Runway

Reduce Weather Impact

- Deleted OI – 103118 – Wake Vortex Transport Prediction
- Changed the title of OI – 103116 – to read Initial Improved Weather Information from Non-Ground Based Sensors; and moved IOC date range to 2013-2018
- Changed the title of OI – 103119 – to read Initial Integration of Weather Information into NAS Automation and Decision Making; and moved IOC date range to 2011-2018
- Changed IOC date range on OI 103104 from updated information received

ISSE (Safety)

- Deleted National Aviation Safety Policy
- Deleted National Standards for Safety Management
- Deleted Safety Management System
- Deleted Data Fusion Demonstration
- Deleted Fusion from all Sources Enabled
- Deleted Fully Institutionalized National Aviation Safety Policy and Continuous Safety Improvement Culture
- Deleted Initial System-wide Integrated Assessments
- Deleted Safety Management Enterprise Services

ISSE (Security)

- Changed IOC date range on OI 109302 to 2015-2018
- Deleted SSA and Information System Security Integrated Incident Detection and Response
- Deleted Information on System Security and Surveillance Integration / Protection
- Deleted Full Integrated Surveillance and Information SSA Operational Security

ISSE (Environment)

- Changed Name of NGATS Operational Initiatives Implemented that Reduce Environmental Impacts to NEXTGEN Operational Initiatives Implemented that Reduce Environmental Impacts

Transform Facilities

- Changed Title of OI – 109402 to read Remotely Staffed Tower Services; and updated description to reflect title change.
- Deleted – Integrate, Development and Operations Analysis Capability
- OI 109403 – NextGen Facilities, was made an enabler and removed from the roadmap

16 June 2009

Added Safety OIs per updated information

ISSE (Safety)

- Added OIs
 - 109303 – ASIAs-Information Sharing and Emergent Trend Detection
 - 109304 – Enhanced Aviation Safety Information Analysis and Sharing
 - 109305 – Improved Safety for NextGen Evolution
 - 109306 – Increased International Cooperation for Aviation Safety
 - 109307 – Improved Safety Across Air Transportation System Boundaries
 - 109308 – Enhanced (Automated) Aviation Safety Information Sharing and Analysis Scope and Effectiveness

- Deleted
 - Aviation Safety Information Analysis & Sharing

23 June 2009

Updated Service Roadmaps per alignment of far-term OIs with JPDO IWP

ISSE (Security)

- Added OI
 - 109317 – Operational Security Capability with Dynamic Flight Risk Assessment for Improved Security Airspace Planning and Management

ISSE (Environment)

- Deleted
 - NEXTGEN Operational Initiatives Implemented that Reduce Environmental Impacts
- Added OIs
 - 109309 – Implement EMS Framework-Level 1
 - 109310 – Implement EMS Framework-Level 1
 - 109311 – Environmentally and Energy Favorable En Route Operations-Level 1
 - 109312 – Environmentally and Energy Favorable En Route Operations-Level 2
 - 109313 – Environmentally and Energy Favorable Terminal Operations-Level 1
 - 109314 – Environmentally and Energy Favorable Terminal Operations-Level 2
 - 109315 – Implement NextGen Environmental Engine and Aircraft Technologies-Level 1
 - 109316 – Increase Use of Alternative Aviation Fuels

Transform Facilities

- Added OI
 - 109404 – Remotely Staffed Tower Services
 - 105104 – Changed date
 - 109402 – 109402 (Changed description)

TBO

- Added OIs
 - 102146 – Flexible Routing
 - 102147 – Self-Separation Airspace- Oceanic (FAA is Not OPR)
 - 102148 – Self-Separation Airspace Operations (FAA is Not OPR)
 - 102152 – Dynamic, Pairwise Wake Turbulence Separation
 - 108105 – Flow Corridors-Level 1 Static
 - 108106 – Flow Corridors-Level 2 Dynamic
 - 108213 – Dynamic Airspace Performance Design

- 104121 – Changed Title from “Tactical Trajectory Management” to “Automated Negotiations/Separation Management” (FAA is Not OPR)
- 102117 – Changed Title from “Reduced Horizontal Separation Standards – 3 miles” to” Reduced Horizontal Separation Standards, En Route – 3 miles (changed description)
- 102136 – Changed title from “NextGen Oceanic Procedures” to “Reduced Oceanic Separation and Enhanced Procedures” (changed description)
- 104105 – Changed title from “Expanded Conflict Resolution via Data Communication” to “Automated-Assisted Trajectory Negotiation and Conflict Resolution” (changed description)
- 104121 – Changed title from “Tactical Trajectory Management” to “Automated Negotiation/Separation Management (changed description)
- 102122 – Use Aircraft Provided Intent Data to Improve Conflict Resolution; (Changed to enabler)
- 104126 – Trajectory-Based Management-Gate-to-Gate (FAA is not OPR)

HD

- OIs Added
 - 102149 – Delegated Separation – Complex Procedure (FAA is not OPR)
 - 102150 – Reduced Separation – High Density Terminal, Less than 3-miles
 - 104125 – Integrated Arrival/Departure and Surface Traffic Management for Metroplex
 - 102139 – Changed to enabler
 - 102142 – Changed title from “Wake Vortex Incorporated into Flow” to “Efficient Metroplex Merging and Spacing (changed description)
 - 104206 – Changed description
 - 104208 – Changed title from “Data Messaging to Provide Flow and Taxi Assignments” to “Enhanced Departure Flow Operations”
 - 102153 – Limited Simultaneous Runway Occupancy (FAA is Not OPR)

Flex

- OIs Added
 - 102151 – Single Runway Departure Wake Mitigation
 - 102138 – Changed title from “ADS-B Services to Secondary Airports” to “Expanded Radar-like Services to Secondary Airports” (changed description)
 - 102145 – Changed title from “Wake Turbulence Mitigation for Arrivals: Single Runway” to “Single Runway Arrival Wake Mitigation” (changed description)

- 102409 – Changed title from “Provide Surface Situation to Pilots, Service Providers and Vehicle Operators for all-Weather Operations” to Provide Surface Situation to Pilots, Service Providers and Vehicle Operators for Near-Zero-Visibility Surface Operations” (changed description)

CATM

- OIs Added
 - 105207 – Full collaborative Decision Making (revised description)
 - 108207 – Changed to enabler

Wx

- OIs Added
 - 103122 – Full Improved Weather Sensor Network
 - 103123 – Full Integration of Weather Information into NAS Automation and Decision Making
 - 103121 – Changed title from “Full Operational Weather Capability” to “Full Improved Weather Information and Dissemination” (changed description)

September 2009

Wx

- Changed IOC date range of 103121 to 2016-2023 per Solution Set Manager
- Deleted OI’s 103117 and 103120 per Solution Set Manager