MIAMI INTERNATIONAL AIRPORT

SMP 2015-2050

KENDALL-TAMIAMI EXECUTIVE AIRPORT • OPA-LOCKA EXECUTIVE AIRPORT • HOMESTEAD GENERAL AVIATION AIRPORT • DADE-COLLIER TRAINING AND TRANSITION AIRPORT

STRATEGIC AIRPORT MASTER PLANNING STUDY

FOR MIAMI-DADE COUNTY'S SYSTEM OF AIRPORTS

MIA Cargo Facilities and Needs Workshop
June 29th, 2011

MIAMI-DADE AVIATION DEPARTMENT

MIA MIAMI INTERNATIONAL AIRPORT

MIAMI-DADE COUNTY

SMP Overview

1. Prior Studies
2. Current MIA Capital Improvement Program (CIP)
3. SMP Goals and Objectives
4. SMP Study Approach

SMP Background – Prior Studies

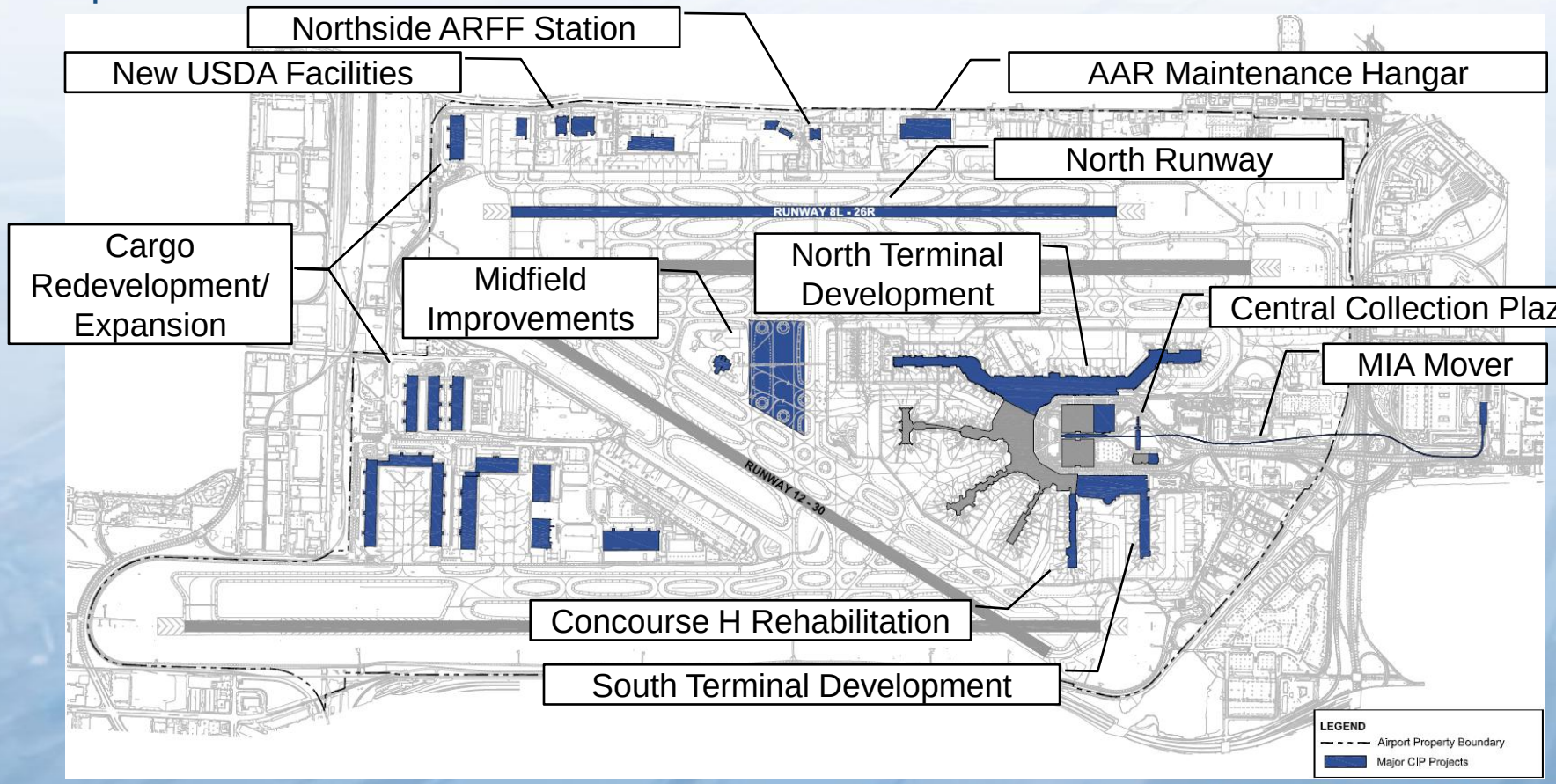
The current Master Plan for MIA recommended several of the projects included in the ongoing CIP. The Master Plan was initiated in 1991 and adopted in 1994. It focused on airport needs for the 1990-2010 timeframe.

An Aviation System Plan Update was commissioned in 1996 but never adopted.

A Strategic Terminal Planning Study was requested by the BCC. The Study was initiated in 1995 and completed in 1997. It focused on airfield and terminal development strategies for the 2010-2040 timeframe.

Current MIA CIP

Capital Investments:



SMP Goals and Objectives

- Strategic plan for MIA and the County's system of GA airports:
  - Outlines long-term capital investment strategies
  - Planning horizon: 2015 through 2050
  - Considers multiple development scenarios
- Comprehensive evaluation of aviation facilities:
  - Airfield
  - Terminals
  - Vehicular parking & roadways
  - Tenant facilities (cargo, aircraft maintenance, etc.)
  - Support facilities (airport administration, fueling, fire rescue, etc.)

SMP 2015-2050

MIAMI INTERNATIONAL AIRPORT
KENDALL-TAMIAMI EXECUTIVE AIRPORT
OPA-LOCKA EXECUTIVE AIRPORT
HOMESTEAD GENERAL AVIATION AIRPORT
DADE-COLLIER TRAINING AND TRANSITION

SMP Study Approach

STRATEGIC AIRPORT MASTER PLANNING STUDY

PHASE 1

MIA Master Plan:

Stakeholder Surveys

Baseline Forecasting Analysis

Inventory/Data Collection

Identification of Immediate Needs

PHASE 2

MIA Master Plan:

Capacity Assessments

Airfield, Terminal and Landside Simulation Modeling

PHASE 3 - Ongoing

MIA Master Plan:

2035 Facility Requirements

Market Assessment

Demand Scenario Analysis

General Aviation Airports:

Inventory, Forecasts and Demand/Capacity Assessments

Initiation of Long-Range Strategic Plan:

Initial Airport Asset Optimization Analysis

PHASE 4

Long Range Strategic Plan:

Demand Allocations Strategies

Long-Range Airport Concept Plans

Implementation Planning:

CIP Programming

Preliminary Plan of Finance

Airport Layout Plans Set

Environmental Screening; Preliminary Financial Feasibility Screening

SMP Cargo Planning Initiatives

- Review industry planning metrics and define demand/capacity parameters.
- Assess existing facilities utilization rates.
- Compare projected demand to existing capacity and gauge potential facility shortfalls.
- Define short- and long-term facility needs.
- Evaluate potential development alternatives.

Workshop Objectives

- Present the MIA Strategic Airport Master Plan and Cargo Forecasts
- Review Facilities Limitations With Cargo Tenants
- Evaluate Future Cargo Facilities Needs
- Prioritize Improvements

Air Cargo Industry Update

2010 was a year of recovery!

Top 20 comprises 9 integrator hubs & regional hubs (*)

- FedEx global hub & 3 regional hubs (MEM, IND, EWR, OAK);
- UPS global hub & 3 regional hubs (SDF, DFW, PHL, ONT);
- DHL's US hub (CVG);
- ANC transpacific tech-stop (**)
- 4 dominant international gateways: MIA, LAX, ORD & JFK

Source: Airports Council International – North America

Air Cargo Industry Update

2010 NORTH AMERICAN AIRPORTS

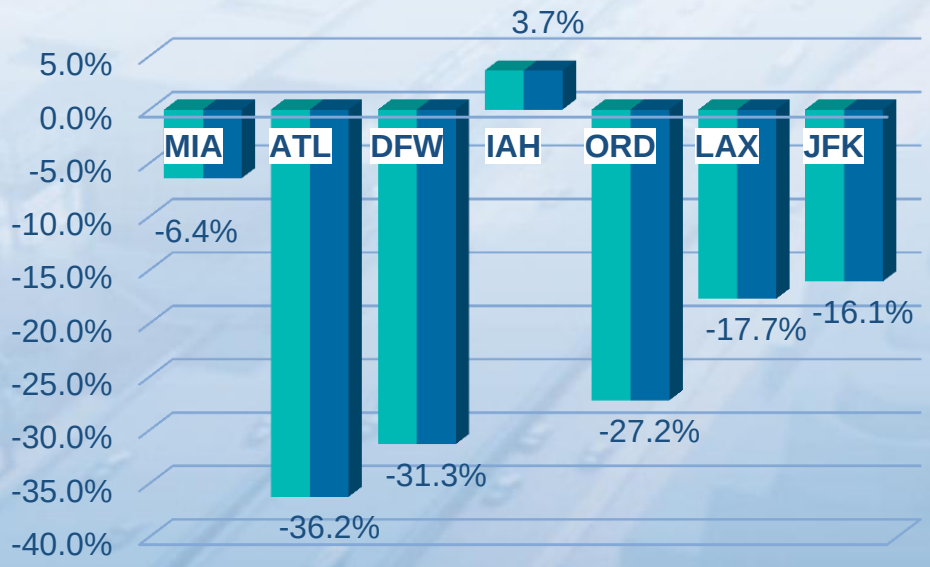
RANK	CITY (AIRPORT CODE)	TOTAL CARGO (metric tonnes)	% CHG	RANK	CITY (AIRPORT CODE)	TOTAL CARGO (metric tonnes)	% CHG
1	MEMPHIS TN (MEM) *	3,916,811	5.9	11	DALLAS/FORT WORTH TX (DFW) *	645,426	12.1
2	ANCHORAGE AK (ANC)**	2,646,695	36.6	12	OAKLAND CA (OAK) *	510,947	4.0
3	LOUISVILLE KY (SDF) *	2,166,656	11.2	13	TORONTO ON (YYZ)	482,486	11.8
4	**MIAMI FL (MIA)**	**1,835,797**	**18.0**	14	SAN FRANCISCO CA (SFO)	426,725	4.6
5	LOS ANGELES CA (LAX)	1,747,629	15.8	15	HOUSTON TX (IAH)	423,483	13.6
6	CHICAGO IL (ORD)	1,376,552	31.4	16	PHILADELPHIA PA (PHL) *	419,702	(3.2)
7	NEW YORK NY (JFK)	1,344,126	17.5	17	CINCINNATI OH (CVG) *	371,297	178.9
8	INDIANAPOLIS IN (IND) *	1,012,589	7.2	18	ONTARIO CA (ONT) *	355,932	0.4
9	NEWARK NJ (EWR) *	855,594	9.8	19	WASHINGTON, DC (IAD)	332,275	13.5
10	ATLANTA GA (ATL)	659,129	17.1	20	SEATTLE WA (SEA)	283,425	4.9

Source: Airports Council International – North America

A Lost Decade

Major US Gateways: Total Cargo Losses: Calendar Years 2000 - 2009

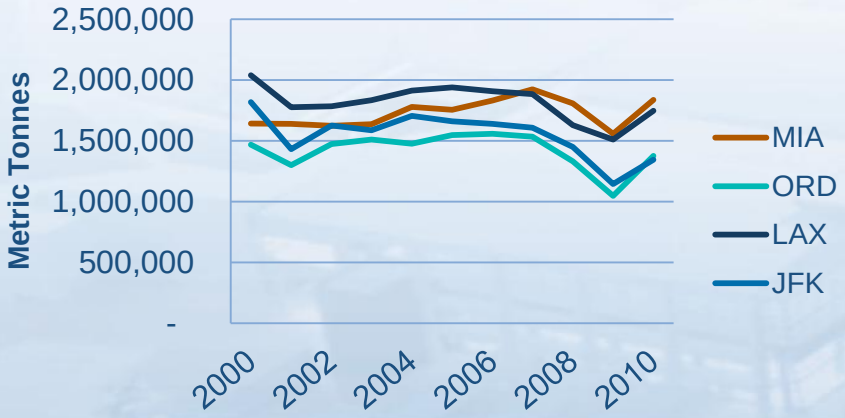
- Common double-digit losses
- Industry consolidation
- Modal diversion
- Recession
- Belly cargo screening
- Airport master plans affected



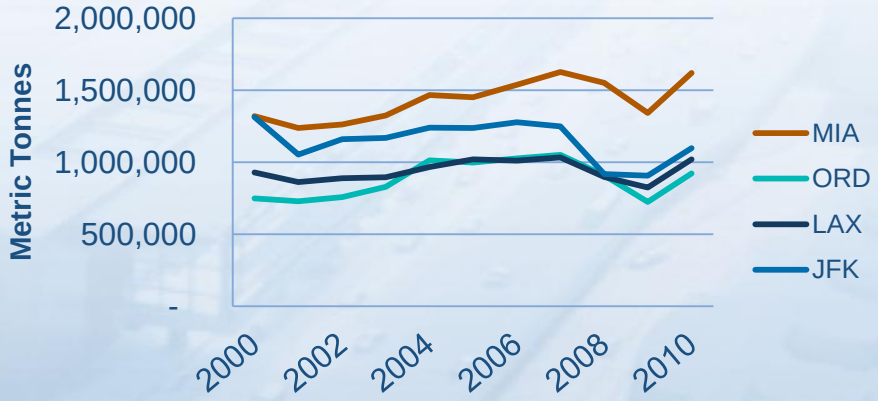
Source: Airports Council International – North America

Major International Gateway Airports

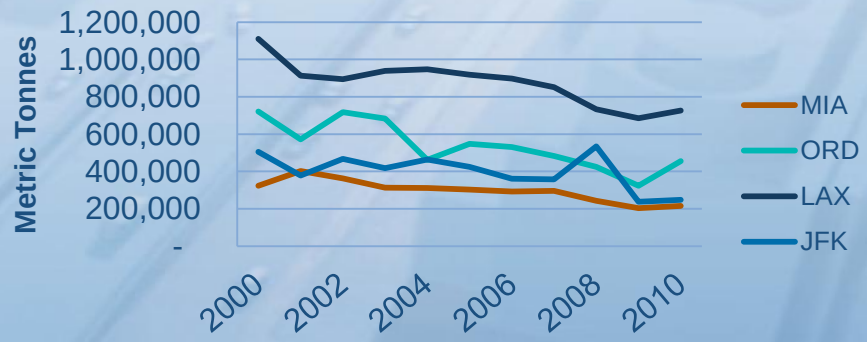
Total Cargo: CY 2000 - 2010



International Cargo: CY 2000 - 2010



Domestic Cargo: CY 2000 - 2010

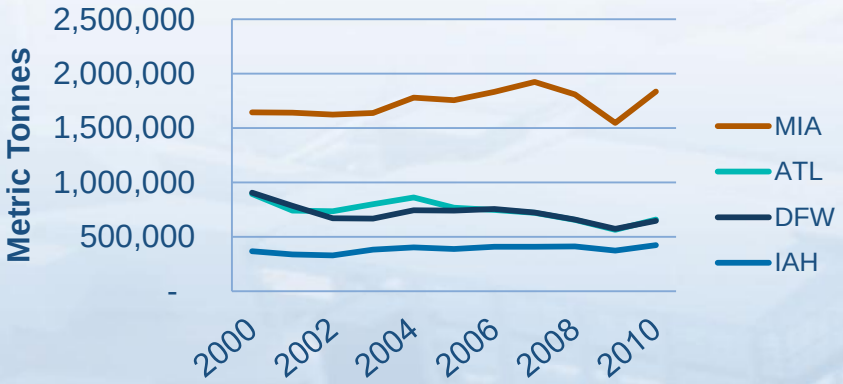


Airport Shares of International vs. Domestic Cargo

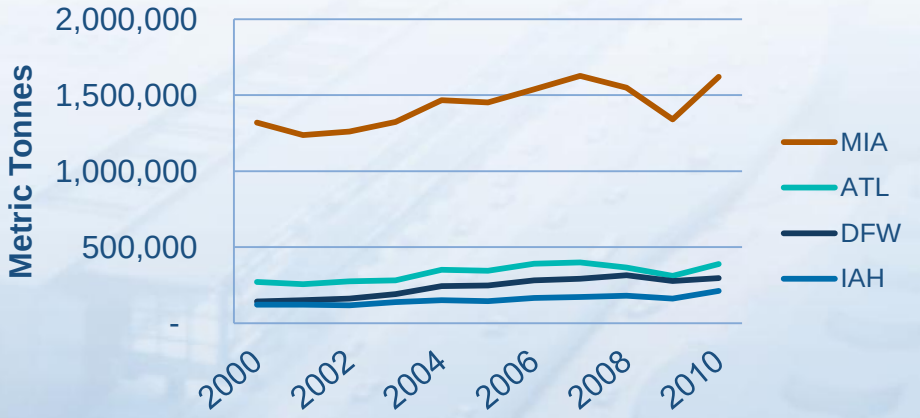
CY 2010	MIA	ORD	LAX	JFK
Intl.	88.2%	66.9%	58.4%	81.6%
Dom.	11.8%	33.1%	41.6%	18.4%

US Southeastern Gateways

Total Cargo: CY 2000 - 2010



International Cargo: CY 2000 - 2010



Domestic Cargo: CY 2000 - 2010

Airport Shares of International vs. Domestic Cargo

CY 2010	MIA	ATL	DFW	IAH
Intl.	88.2%	59.0%	46.0%	50.3%
Dom.	11.8%	41.0%	54.0%	49.7%

Source: Airports Council International – North America

Institutional Air Cargo Forecasts

- Slowest growing major segment will be Intra-North America (NA)
- All segments exceeding world average touch Asia
- Global air cargo industry engine will be Asia, particularly China
- Asia-North America gateways will remain dominant but MIA will be supported by Asia's trade with Latin America

	Boeing	Airbus
	2008-2027	2009-2028
Intra-NA	2.70%	1.70%
NA-Asia	6.70%	3.40%
Asia-NA	6.60%	4.30%
NA-China	7.70%	8.20%
China-NA	9.20%	8.80%
NA-Europe	4.90%	3.00%
Europe-NA	5.40%	3.00%
NA-South America	6.00%	4.40%
South America-NA	5.70%	2.40%

MIA Air Cargo Forecasts Overview

Cargo forecasts are composites of international and domestic components

- Domestic and international mail are included
- Mail diminishing contribution sold as “Space Available”
- Domestic segments of international shipments represents 45% of domestic freight
  - 33% of integrators’
  - 80% of belly carriers’
- Integrators’ share of domestic freight is 76%
- International composites are derived from MIA-specific weighted multipliers for each major trade lane
- Adjustments for each case (low, base and high) are based on mid- to long-term resilience expectations

MIA Air Cargo Forecasts Overview

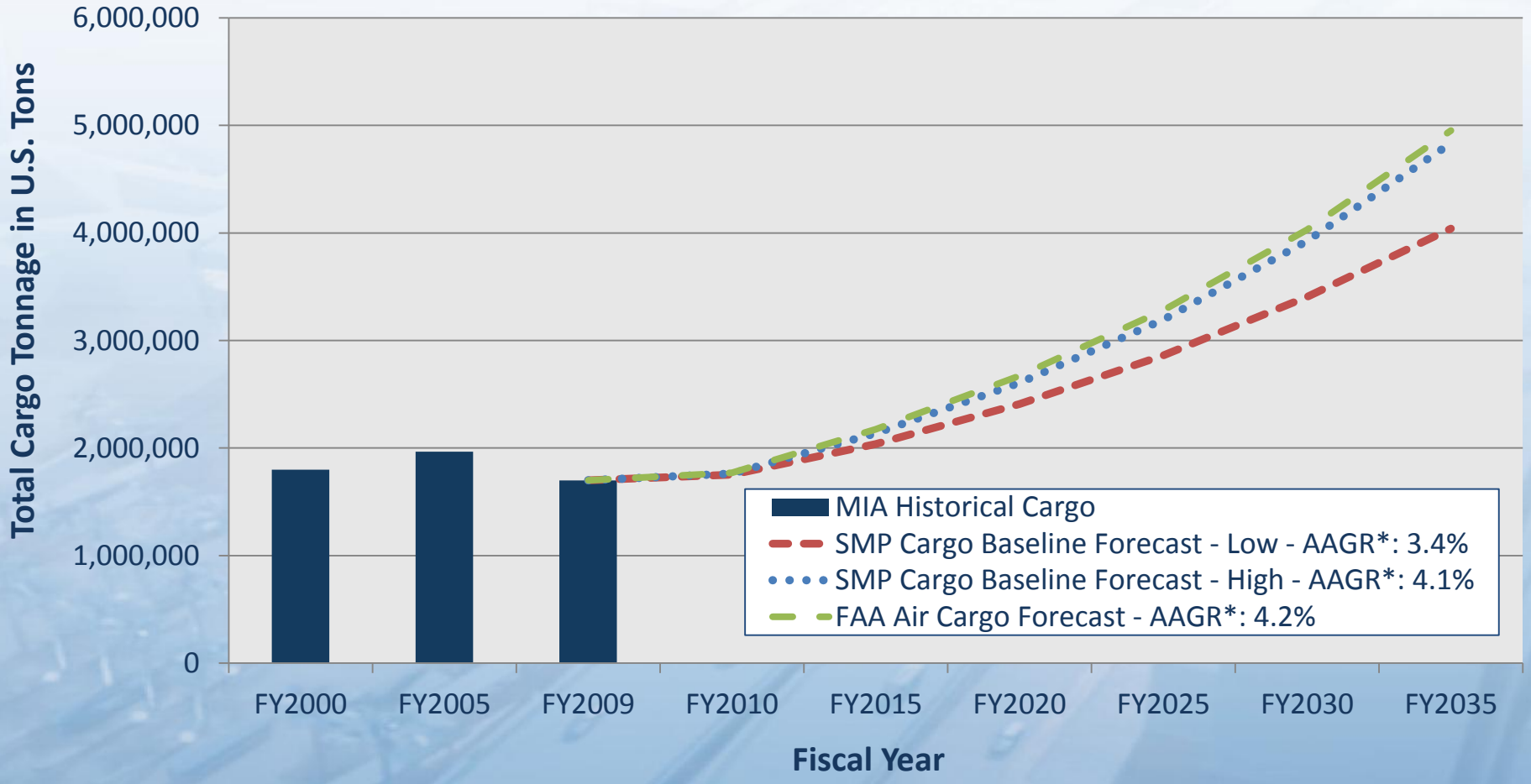
Input from carriers and forwarders

- Growth between MIA and Latin America generally exceeds projections
- More than half of exports to Latin America over MIA are of Asian origin
- Northbound volumes from Latin America also get a premium, but to a lesser extent. Imports over MIA are mostly intended for the North American market.
- Expansion of Asian carriers at MIA will have ripple effects on the cargo composition.

The high share transported on freighters should be a competitive advantage for MIA

- Some gateways are more dependent on belly cargo, which is subject to recent and near-term screening requirements.

SMP Baseline Forecast
Annual Air Cargo Tonnage



Alternative Cargo Forecast Scenarios

Most likely positive scenario would be exceptional growth from more Asian carriers using MIA as a gateway for Latin America.

- Far East growth (High Case) is already forecasted relatively high (7.5% enplaned & 8.5% deplaned) but using straight-line rates from a small base. The near-term introduction of additional scheduled freighters would increase that volume.

- This growth would have positive ripple effects on other forecasted elements: More than half of southbound freight to Latin America from MIA is believed to be Asian origin. Much of this is trucked from the US West Coast. Consequently, there will be both inbound (from Asia) & outbound positive impacts on tonnage.

- The availability of additional outbound capacity to Asia would also serve as a stimulus for exports from both Latin America and the Southeastern US.

Deriving Flight Operations from Tonnages

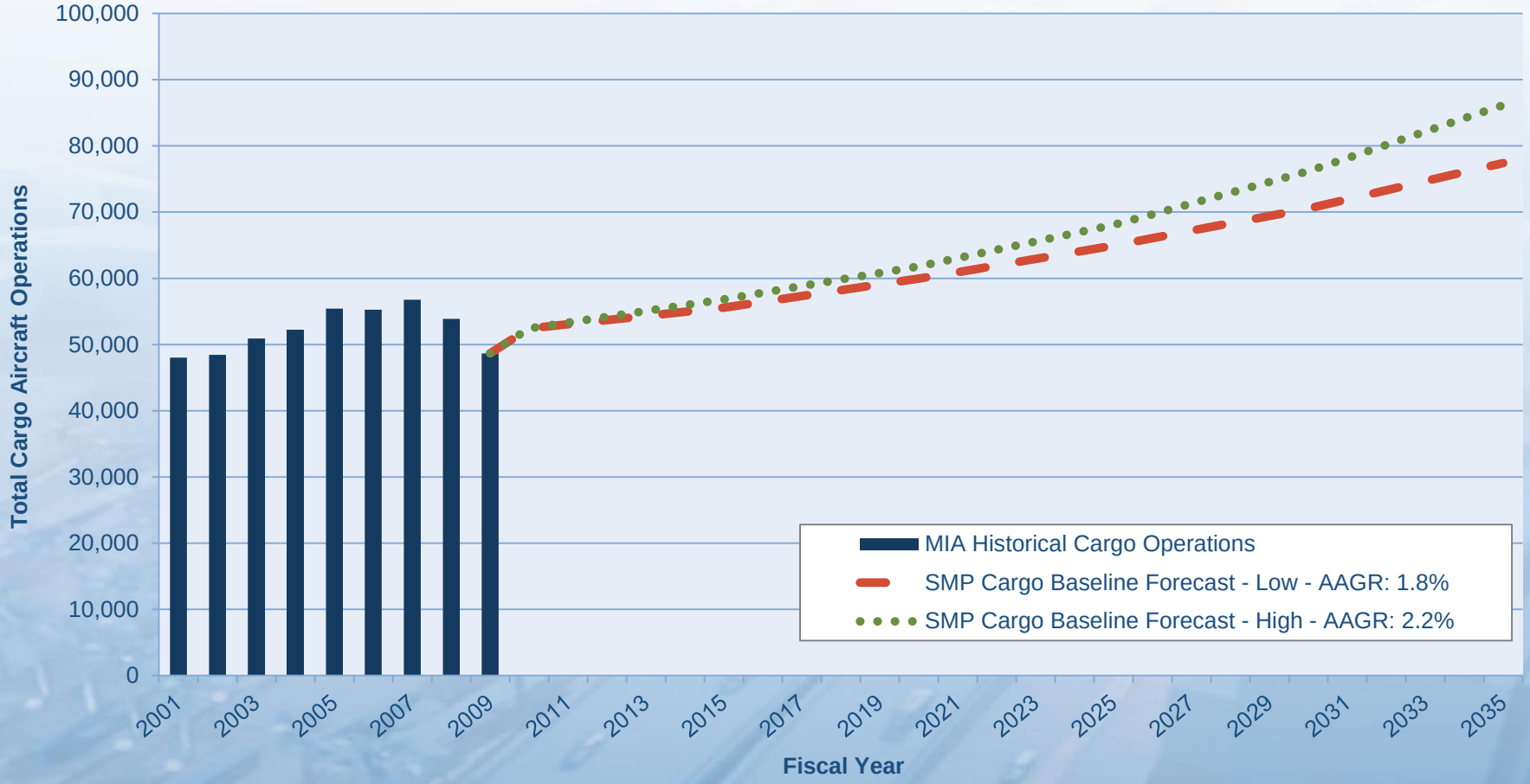
- Preserve separation of domestic (13% of total) & international (87%) volumes.
  - Distinctions in forecasted growth rates & market shares carried by freighters.
  - Distinctions in payloads of primary aircraft used on domestic vs. international.
- Marginal growth/loss forecasted in 5-year increments.
- Convert tonnage into average daily rate (annual/312 work days).
- Anticipated belly cargo is deducted from forecasted tonnage: (-20% for domestic & -15% for international)
- Directional imbalances (inbound versus outbound) are typical of international gateways. Total cargo is divided by 60/40 to project need for additional operations based on both near and long-term unlikelihood that import tonnage will be equal to export tonnage.

SMP 2015-2050

MIAMI INTERNATIONAL AIRPORT
KENDALL-TAMIAMI EXECUTIVE AIRPORT
OPA-LOCKA EXECUTIVE AIRPORT
HOMESTEAD GENERAL AVIATION AIRPORT
DADE-COLLIER TRAINING AND TRANSITION

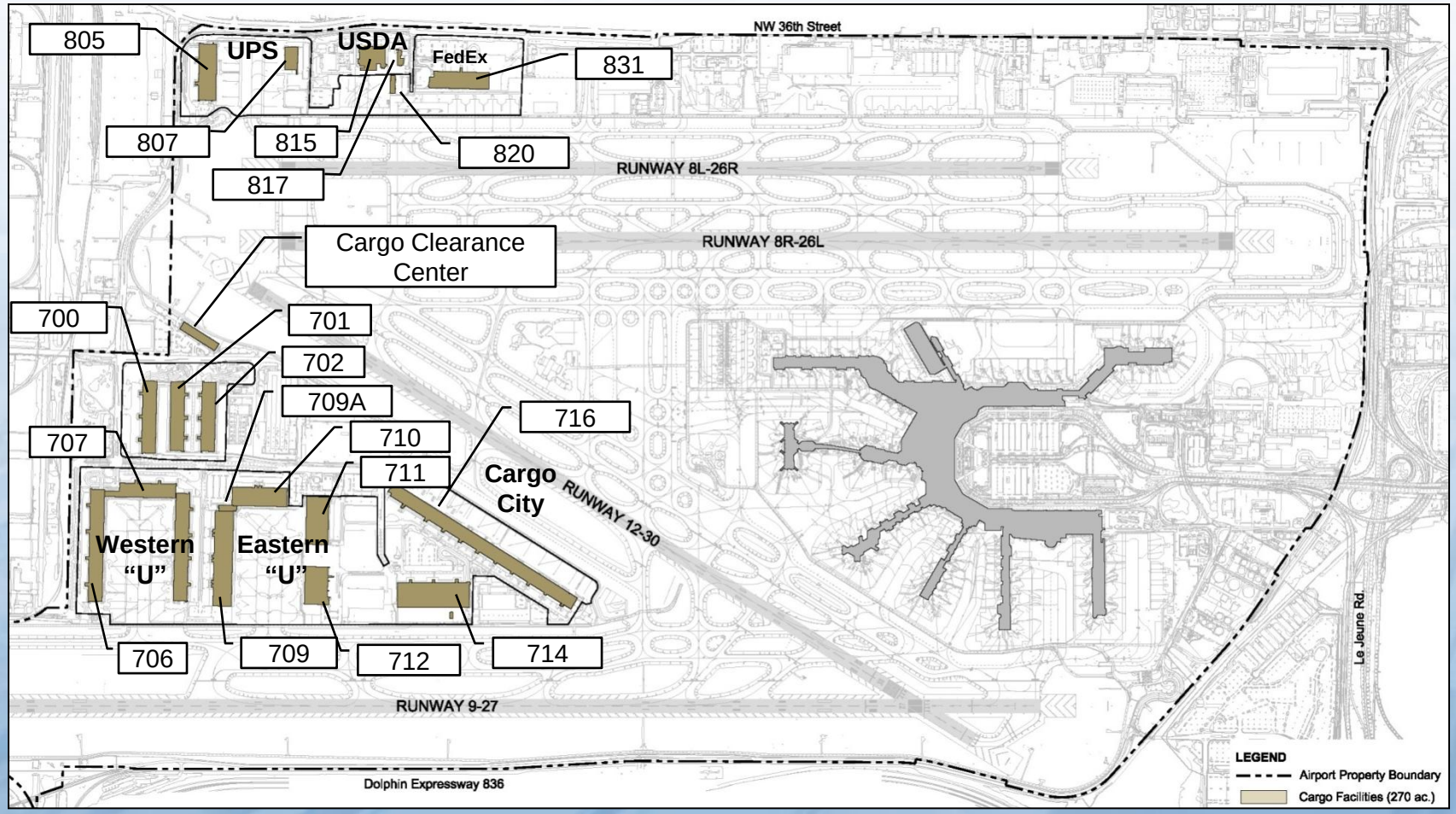
SMP Baseline Forecast
Annual All Cargo Aircraft Operations

STRATEGIC AIRPORT MASTER PLANNING STUDY



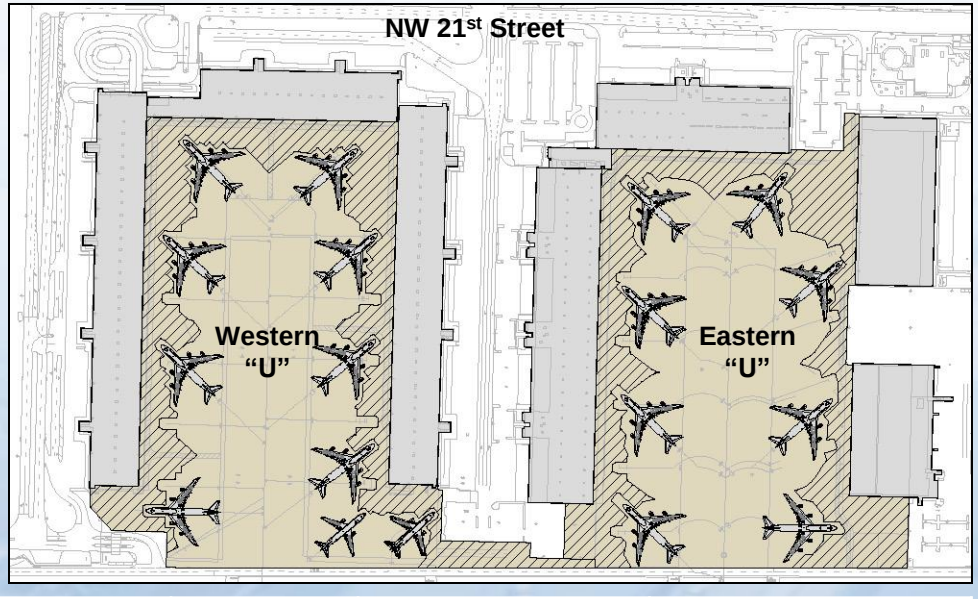
Sources: Miami Dade Aviation Department, Marketing Division, February 2010; Webber Air Cargo, February 2010.

MIA Cargo Facilities - Existing Facilities



Existing Facilities – Apron Area

WESTERN "U" & EASTERN "U":

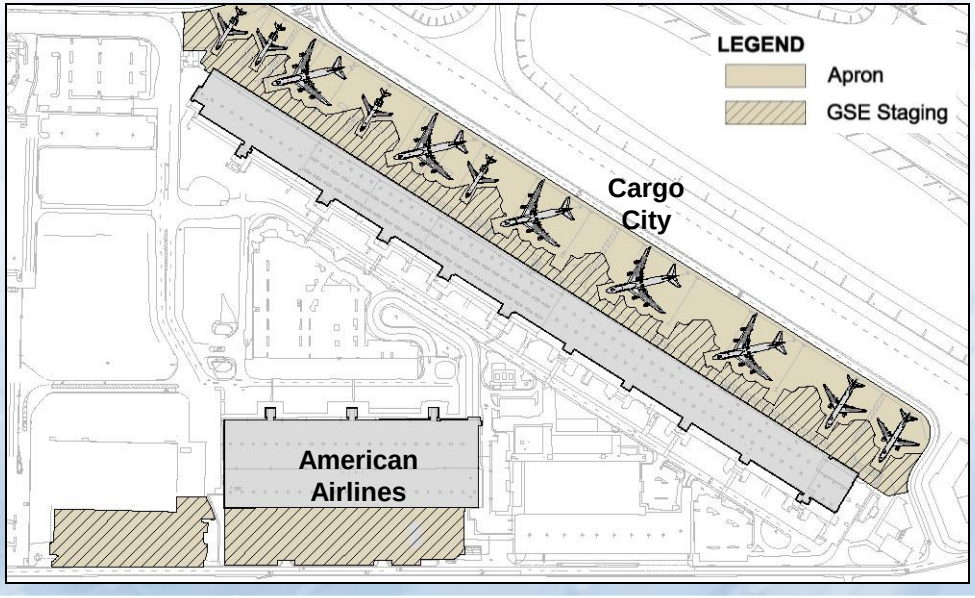


Area Identifier	Apron Area (acres)	Largest Aircraft that can be Accommodated	GSE Area 1/ (sq. ft.)	Baseline Parking Plan 2/ (# of positions)	Alternate Parking Plan 2/ (# of positions)
Western "U"	26.9	B747	376,850	14 B767-300	8 B747-400 2 B767-300
Eastern "U"	25.1	B747	364,580	11 B 767-300 1 B747-400	8 B747-400

Notes:
1/ Ground Support Equipment (GSE) rounded to the nearest 10th.
2/ The baseline parking plan is the maximum number of aircraft that can be accommodated on the apron area whereas the alternate parking plan highlights the largest aircraft type that can be accommodated.

Existing Facilities – Apron Area

AMERICAN AIRLINES & CARGO CITY:

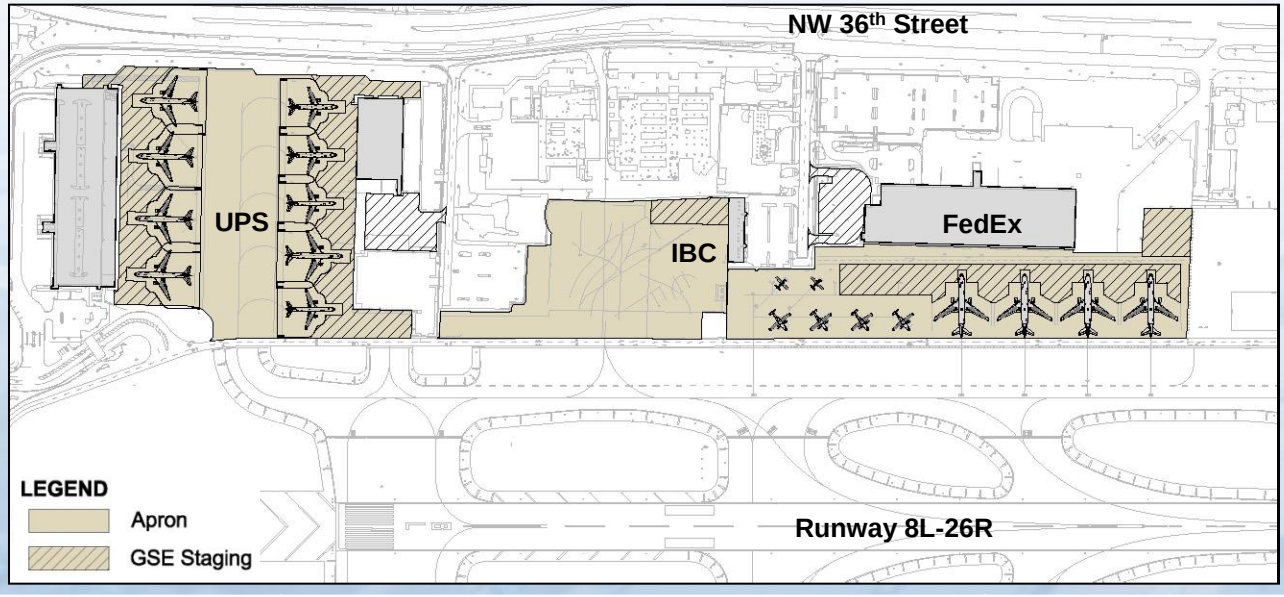


Area Identifier	Apron Area (acres)	Largest Aircraft that can be Accommodated	GSE Area 1/ (sq. ft.)	Baseline Parking Plan 2/ (# of positions)	Alternate Parking Plan 2/ (# of positions)
American Airlines 3/	N/A	N/A	218,030	N/A	N/A
Cargo City	15.7	B747	238,770	8 B727 8 B767	4 B727-200 2 B767 5 B747

Notes:
1/ Ground Support Equipment (GSE) rounded to the nearest 10th.
2/ The baseline parking plan is the maximum number of aircraft that can be accommodated on the apron area whereas the alternate parking plan highlights the largest aircraft type that can be accommodated.
3/ American Airlines transports cargo on passenger aircraft (i.e. belly cargo) located in the Terminal Area.

Existing Facilities – Apron Area

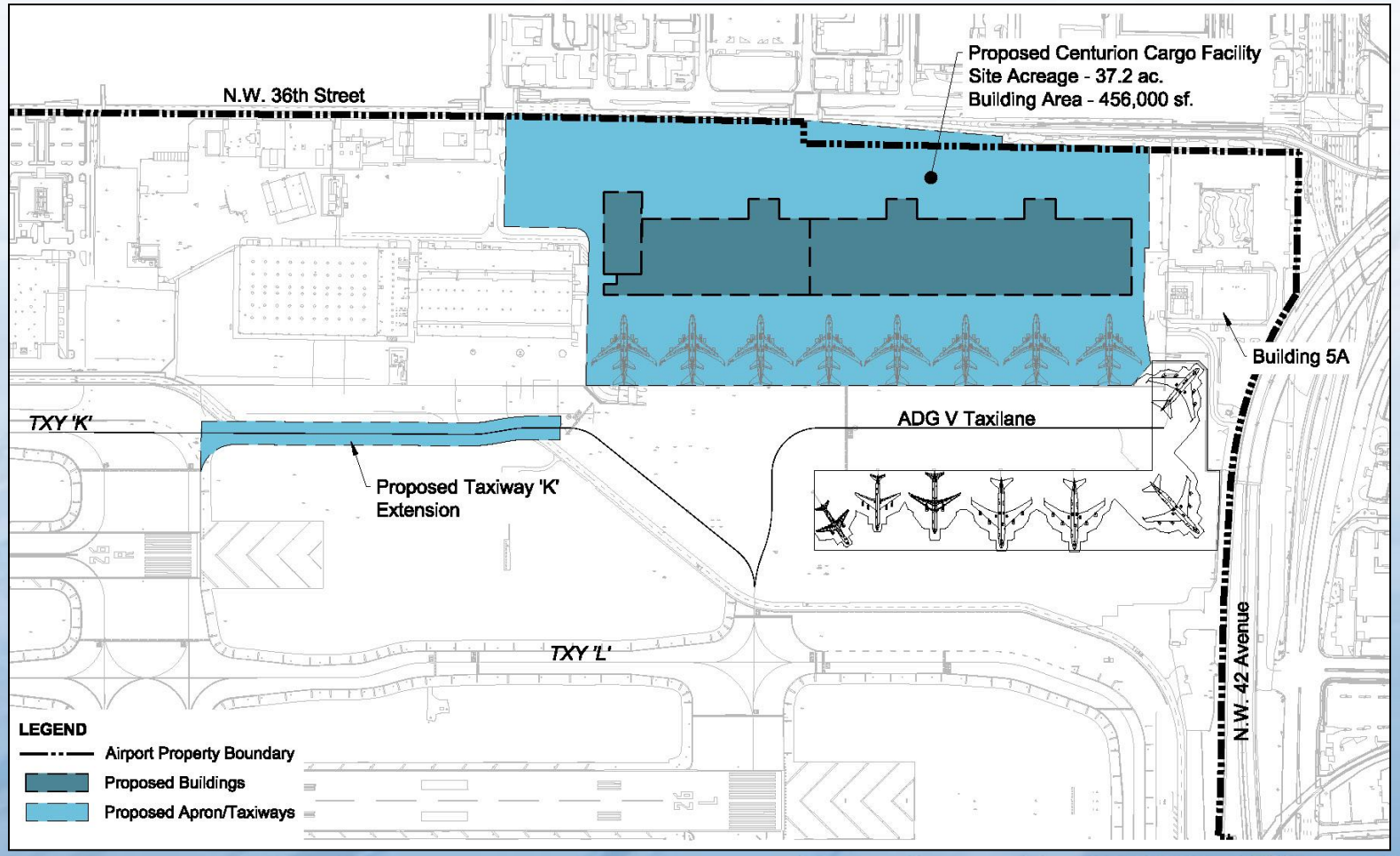
UPS, FEDEX & IBC AIRWAYS:



Area Identifier	Apron Area (acres)	Largest Aircraft that can be Accommodated	GSE Area 1/ (sq. ft.)	Baseline Parking Plan
UPS	14.1	B767-300	171,090	5 B757-200 4 B767-300
FedEx	9.3	MD 11	108,990	4 ATR 42 / 2 Caravan 208 4 MD11
IBC Airways	6.4	Open Ramp Area	18,940	Open Ramp Area

Note:
1/ Ground Support Equipment (GSE) rounded to the nearest 10th.

Planned Facility Improvements - Centurion



Existing Facilities – Cargo Buildings Space Allocation

Building ID	Belly Cargo	Freight	Integrator	GSE Storage & Maintenance	Vacant	Total
700	95,926	0	0	0	32,000	127,926
701	37,984	35,242	0	10,018	42,000	125,244
702	29,743	32,691	0	5,608	33,479	101,521
706	0	181,497	0	0	0	181,497
707	0	98,622	0	0	0	98,622
708	0	175,241	0	0	0	175,241
709	0	216,314	0	0	0	216,314
709A	0	12,238	0	0	0	12,328
710	0	123,927	0	0	0	123,927
711	0	127,079	0	0	0	127,079
712	0	107,692	0	0	0	107,692
714	221,343	0	0	0	0	221,343
716	0	286,104	38,560	0	44,784	369,682
805	0	0	119,424	2,296	0	121,720
807	0	0	36,462	0	0	36,462
820	0	0	7,382	0	6,891	14,273
831	0	0	118,150	0	0	118,150
844	0	0	7,364	0	0	7,364
TOTAL	**384,996**	**1,396,737**	**327,342**	**17,922**	**159,154**	**2,286,151**

Existing Facilities – Cargo Buildings

SPECIAL HANDLING AREAS:

- Climate controlled areas for perishable products: Approximately 300,000 square feet in Buildings 700, 701,702, 706, 708, 710, 711, 712, 714, 716, 805.
- Express, mail, and courier services area: Approximately 320,000 square feet in Buildings 716, 805, 807, 820, 831 and 844.*
- Animal handling areas are located within Building 815, which is operated by the U.S.D.A. There is also an animal quarantine area within the Cargo Clearance Center.
- Fumigation Facilities: Approximately 10,000 square feet in Building 817. A temporary facility has been established in a vacant parking lot located to the immediate east of Building 704.

* Includes DHL Express, UPS, IBC Airways and FedEx.

Existing Facilities

CONSTRAINTS AND ISSUES:

- Cargo warehouses with airside access are currently at full capacity.*
- Cargo operators currently use landside staging areas that are not within their leaseholds.
- Lack of staging areas and/or inefficient GSE storage results in the staging of support equipment, tractor trailers, and etc. in pervious and non-delineated areas.

* Based on discussions with MDAD, all available space within Building 716 will be leased in 2011.

GROUP SESSION 1

CARGO FACILITIES LIMITATIONS

Cargo Facilities Limitations

WAREHOUSES

- Condition & capacity.
- How much off-airport cargo processing is driven by capacity?

RAMP

- Suitability for existing fleet & frequencies, peak conditions
- How much are current operations being constrained by existing airside capacity?

LANDSIDE (PARKING & ROADWAYS)

- Terminal landside parking & marshalling areas
- How much would on-airport common use truck trailer parking & truck marshalling alleviate?

ALLIED SERVICES

- Refrigeration, fumigation & inspection.

BREAK

GROUP SESSION 2

LONG-TERM CARGO PRIORITIES

Long-Term Cargo Priorities

WAREHOUSES

- Capacity increases versus optimization.
- How will dwell-times be affected?

RAMP

- Future fleet: North America, Transpacific, Latin America, Transatlantic
- What is the vulnerability of MIA to diversions to other US gateways?

LANDSIDE (PARKING & ROADWAYS)

- How much will future growth be truck-to-plane versus plane-to-plane?

ALLIED SERVICES

- Growth in individual operations versus third-party, common use

MIA versus other alternative gateways

- Airport Operating Costs
- Cargo Facilities Quality & Availability
- Airfield Capabilities
- Airline Connectivity
- Freight Forwarder Presence
- Other Allied Services
- Need to Diversify Gateways

BREAK

WORKSHOP RESULTS