



Detroit
**Metro
Master
Plan**

DTW

Technical Advisory Committee

Meeting #1

October 18, 2006

Agenda

- Introduction
- Role of TAC
- Master Plan Process
- Industry Overview/Role of DTW
- Master Plan Goals
- Emerging Issues
- Forecast of Future Aviation Activity
- Potential Facility Requirements
- Next Steps
- Discussion

Introduction

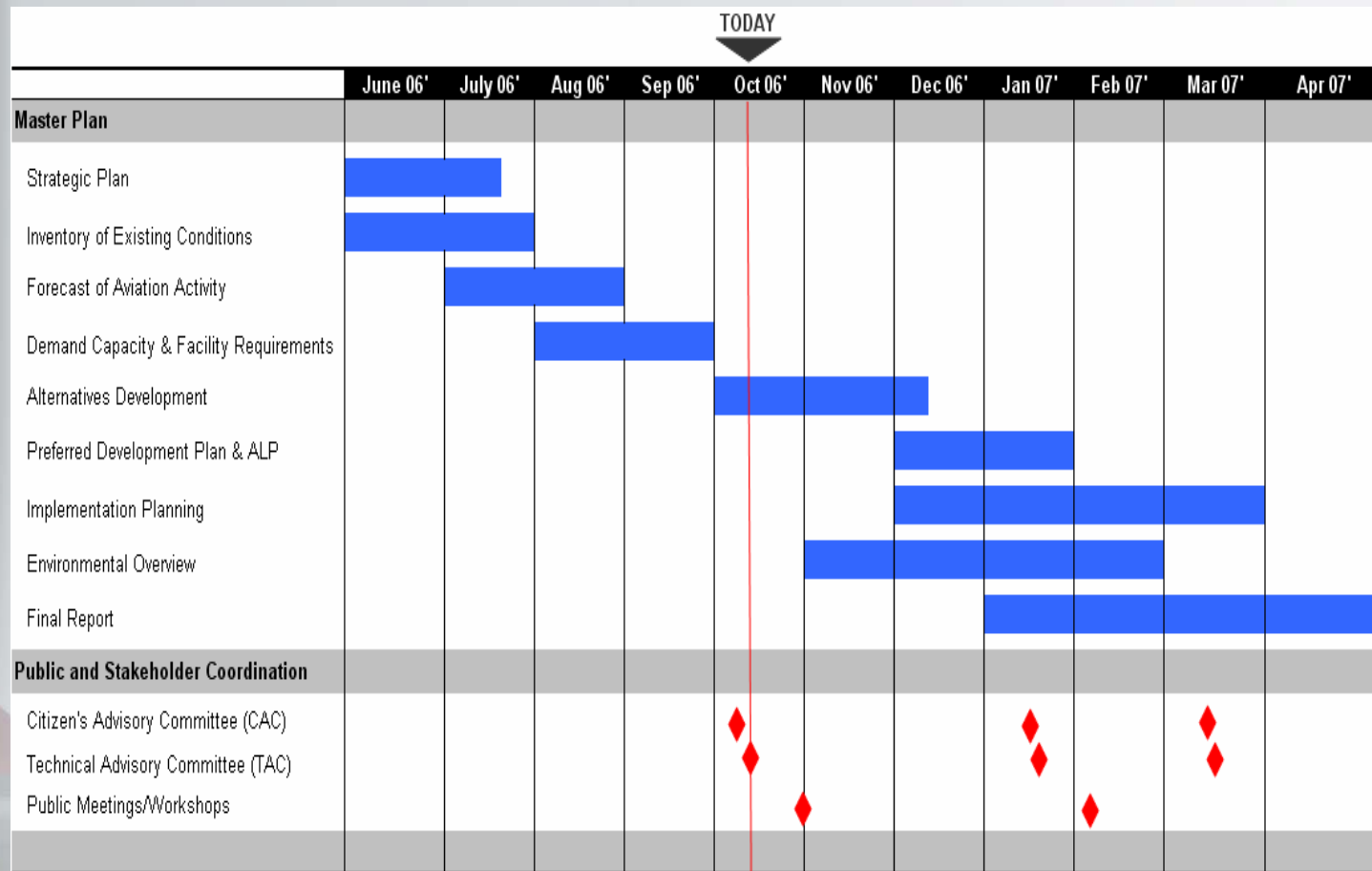
- Planning Team Introductions
 - Jacobsen Daniels Associates (JDA)
 - CH2MHill
 - Unison Maximus
 - C&S Engineers
 - Faithful+Gould
 - JJR
- TAC Member Introductions
- Purpose of the Master Plan
 - The purpose of a Master Plan is to provide the framework needed to guide future airport development in a rational, prudent and responsible manner.



Role of TAC

- Technical Advisory Committee (TAC) – Provides input and insight on technical issues with the Master Plan.
 - Stakeholder Coordination
 - Public Workshops

Master Plan Process



Industry Overview

Role of DTW

- DTW is the 11th busiest airport and is one of 33 “large hub” airports in the U.S.
- Significant metropolitan population - 8th largest in the U.S.
- WCAA and NWA have made significant investments in the infrastructure of DTW to serve as a international gateway, including:
 - 12,000’ runway (international departures)
 - Four parallel runways
 - World Gateway Terminal
- WCAA and other carriers are making significant investment with new north terminal development.



Industry Overview

Role of DTW

Post 9/11 rebound; activity levels are now near or above where they were pre-9/11

DTW Activity Levels		
Year	Enplanements	Operations
1999	16,950,000	561,000
2000	17,737,000	561,123
2001	16,295,000	540,966
2002	16,218,000	490,663
2003	16,357,000	491,075
2004	17,655,000	513,590
2005	18,154,000	521,900



Emerging Issues

- Land Use
- Airfield Efficiency (peak hour throughput, balanced capacity in all weather)
- Balanced Terminal Capacity
- Roadway/Curb Congestion
- Rail/Mass Transit
- Parking
- Shuttle Bus Operations
- Consolidated Rental Car Facilities
- Security
- Related & Support Development
- Environmental Stewardship (Air/Water/Noise)

Master Plan Goals

1. Maintain a safe and secure operating environment.
2. Efficiently accommodate regional, national and global demand for air service.
3. Expand the role of the airport as an international gateway to and from the region.
4. Provide a seamless transportation system for moving users and goods through the region and across the world.
5. Be a generator of jobs, air service, and economic development by enabling the airlines and other tenants to effectively offer their products.
6. Be a willing and active partner in aviation related development in and around the airport that stimulates economic and commercial development to benefit the region and enhance non-airline revenue.

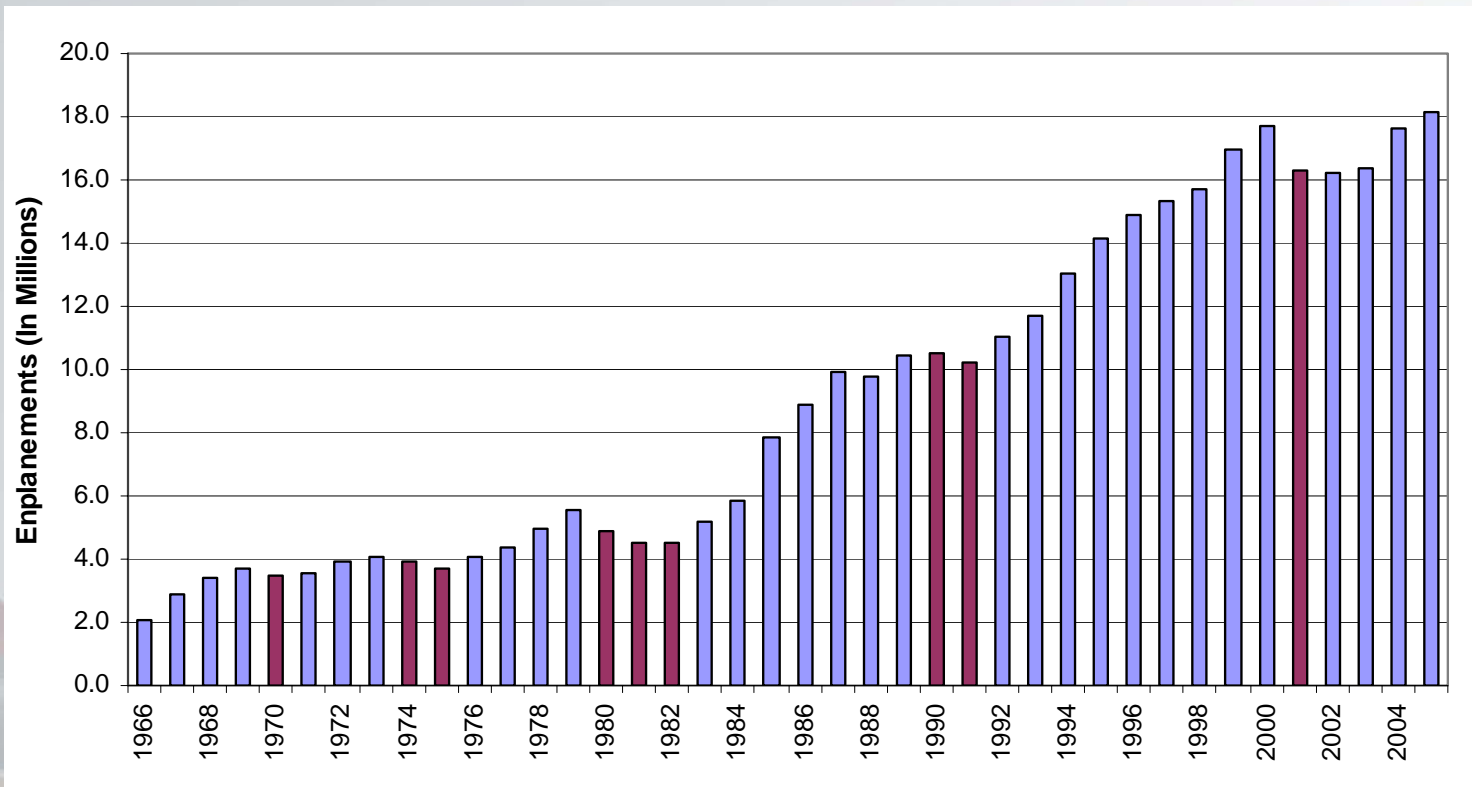


Forecast of Future Aviation Activity

- Analyzed historical trends
- Considered alternative forecasts
 - FAA Terminal Area Forecasts
 - Forecasts developed from different methods used in the industry
- Developed derivative forecasts

Forecast of Future Aviation Activity

Historical Enplanements

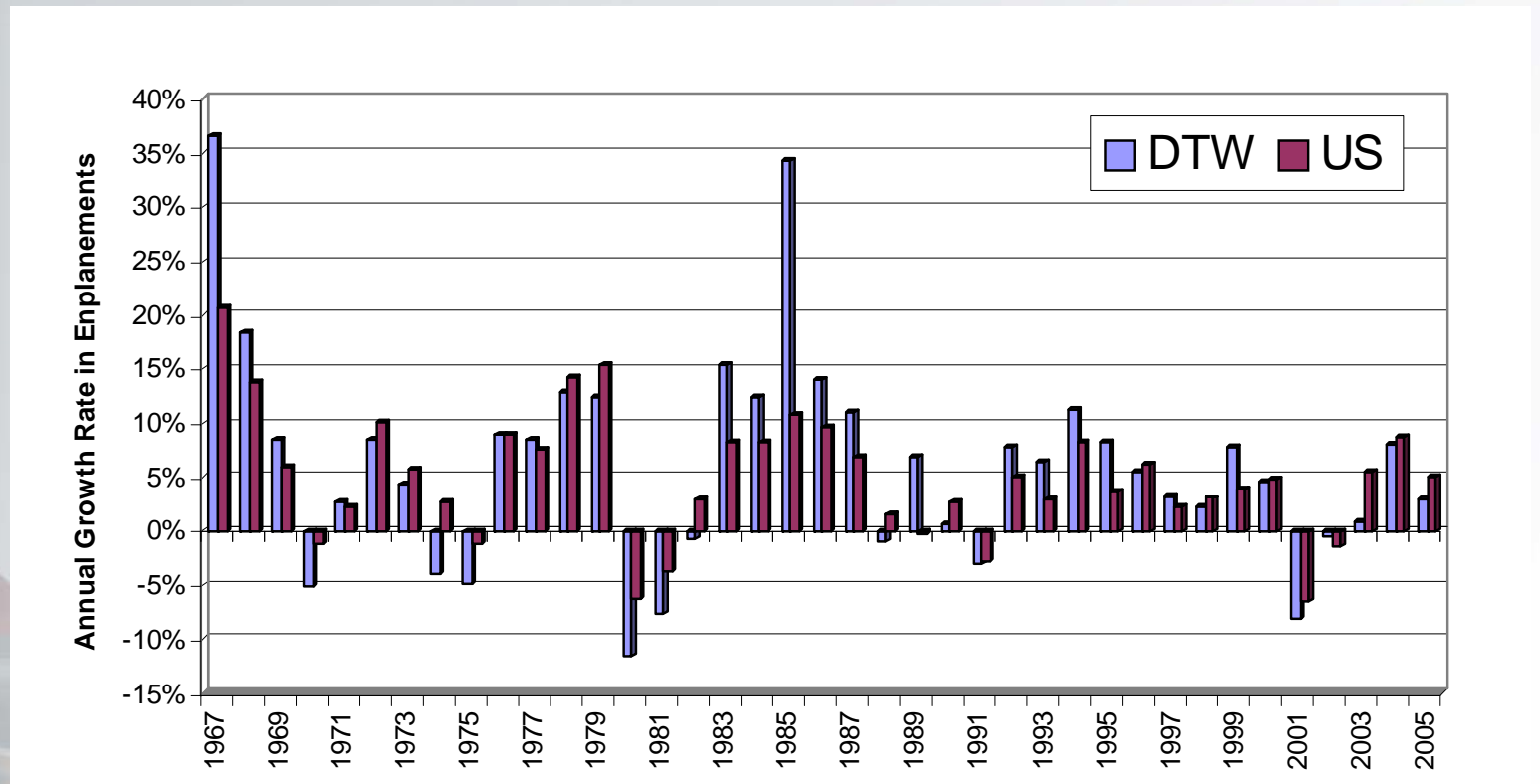


US economic recession

Source: WCAA

Forecast of Future Aviation Activity

Annual Growth Rate in Enplanements



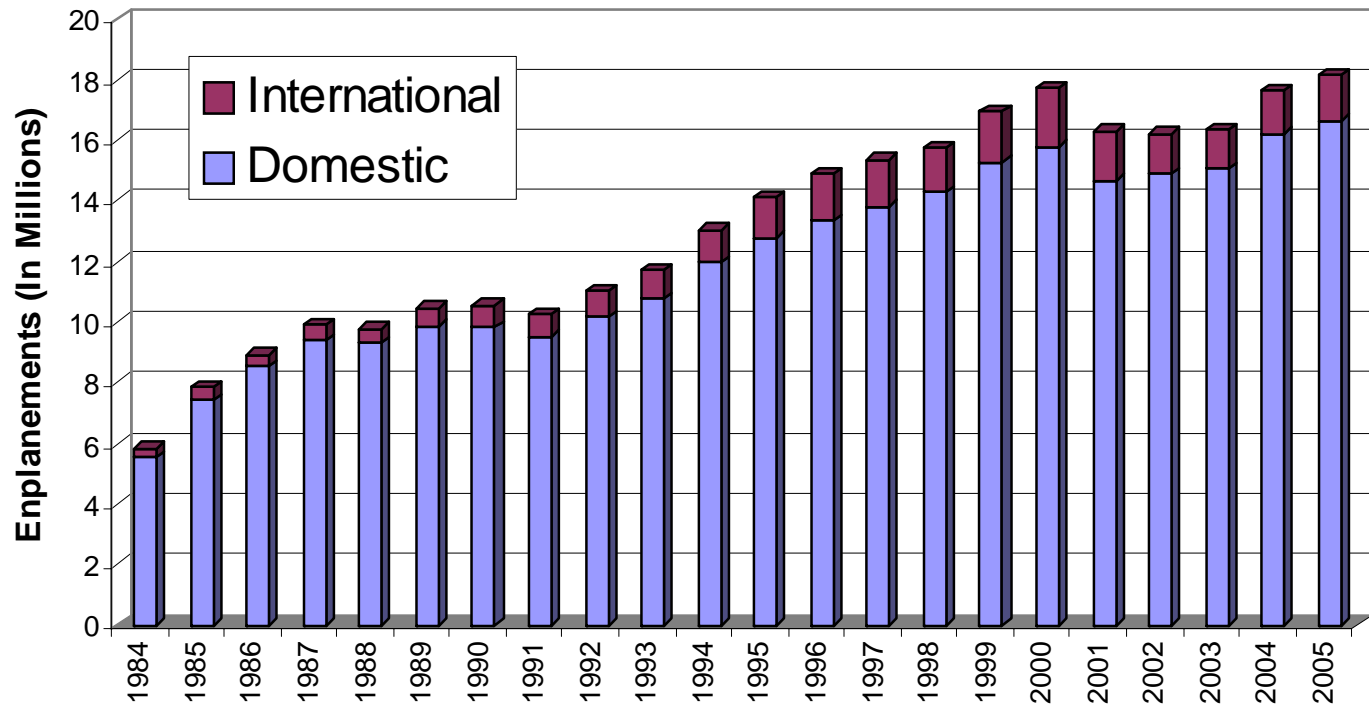
Forecast of Future Aviation Activity

Annual Enplanement Growth Rates

Period	DTW	US
1966-2005	5.7%	4.8%
1966-1967	36.5%	20.7%
1967-1983	3.8%	5.2%
1983-1991	8.8%	4.5%
1991-2000	6.3%	4.4%
2000-2002	-4.4%	-4.1%
2002-2005	3.8%	6.4%

Forecast of Future Aviation Activity

Domestic and International Segments

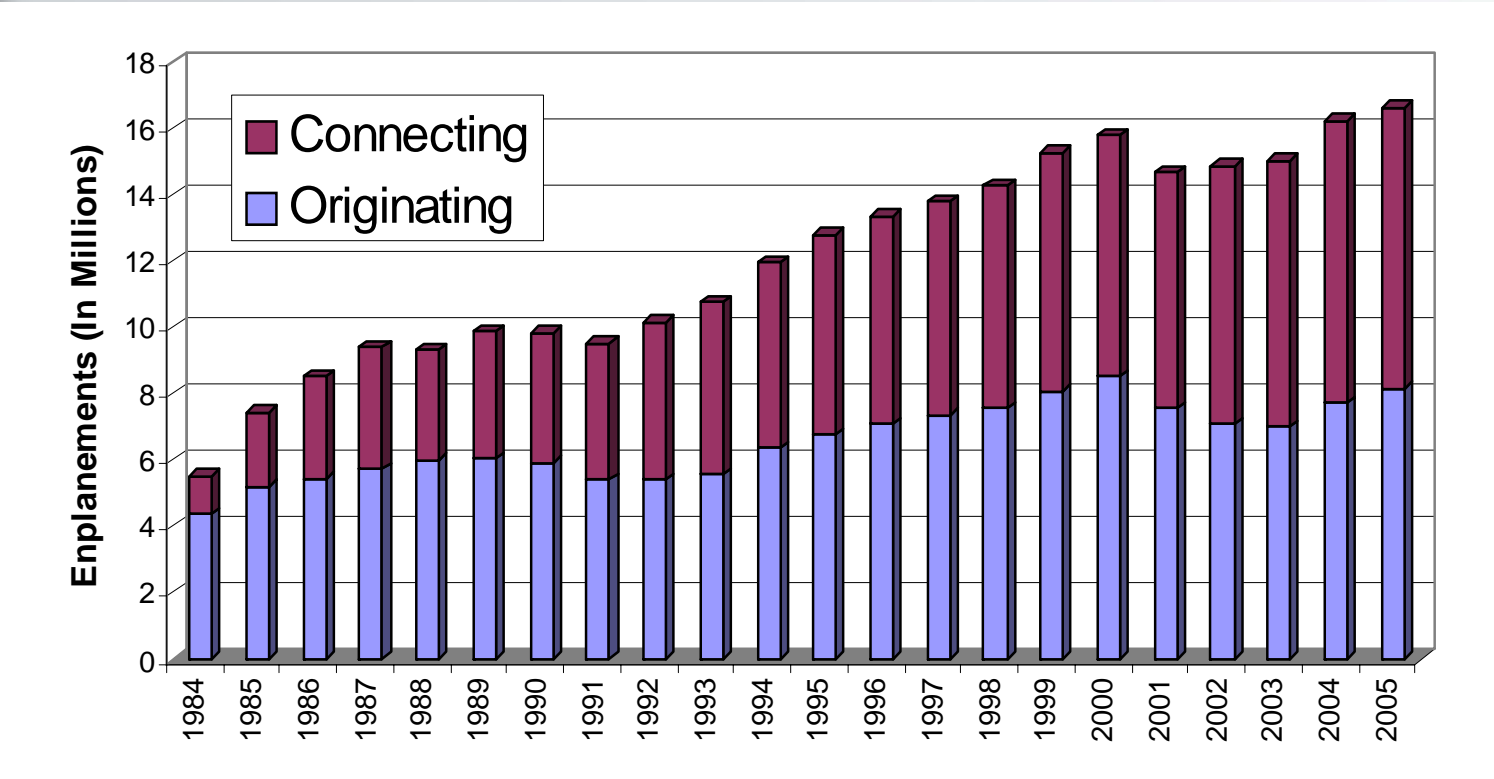


Source: WCAA



Forecast of Future Aviation Activity

O&D and Connecting Segments

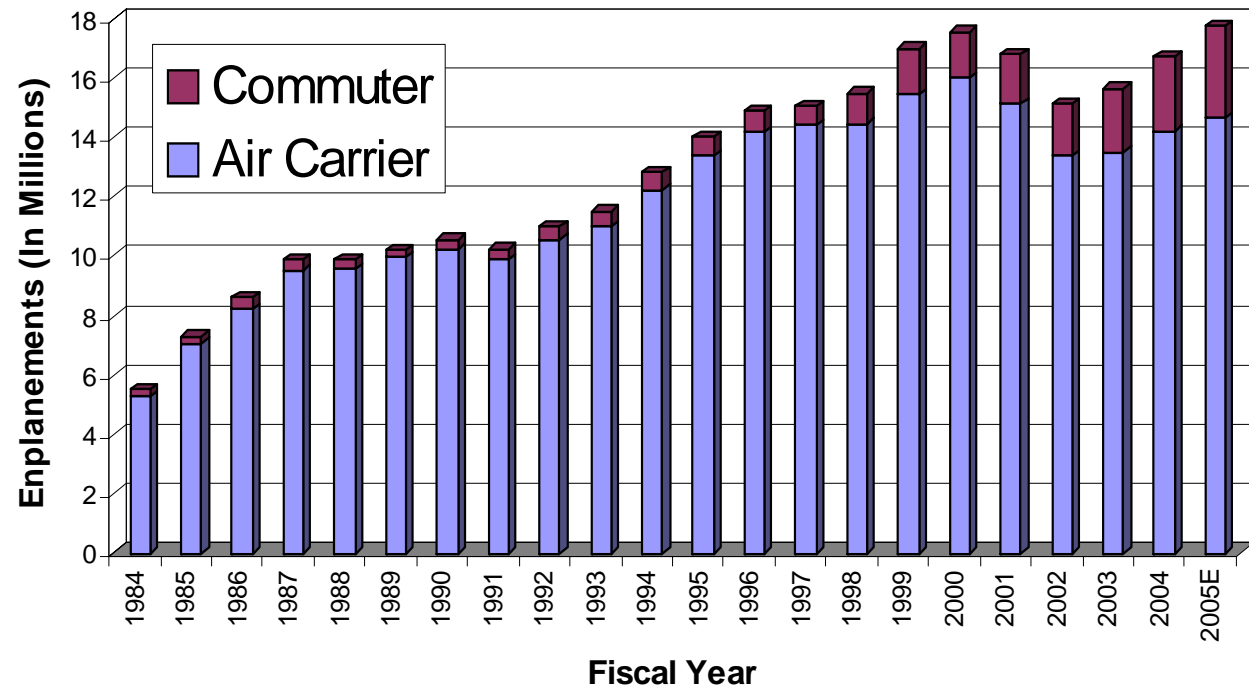


Source: WCAA and US DOT OD1A



Forecast of Future Aviation Activity

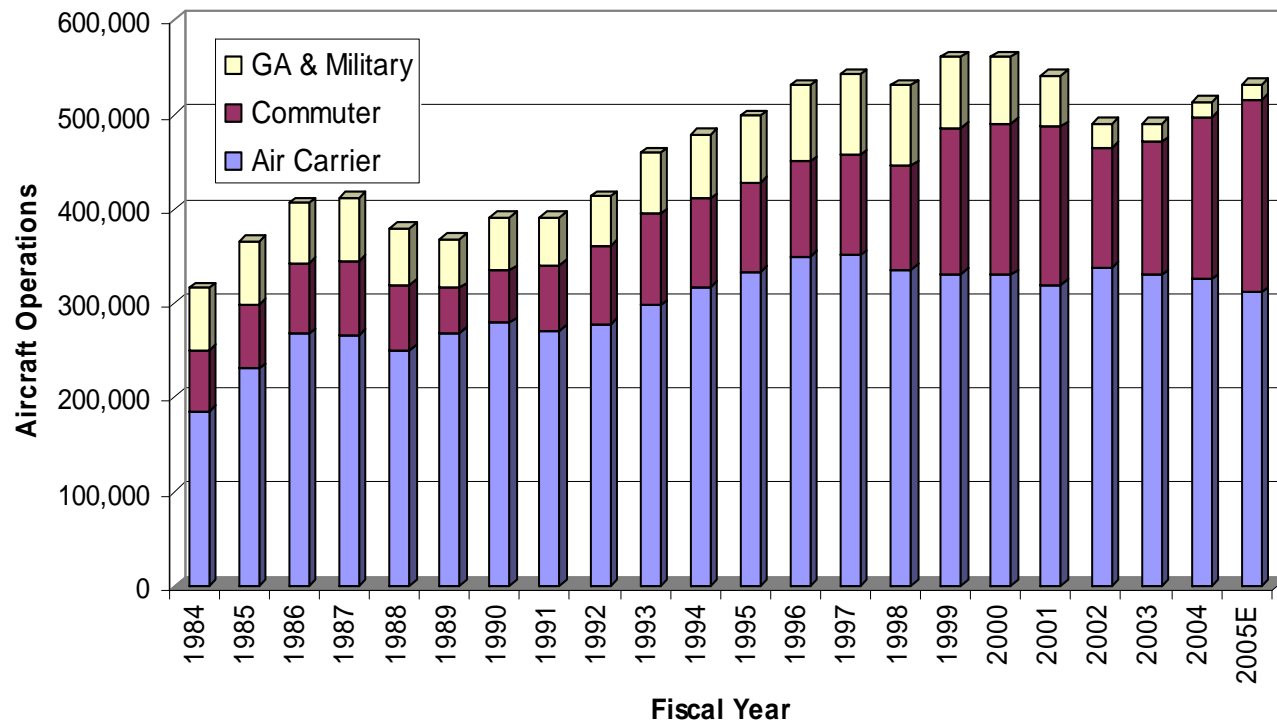
Air Carrier and Commuter Enplanements



Source: TAF

Forecast of Future Aviation Activity

Aircraft Operations

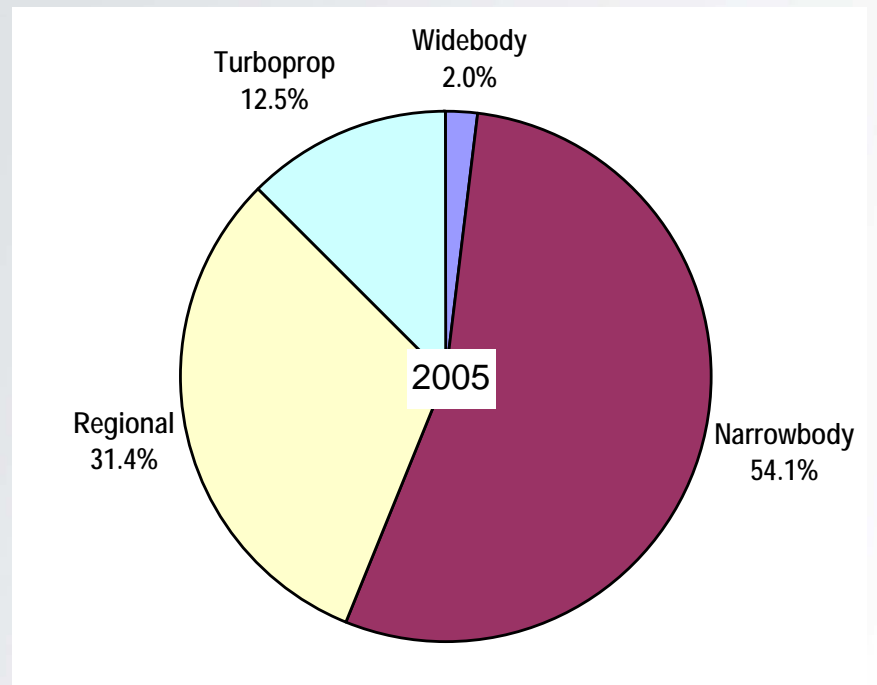
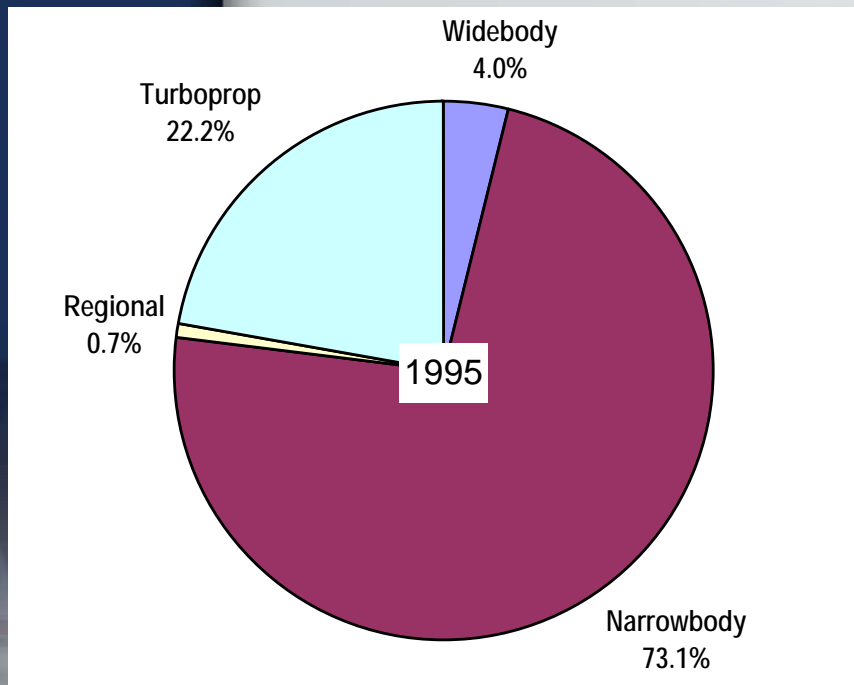


Source: TAF



Forecast of Future Aviation Activity

Passenger Aircraft Fleet Mix



Source: BACK Aviation Solutions/OAG Schedules and Lunkvist Fleet Databases.



Forecast of Future Aviation Activity

Alternative Forecasts:

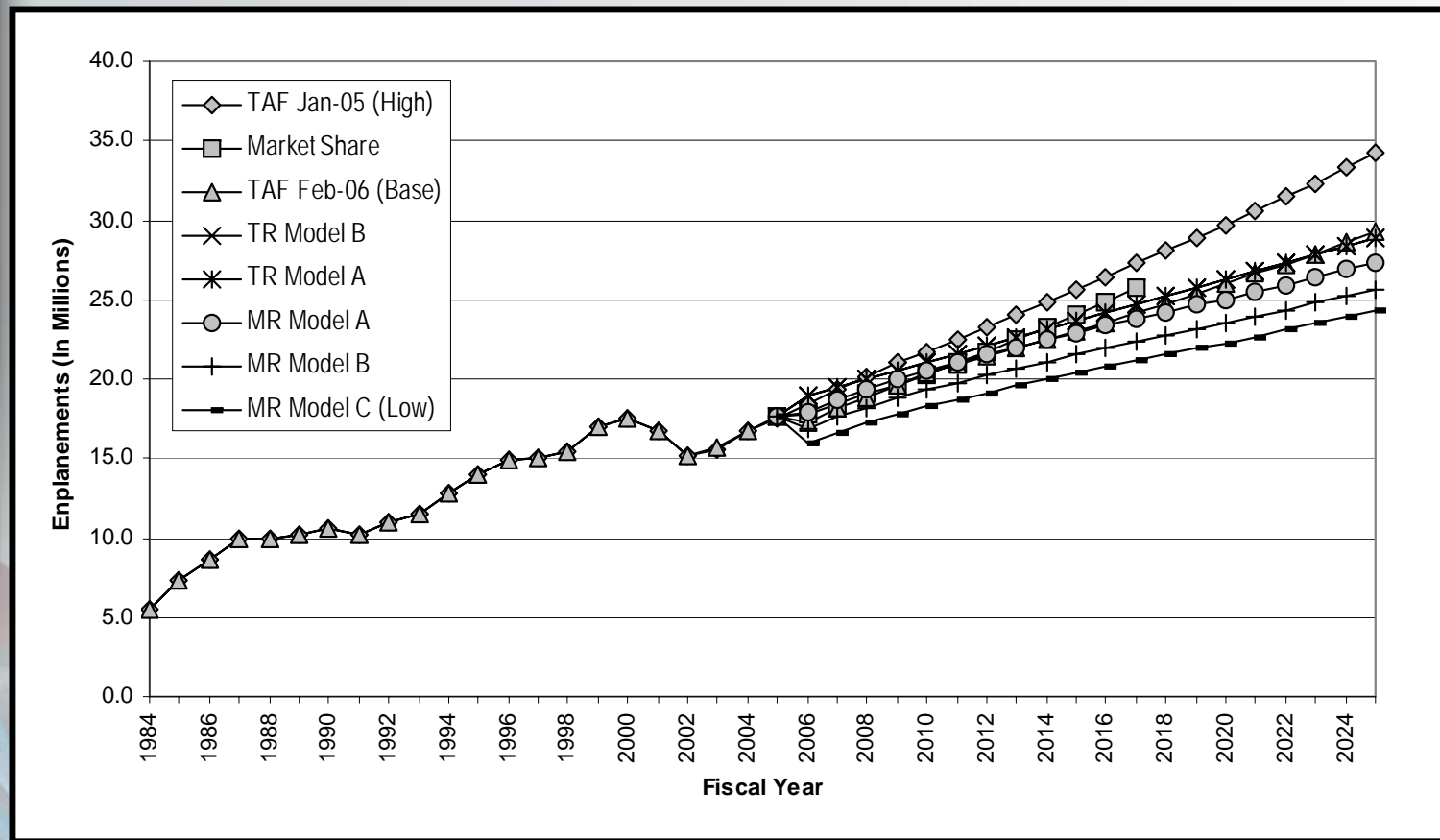
- Terminal Area Forecasts (1/05 and 2/06)
- Multivariate Regression Forecast (3 Models)
 - Annual EP as a function of:

Explanatory Variable	Avg. Annual Growth Rate	
	1984-2005	2005-2025
Real domestic passenger yield at DTW	-2.9%	-0.9%
Local population	0.4%	0.4%
Local nonfarm employment	1.3%	0.7%
Real personal income per capita	2.0%	1.6%
Structural changes since 2001		

- Historical data from 1984-2005.
- Trendline Forecast (2 Models)
- Market Share Forecast

Forecast of Future Aviation Activity

Alternative Forecast Results



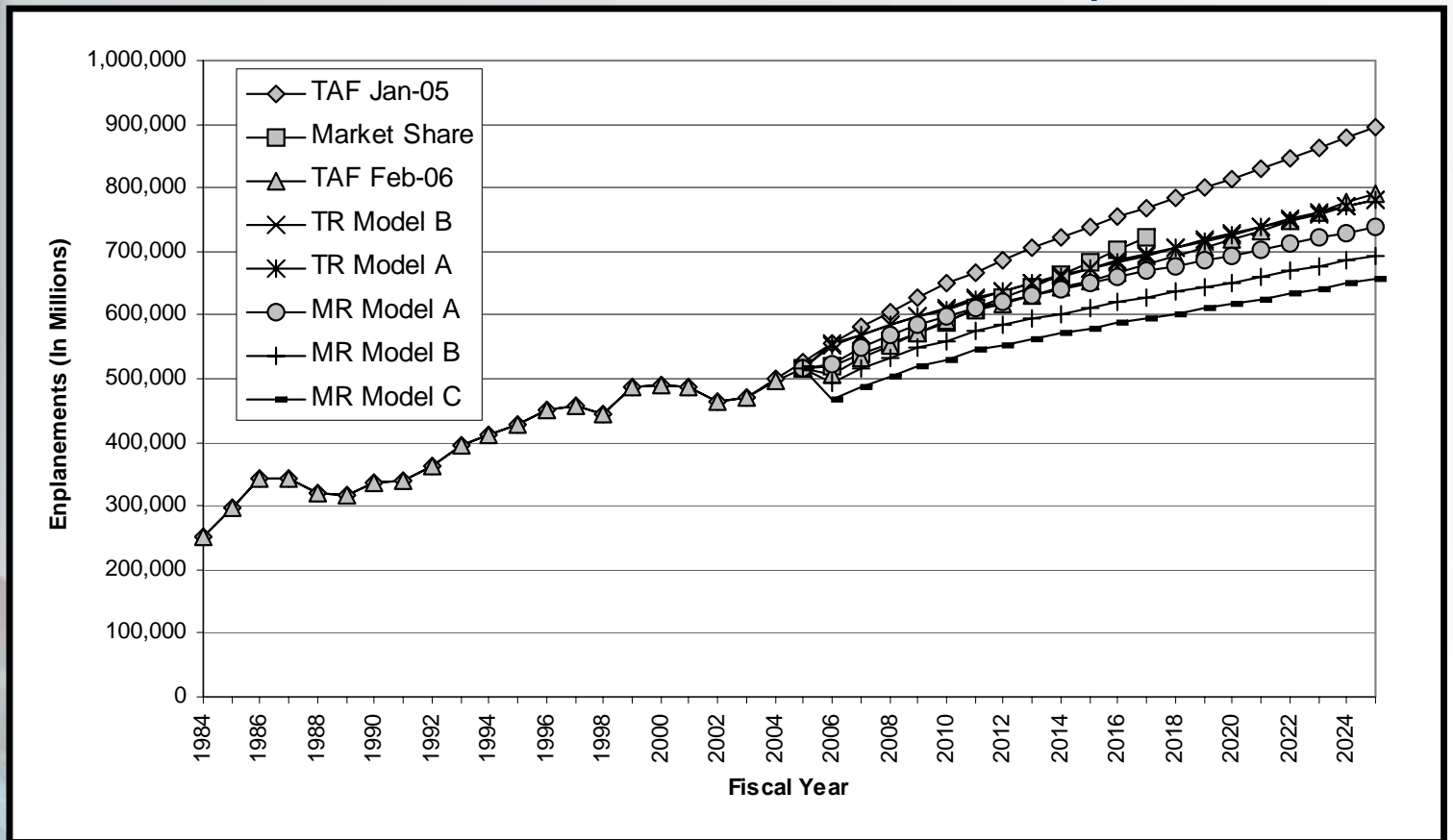
Forecast of Future Aviation Activity

Percentage Difference of Alternative Forecasts of Enplanements from the 2/06 TAF

Fiscal Year	Terminal Area Forecasts		Multivariate Regression Forecasts			Trendline Forecasts		Market Share Forecast
	Feb 2006 (Base)	Jan 2005 (High)	Model A	Model B	Model C (Low)	Model A	Model B	
2004 Actual	0.0%	-0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2005 Estimate	0.0%	-1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2006	0.0%	6.7%	3.5%	-2.7%	-7.9%	9.3%	9.6%	2.6%
2007	0.0%	6.4%	2.9%	-3.3%	-8.4%	6.8%	7.1%	1.4%
2008	0.0%	6.9%	2.7%	-3.6%	-8.6%	5.6%	5.9%	0.8%
2009	0.0%	7.0%	2.1%	-4.1%	-9.2%	4.4%	4.7%	0.3%
2010	0.0%	6.5%	0.9%	-5.3%	-10.3%	2.9%	3.1%	-0.5%
2011	0.0%	7.7%	0.9%	-5.3%	-10.2%	3.0%	3.3%	0.5%
2012	0.0%	8.8%	0.5%	-5.6%	-10.6%	3.0%	3.3%	1.4%
2013	0.0%	9.8%	0.2%	-5.9%	-10.9%	2.9%	3.2%	2.3%
2014	0.0%	10.8%	-0.2%	-6.2%	-11.2%	2.8%	3.1%	3.3%
2015	0.0%	11.6%	-0.4%	-6.5%	-11.4%	2.6%	2.9%	4.3%
2020	0.0%	14.3%	-3.7%	-9.5%	-14.3%	1.0%	1.2%	n.a
2025	0.0%	17.0%	-6.6%	-12.3%	-16.9%	-1.4%	-1.2%	n.a

Forecast of Future Aviation Activity

Alternative Forecasts of Commercial Operations



Forecast of Future Aviation Activity

Percentage Difference of Alternative Forecasts of Operations from the 2/06 TAF

Fiscal Year ^a	Terminal Area Forecasts		Multivariate Regression Forecasts			Trendline Forecasts		Market Share
	Feb 2006	Jan 2005	Model A	Model B	Model C	Model A	Model B	Forecast
2004 Actual	0.0%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2005 Estimate	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2006	0.0%	9.9%	3.5%	-2.7%	-7.9%	9.3%	9.6%	2.6%
2007	0.0%	9.2%	2.9%	-3.3%	-8.4%	6.8%	7.1%	1.4%
2008	0.0%	9.5%	2.7%	-3.6%	-8.6%	5.6%	5.9%	0.8%
2009	0.0%	9.8%	2.1%	-4.1%	-9.2%	4.4%	4.7%	0.3%
2010	0.0%	9.7%	0.9%	-5.3%	-10.3%	2.9%	3.1%	-0.5%
2011	0.0%	10.0%	0.9%	-5.3%	-10.2%	3.0%	3.3%	0.5%
2012	0.0%	10.8%	0.5%	-5.6%	-10.6%	3.0%	3.3%	1.4%
2013	0.0%	11.8%	0.2%	-5.9%	-10.9%	2.9%	3.2%	2.3%
2014	0.0%	12.4%	-0.2%	-6.2%	-11.2%	2.8%	3.1%	3.3%
2015	0.0%	12.7%	-0.4%	-6.5%	-11.4%	2.6%	2.9%	4.3%
2020	0.0%	13.3%	-3.7%	-9.5%	-14.3%	1.0%	1.2%	n.a.
2025	0.0%	13.2%	-6.6%	-12.3%	-16.9%	-1.4%	-1.2%	n.a.

Forecast of Future Aviation Activity

Feb 2006 TAF as Base Forecast for the Master Plan

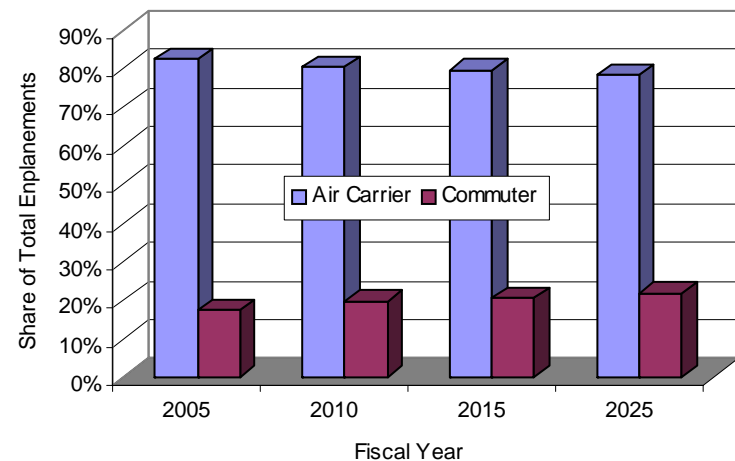
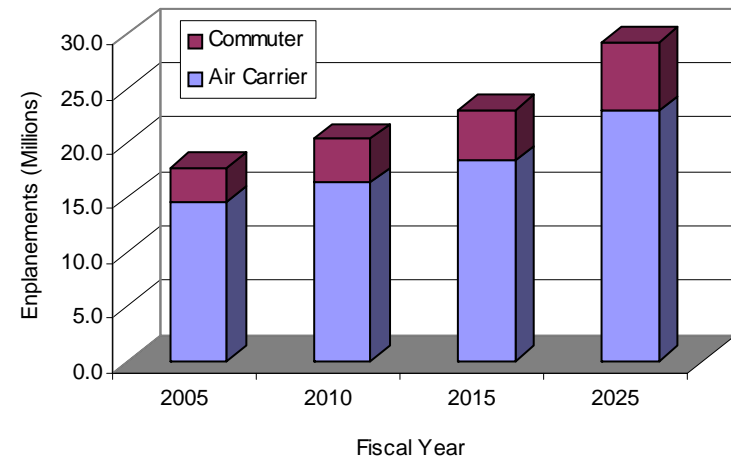
Fiscal Year ^a	TAF February 2006	
	Enplanements	Commercial Operations
2005 Estimate	17,710,570	516,808
2006	17,300,481	506,186
2007	18,194,106	532,532
2008	18,886,745	552,302
2009	19,605,800	571,870
2010	20,410,786	591,486
2011	20,894,724	607,086
2012	21,404,997	618,639
2013	21,928,264	630,422
2014	22,464,868	642,435
2015	23,015,164	654,684
2020	25,985,155	719,652
2025	29,263,547	791,300
	Average Annual Growth Rate	
2005-2025	2.5%	2.2%



Forecast of Future Aviation Activity

Air Carrier & Commuter Enplanements:

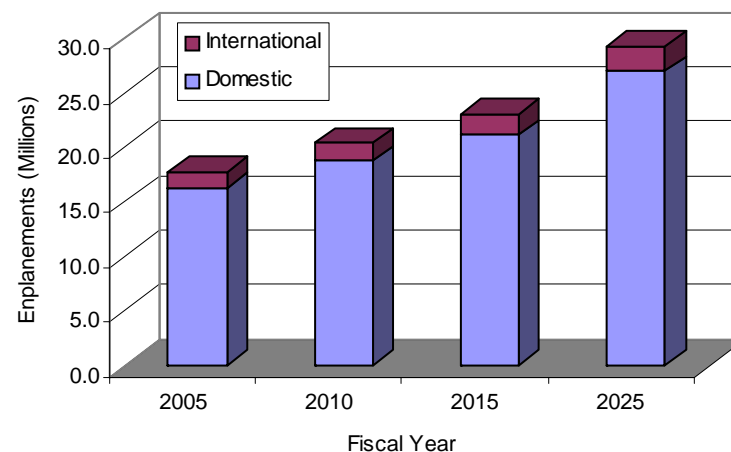
- Commuter EPs will grow faster than air carrier EPs: 3.7% p.a. vs 2.3% p.a.
- Commuter share will increase from 18% in FY 2005 to 22% in FY 2025.
- Air carrier share will decrease from 82% in FY 2005 to 78% in FY 2025.



Forecast of Future Aviation Activity

Domestic & International Enplanements:

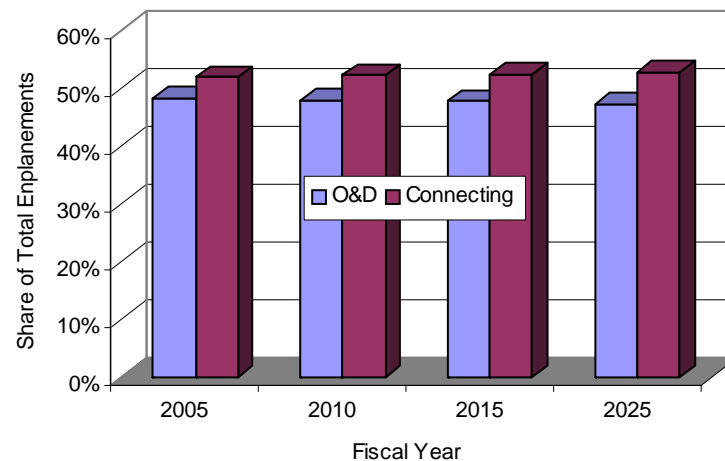
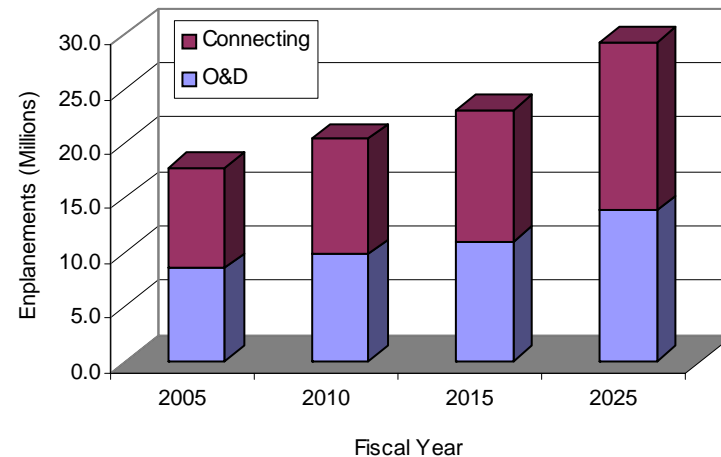
- Domestic EPs will grow faster than international EPs: 2.6% p.a. vs 2.3% p.a.
- Domestic share will increase slightly from 91.7% in FY 2005 to 92.1% in FY 2025.
- International share will decrease from 8.3% in FY 2005 to 7.9% in FY 2025.



Forecast of Future Aviation Activity

O&D & Connecting Enplanements:

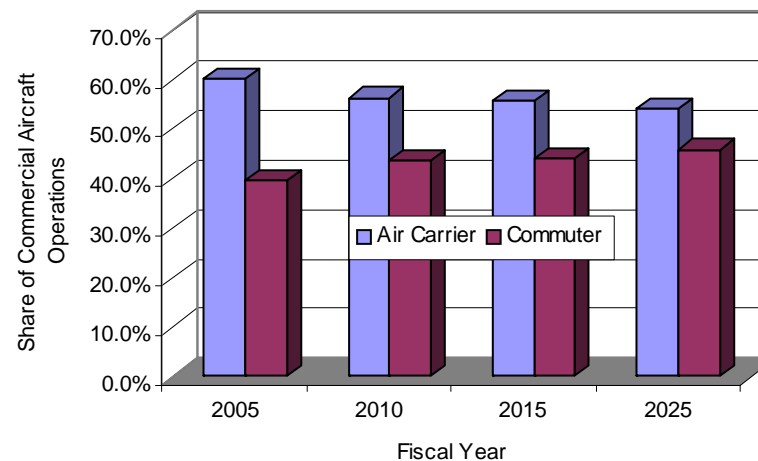
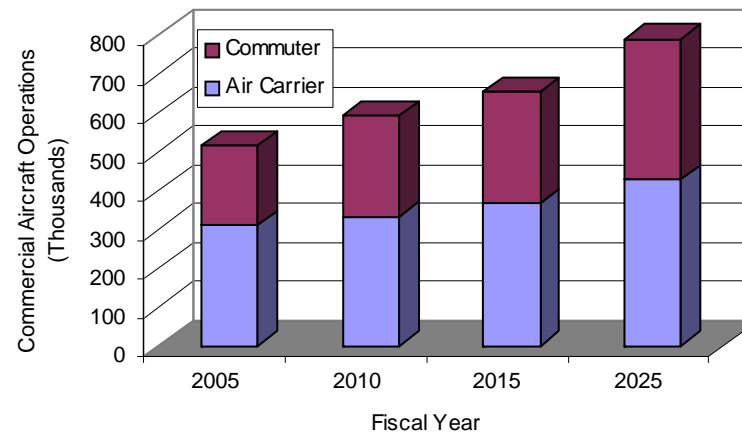
- Connecting EPs will grow faster than O&D EPs: 2.6% p.a. vs 2.4% p.a.
- O&D share will decrease slightly from 48.2% in FY 2005 to 47.2% in FY 2025.
- Connecting share will increase from 51.8% in FY 2005 to 52.8% in FY 2025.



Forecast of Future Aviation Activity

Air Carrier & Commuter Operations:

- Commuter operations will grow faster than air carrier operations: 2.3% p.a. vs 1.6% p.a.
- Air carrier share will decrease from 60% in FY 2005 to 54% in FY 2025.
- Commuter share will increase from 40% in FY 2005 to 46% in FY 2025.



Forecast of Future Aviation Activity

Forecast Commercial Fleet Mix

Aircraft Class	Share of Aircraft Operations			
	2005	2010	2015	2025
Wide Body	2.2%	2.6%	2.6%	2.5%
Narrow Body	52.4%	61.6%	61.2%	59.9%
Regional Jet*	32.1%	32.4%	32.8%	34.0%
Turboprop	13.2%	3.4%	3.4%	3.6%
Total	100.0%	100.0%	100.0%	100.0%

*Includes Lear Jet

Forecast of Future Aviation Activity

Peak Commercial Aircraft Operations

	Fiscal Year			
	2005	2010	2015	2025
Scheduled Passenger Aircraft Operations				
Annual	508,244	582,052	644,298	778,962
Peak Month (PM) ^a	44,420	50,870	56,310	68,080
PM Average Day (PMAD) ^b	1,433	1,641	1,816	2,196
PMAD Peak Hour ^c	122	140	155	187
Commercial Aircraft Operations (Scheduled Passenger, Charter and Cargo)				
Annual	516,808	591,486	654,684	791,300
Peak Month (PM) ^a	45,168	51,695	57,218	69,158
PM Average Day (PMAD) ^b	1,457	1,668	1,846	2,231
PMAD Peak Hour ^c	124	142	157	190

^a Peak month operations represent 8.74 percent of annual total.

^b PMAD operations equal the monthly total divided by 31 days.

^c PMAD peak hour operations represent 8.52 percent of average daily total.



Forecast of Future Aviation Activity

Year	2005	2010	2015	2020	2025
Enplanements	18.2 M	20.4 M	23.0 M	26.2 M	29.3 M
Operations	521,900	591,486	654,684	755,992	791,300
Air Cargo (Tons)	217,478	287,711	321,163	351,998	382,792

Sources:

FAA February 2006 TAF – Forecast Enplanements and Operations

JDA/UCG Associates, Inc. – Forecast Air Cargo



Forecast of Future Aviation Activity

Comparison of Peer Airports

Airport	Enplanements	Operations
Atlanta	42,953,711	980,386
Chicago-O'Hare	38,255,001	972,248
Los Angeles	30,744,699	650,629
Dallas/Ft. Worth	29,588,132	711,878
Frankfurt	26,109,706	490,147
Amsterdam	22,081,549	420,736
Denver	21,693,756	560,669
Phoenix	20,606,877	555,256
Hong Kong	20,134,923	263,500
Minneapolis/St. Paul	18,802,186	532,240
Detroit	18,154,000	521,900
Toronto	14,957,375	409,401



Potential Facility Requirements

– Airside

- Triple independent approaches (FAA Study)
- Operational Procedures (DTW Part 150 Study)
- Runway Extension
- New Runway

– Terminal

- Additional gates at both McNamara and North Terminal

– Landside

- Parking and connectivity
- Roads and access



Potential Facility Requirements

- Airport Related Development
 - Consolidated rental car facility, administration building, remote public parking
- Commercial Development
 - Hotel, convention center, retail, business park
- Regional Transportation
 - Regional rail, Airport monorail, bus rapid transit



Next Steps

- Stakeholder Input and Discussion
- Alternatives Development & Evaluation
- Preferred Development & Implementation Plan
 - Financial Feasibility
 - Environmental Review
- FAA Approval Process

DTW Capital Improvement Program



Discussion by TAC Members

