

# Overview of Current Practices in Airport Aviation Forecasting

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# Overview of Current Practices in Airport Aviation Forecasting

- Integral part of transportation planning
- Forecasts as measure of demand
- Aids planners in providing appropriate supply



# Uses and Time Horizons

- Operational Planning
- Capacity Needs and Expansion Requirements
  - Airside
  - Landside
- Financing Planning
  - Annual Budgeting
  - Bond Issues
  - Airport Capital Improvement Plans



# Unconstrained vs. Constrained Forecasts

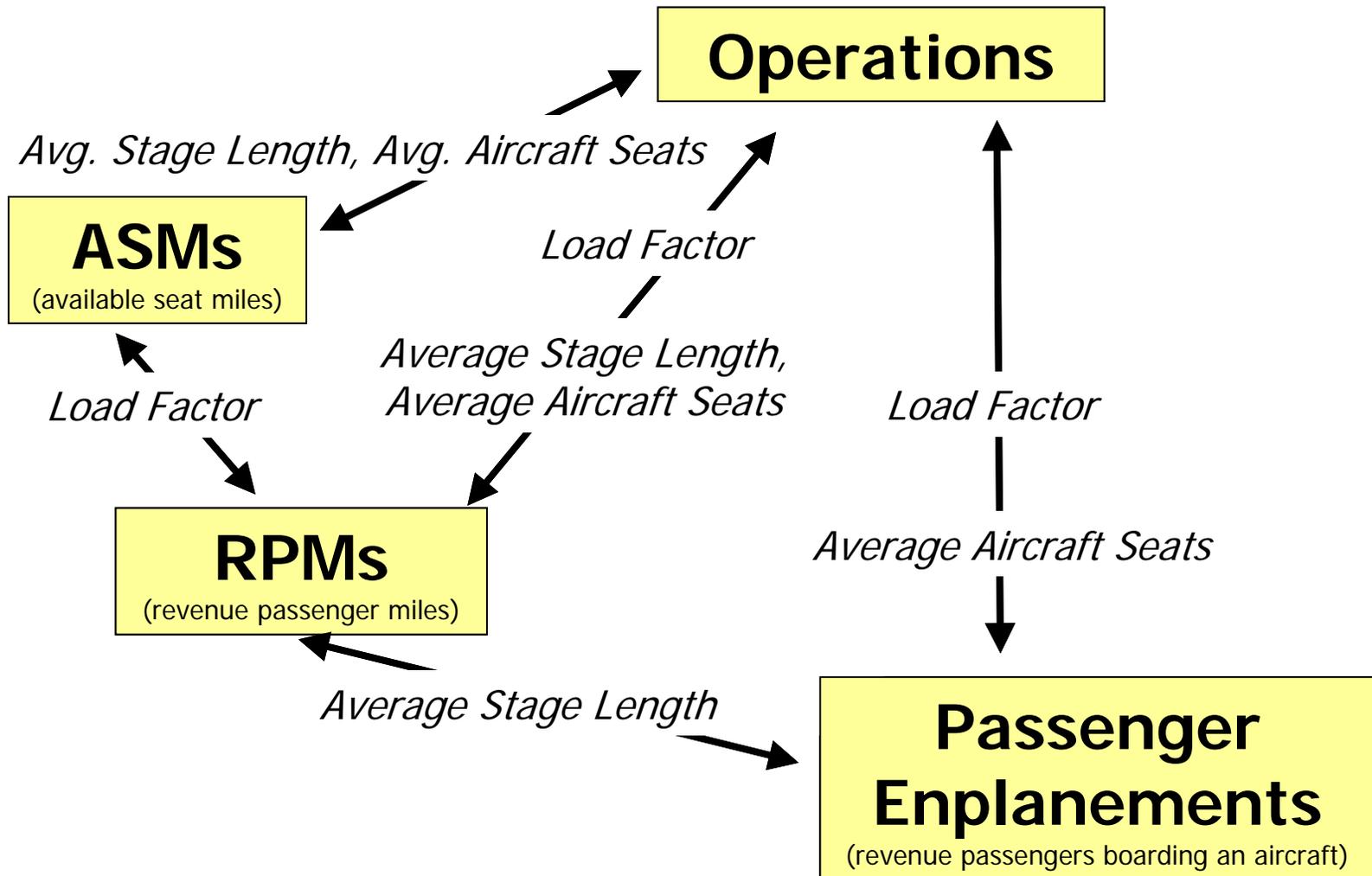
- Unconstrained forecast → Demand
- Constrained forecast → Interaction of supply and demand



- Operations and Enplanements
- ASMs and RPMs
- Load Factors
- Cargo
- Peak Periods



# Relationships Among Common Passenger Aviation Activity Metrics



# Data Sources

- Opsnet ETMS      Airport Master Records (5010)
- T-100      DOT Ticket Sample      Published Schedules
- TAF      Non-Airport Specific Data



# Activity Drivers

- Macroeconomic and demographic factors
- Airline market factors
- Production costs and technology
- Regulatory factors
- Infrastructure constraints and improvements
- Air travel substitutes



# Forecasting Methods

- Market share forecasting
- Econometric modeling
- Time series modeling
- Simulation modeling



# When To Use Various Methods

Purpose of Activity Forecast	Historical Data Availability		
			
	Stable Trend	External Forecasts	Causal Variables
Operational Planning; Annual Budgeting	Time series	Market shares	Econometric modeling
Capacity Needs; Financial Planning	Market shares or Econometric modeling	Market shares	Econometric modeling
Alternative Environments and Policies	Econometric modeling		



# Evaluating Forecasts

→ Uncertainty

→ Accuracy



# Other Topics

- Optimism Bias
- Competing Forecasts



# Further Research

- Reliability of historical activity data
- Review of statistical and data issues with econometric models
- Out-of-sample predictions
- High/low estimates vs. statistical uncertainty

