# COVID Impacts – Airport Planning

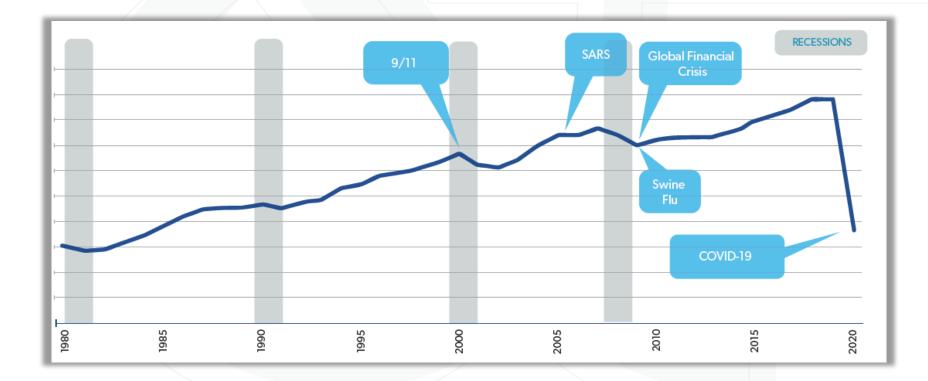
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MITCHELL R. HOOPER, AVIATION PLANNING MANAGER OCTOBER 6, 2021

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### Impacts to Airport Planning

- → Demand Forecasts
- → Capital Programming
- → Looking Ahead









### Planning Beyond COVID

- → What needs to be done has not changed
  - How you do it has
- → Flexibility is key
  - Planning Activity Levels
  - Flexibility in Financial Planning
- → Tools to Help
  - Scenario-based Forecasting
  - Decision Trees
  - Risk Analysis



### Demand Forecasts



### Preparing for Approval

#### → What's going on locally?

- National trends are no good
- Business/leisure mix
- General aviation drivers

#### → Methods

- Scenario and risk-based forecasts
  - Appropriate for commercial service, busy GA
  - Not needed if demand drivers are stable
- Regression
  - Difficult for several years to come

#### → Non-towered airports

- Drawn on local resources
- Radar and ADS-B data

#### → TAF Comparison

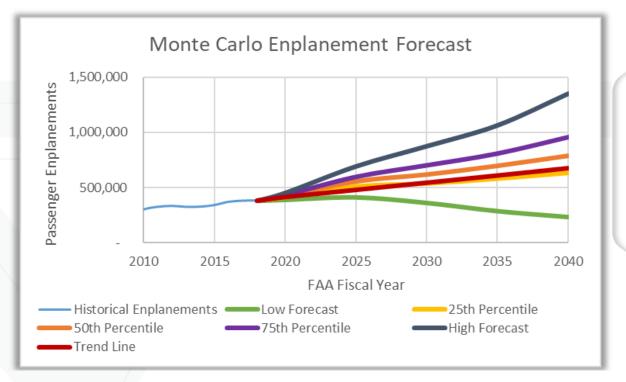
Compare baseline to TAF early





## Scenario Forecasting and Monte Carlo

- → Forecasts based on drivers and risk
  - Has COVID changed drivers locally?
  - What drives local leisure? Local business?
- Simulate risk and uncertainty
  - Historical volatility lends credibility



#### FAA Guidance on Forecasts

#### → ADO can approve if:

- Forecasts are seen as reasonable (same as before)
- COVID impact and recovery is addressed (subjective)
- Local data is key!

#### → Use Planning Activity Levels

- Focus on thresholds, not years
- Not a new concept, but being employed at non-hubs and busy general aviation airports





### Planning Activity Levels

#### → Milestones

 Appropriate when Master Plan has capacity-based improvements

PAL 1 • 500,000 Enplanements

#### → PALs may encompass

- One improvement (e.g. passenger terminal)
- Related improvements (e.g. runway, taxiways, deicing, and fuel storage)

PAL 2

• 750,000 Enplanements

PAL 3

• 1,000,000 Enplanements

### Planning Activity Levels

#### → Monte Carlo Forecasts

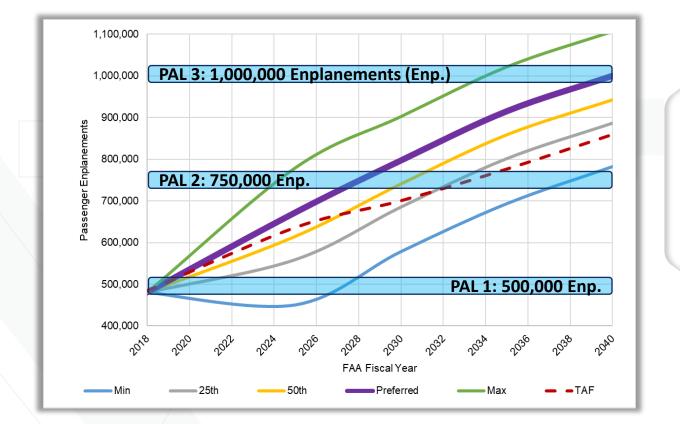
One model, several outputs

#### → PAL 2

- Early as 2024
- Late as 2039
- Likely 2028-2032

#### → Track progress

- Implementation Plan
- Advanced planning
- Environmental
- Financing
- Design
- Construction
- Operations and Maintenance

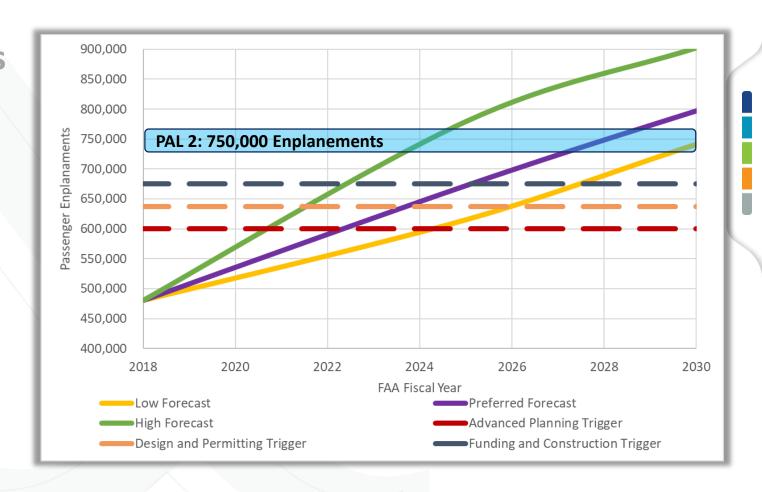


### Capital Programming

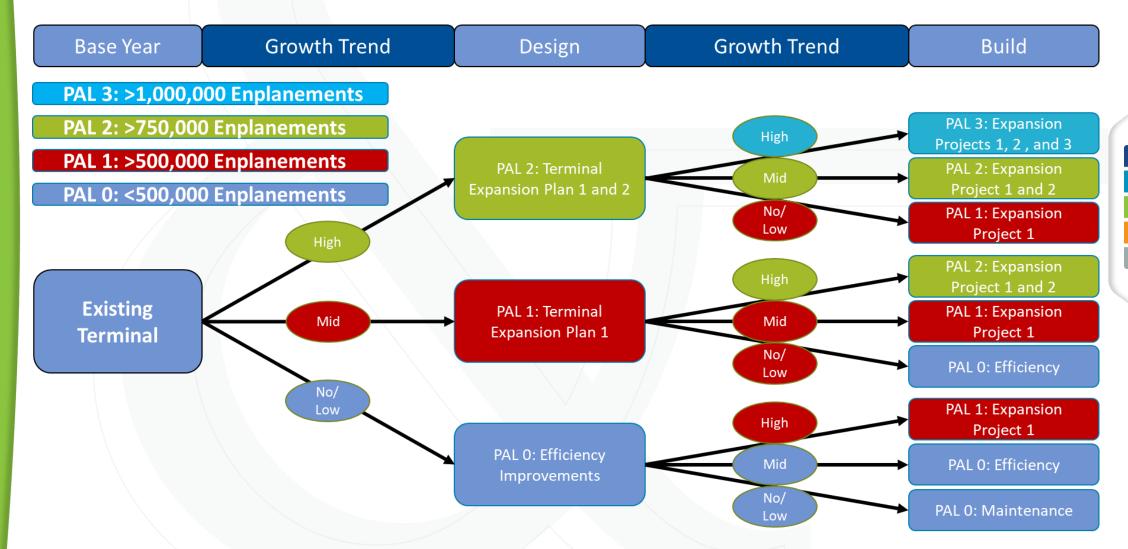


### PALs and CIPs – Trigger Events

- Monitor progress post-forecast
  - Adjust
  - Adapt
  - Implement
  - Build flexibility into CIP



### Implementation Decision Tree



### Looking Ahead



### Emerging Trends

- → Energy
  - Aircraft electrification
  - On-site generation and storage
- → Resiliency
  - Disaster Readiness
  - Social
  - Financial and Economic
- Sustainability
  - Resource consumption
  - Green can make \$Green



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