

SHORT-LIST AIRFIELD DEVELOPMENT ALTERNATIVES
PROS & CONS ASSESSMENT

Airport Master Plan Development Option 1 - Baseline Terminal Concept

Pros:

Airside

- Meets MP 2025 gate capacity
- Reuses existing apron and taxi infrastructure
- Existing centralized terminal location to runway ends maintains relatively short taxi times

Terminal

- Reuses existing terminals
- Maintains short O&D passenger walking distances

Landside

- Reuses some of the existing entrance roadway infrastructure
- Convenience of close-in covered parking

Cons:

Airside

- Limitations of existing shallow apron parking depths remain
- Maintains inefficient single-loaded aircraft parking positions
- Single taxilanes near terminal area limit efficient aircraft movements

Terminal

- Keeping the existing long and narrow terminal/concourse geometry limits the ability to adapt to future operational changes
- Existing multiple concourse layout makes efficient airline hubbing difficult
- Concourse geometry causes the need for multiple, decentralized airside concession areas beyond security screening that are then limited to just holdroom occupants
- Multiple, narrow width and extensive length terminals results in an ineffective layout for the overall concessions program due to the splitting of passenger flows and the inability to develop a primary concessions hall with exposure to all passengers thereby limiting concession choices and revenues performance
- Multiple security checkpoints spread out over long distances and over multiple terminals results in inefficient staffing

Landside

- Difficulty of maintaining existing operations while building new terminal roads
- Provides no future southern landside access and gate expansion (beyond 2025) requires the build-out of a fourth satellite concourse which then blocks the potential for new southern access

Implementation

- Complexity of building new terminal processor while maintaining existing roadway infrastructure
- Does not provide a substantial ultimate capacity plan beyond the Master Plan horizon

Environmental

- Keeping existing terminals limits the applicability of new LEED sustainable design approaches, more efficient Mechanical, Electrical and Plumbing (MEP) systems and environmentally friendly materials

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Airport Master Plan Development Option 2 - Central West Terminal Concept A

Pros:

Airside

- Meets MP 2025 aircraft gate capacity in single contiguous flight line with additional gates possible with the construction of a satellite concourse
- Additional aircraft parking depths provide the flexibility for future upgauging of aircraft
- Pushback area and strategically positioned deicing pads improve airside operations
- Dual taxiways & taxilanes provide more efficient airside operations

Terminal

- New single terminal processor provides capacity to meet 2025 demand and beyond with an efficient single terminal processor
- Centralized security for more efficient operation
- Increased depth of new processor provides the flexibility to more easily accommodate potential operational changes
- Single Terminal flows all outbound passengers past a primary concession hall which allows enhanced product variety and revenue performance
- Efficient double-loaded single concourse
- Provides ability to expand terminal processor and concourse capacity incrementally

Landside

- Convenience of close-in covered parking
- Provides new southern landside access

Environmental

- Completely new terminal maximizes opportunity to incorporate LEED sustainability design principles and materials

Cons:

Airside

- Slightly longer taxi times to existing runway ends
- Requires entirely new apron and taxiway infrastructure

Terminal

- Longer O&D walking distances than today's unit terminals
- Requires satellite to accommodate beyond 2025 aircraft parking requirement

Landside

- Requires new landside access infrastructure
- Locates light rail station from terminal in order to accommodate future connection to an ultimate 2nd terminal

Implementation

- Complexity of building new terminal roadway infrastructure while maintaining existing operations
- Requires relocation of some air cargo facilities prior to initial build
- Requires a two phase move of existing airline operations with a major construction period in between

Environmental

- Terminal construction impacts existing retention lake

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Airport Master Plan Development Option 3 – West Midfield Terminal Concept

Pros:

Airside

- Meets MP 2025 aircraft gate capacity in single contiguous flight line with substantial incremental gate expansion potential
- Additional aircraft parking depths provide the flexibility for future up-gauging of aircraft
- Pushback and strategically positioned deicing pads improve airside operations
- Dual taxiways & taxilanes provide more efficient airside operations

Terminal

- New single terminal processor provides capacity to meet 2025 demand and beyond with an efficient single terminal processor
- Centralized security for more efficient operation
- Increased depth of new processor provides the flexibility to more easily accommodate potential operational changes
- Single Terminal flows all outbound passengers past a primary concession hall which allows enhanced product variety and revenue performance
- Efficient double-loaded single concourse
- Provides ability to expand terminal processor and concourse capacity incrementally

Landside

- Convenience of close-in covered parking
- Centralized light rail station in close proximity to single terminal
- Provides new southern landside access

Implementation

- Greenfield site allows easier construction while maintaining existing operations

Environmental

- Completely new terminal maximizes opportunity to incorporate LEED sustainability design principles and materials

Cons:

Airside

- Non-centralized aircraft operations results in longer taxi times to existing runway ends
- Requires entirely new apron and taxi infrastructure

Terminal

- Longer O&D walking distances than today's existing terminals

Landside

- Requires extensive new landside access and infrastructure
- Long commute to existing RAC facility

Land Use

- Most all terminal support areas will need to be relocated to the west envelope

Implementation

- Greenfield site requires entirely new terminal complex infrastructure

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Airport Master Plan Development Option 4 - South Terminal Concept B

Pros:

Airside

- Meets MP 2025 aircraft gate capacity in single contiguous flight line with additional gate expansion available with a remote satellite
- Additional aircraft parking depths provide the flexibility for future upgauging of aircraft
- Pushback and strategically positioned deicing pads improve airside operations
- Dual taxiways & taxilanes provide more efficient airside operations
- Centralize airfield location provides short taxi times to existing runway ends

Terminal

- New single terminal processor provides capacity to meet 2025 demand and beyond with an efficient single terminal processor
- Centralized security for more efficient operation
- Increased depth of new processor provides the flexibility to more easily accommodate potential operational changes
- Single Terminal flows all outbound passengers past a primary concession hall which allows enhanced product variety and revenue performance
- Efficient double-loaded concourses

Landside

- Convenience of close-in covered parking
- Centralized light rail station in close proximity to single terminal
- Provides new southern landside access

Environmental

- Completely new terminal maximizes opportunity to incorporate LEED sustainability design principles and materials

Cons:

Airside

- Requires a remote satellite to accommodate future 2025 gate requirements
- Non-centralized aircraft operations results in longer taxi times to existing runway ends
- Requires entirely new apron and taxi infrastructure

Terminal

- Longer O&D walking distances than today's existing terminals
- Inability to expand main terminal's double loaded concourse
- Underground APM required to connect between Terminal and Satellite

Landside

- Requires new landside access and infrastructure
- Long commute to existing RAC facility
- Some terminal support areas will need to be relocated to the west envelope

Land Use

- Some terminal support areas will need to be relocated to the west envelope

Implementation

- Greenfield site requires entirely new terminal complex infrastructure

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Airport Master Development Option 5 - South Terminal Concept C

Pros:

Airside

- Meets MP 2025 aircraft gate capacity in single contiguous flight line
- Additional aircraft parking depths provide the flexibility for future upgauging of aircraft
- Pushback and strategically positioned deicing pads improve airside operations
- Dual taxiways & taxilanes provide more efficient airside operations
- Centralize airfield location provides short taxi times to existing runway ends

Terminal

- New single terminal processor provides capacity to meet 2025 demand and beyond with an efficient single terminal processor
- Centralized security for more efficient operation
- Increased depth of new processor provides the flexibility to more easily accommodate potential operational changes
- Single Terminal flows all outbound passengers past a primary concession hall which allows enhanced product variety and revenue performance
- Efficient double-loaded concourses
- Ability to incrementally expand concourse and terminal to meet future passenger demand
- "X" shaped concourses shortens walking distances

Landside

- Convenience of close-in covered parking
- Centralized light rail station in close proximity to single terminal
- Provides new southern landside access

Implementation

- Greenfield site allows easier construction implementation and phasing while maintaining current operations

Environmental

- Completely new terminal maximizes opportunity to incorporate LEED sustainability design principles and materials

Cons:

Airside

- Non-centralized terminal location relative to runways requires longer taxi times
- All new apron and taxi infrastructure

Terminal

- Longer O&D walking distances than today's existing terminals

Landside

- Requires new landside access and infrastructure
- Long commute to existing RAC facility

Land Use

- Some terminal support functions may need to be relocated to the south

Implementation

- Greenfield site requires entirely new terminal complex infrastructure