



APPENDIX D.4

Alternatives Workshop #4

Alternatives Workshop #4

June 24, 2020



MASTER PLAN **2040**



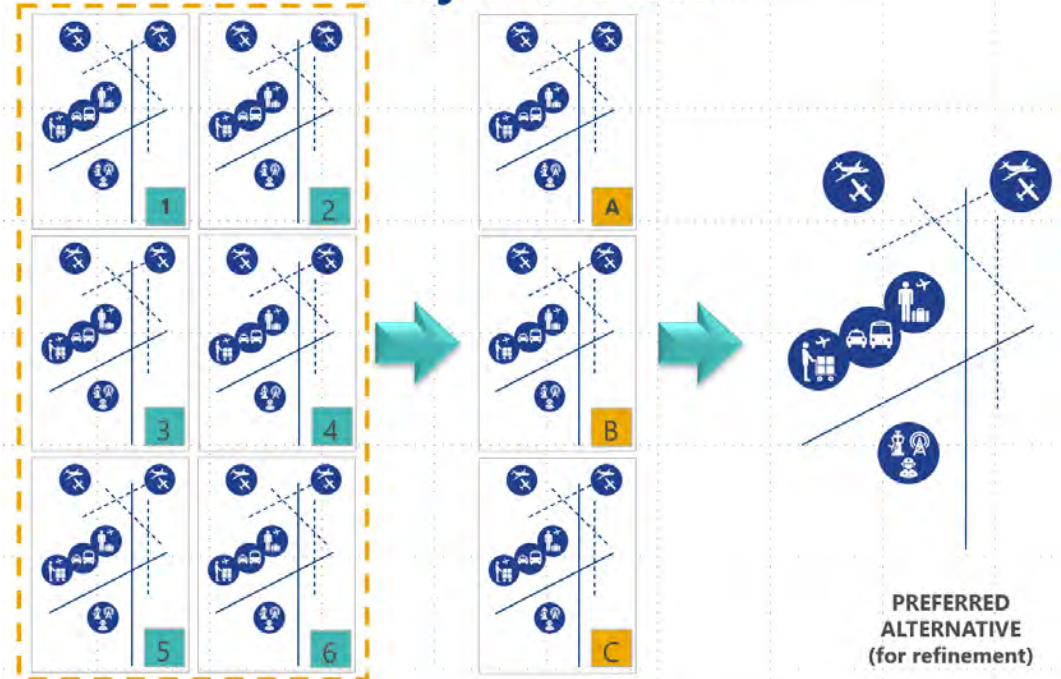
Workshop #4 Objectives

- Review 3 shortlisted alternatives
- Review alignment with Master Plan Draft Goals
- Review evaluation criteria and weighting factors
- Gather MKE input on alternatives
- Identify PRELIMINARY preferred alternative
- Review next steps

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Alternatives Analysis Process



Master Plan Process



** Requires FAA Approval

MKE Input on Alternatives

- MKE input is critical
 - Selection of (preliminary) preferred alternative
 - Refinement of selected alternative
- Feedback will also be gathered from the TAG and SAG

ALTERNATIVE PREFERENCES																																	
	AIRSIDE						LANDSIDE												TERMINAL			CARGO			GENERAL AVIATION			AIRCRAFT MAINTENANCE			AIRPORT MAINTENANCE		
	AIRFIELD			DEICE FACILITIES			ROADWAY			CURBSIDE			PARKING			RENTAL CAR			TERMINAL														
MIKE REPRESENTATIVE	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C			
C. Baker																																	
K. Berry																																	
K. David																																	
B. Dranzik																																	
G. Failey																																	
J. Forro																																	
D. Gelting																																	
J. Grava																																	
M. Hoffman																																	
J. Martin																																	
H. Mester																																	
S. Nadolny																																	
T. Pearson																																	
P. Rowe																																	
A. Shoemaker																																	
T. Torcivia																																	
J. Trapp																																	
C. Turk																																	
G. Waszak																																	
J. Zsebe																																	
SAMPLE	3	2	1																														
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COUNT: 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
COUNT: 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
COUNT: 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

Spreadsheet to be populated at conclusion of discussion.

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Review of Alternatives



Airfield Combinations

Alternative A



Runways in Operation

1L-19R | 7R-25L | 13-31

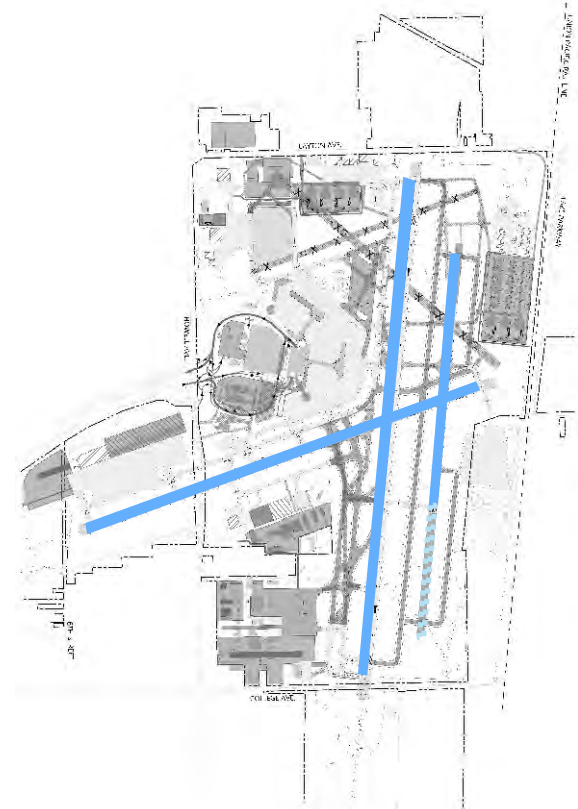
Alternative B



Runways in Operation

1L-19R | 7R-25L | 7L-25R

Alternative C



Runways in Operation

1L-19R | 7R-25L | 1R-19L

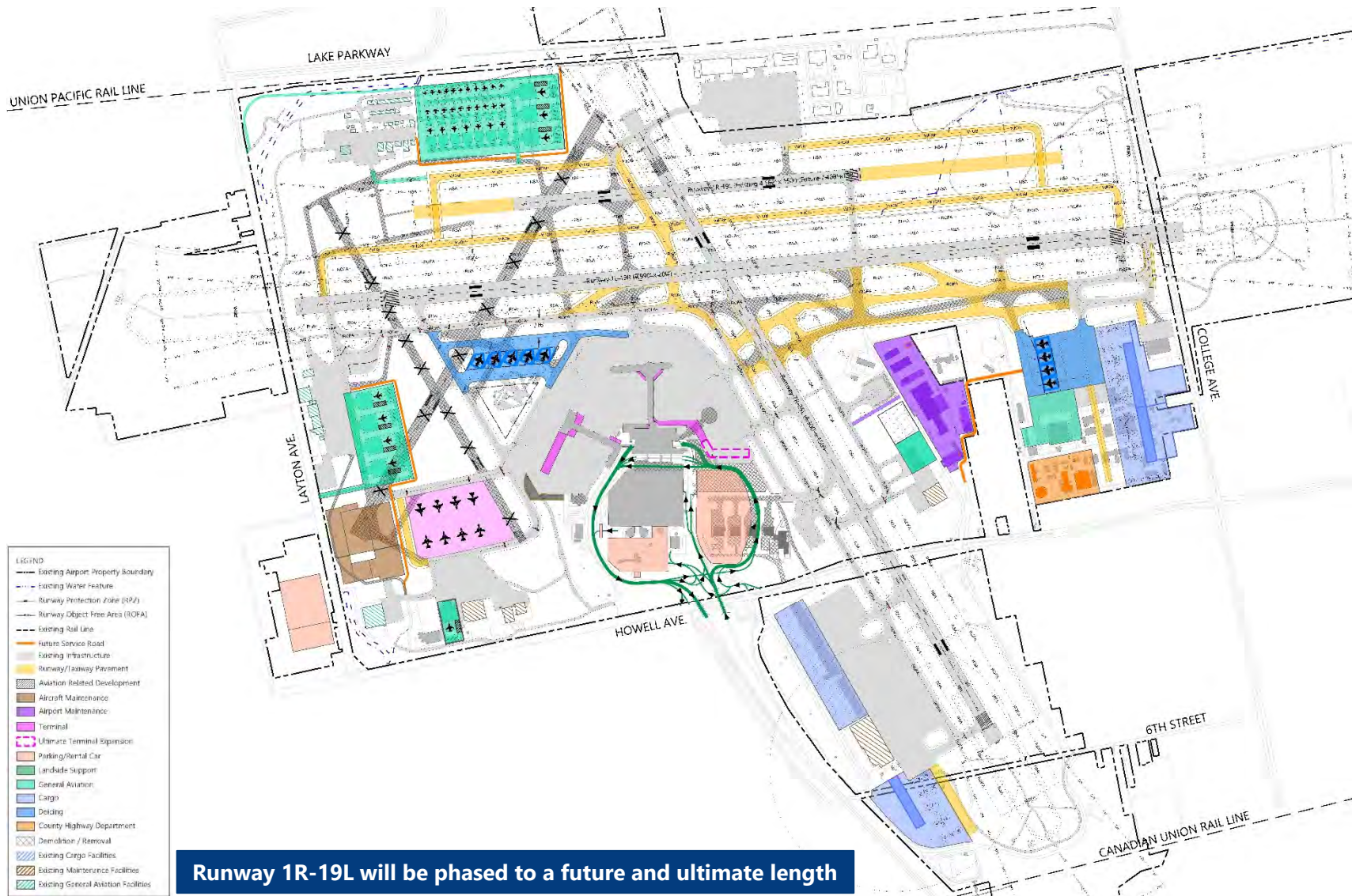
Questions on Shortlisted Alternative A



Questions on Shortlisted Alternative B



























Questions on Shortlisted Alternative C



Draft Master Plan Goals

- Affirm a **future-focused airport** that supports aviation growth in a safe, efficient, and cost-effective manner through an organized and synergistic long-range development plan.
- Recognize opportunities to **enhance the sustainability, resiliency, and environmental sensitivity** with continued growth of MKE.
- Seek opportunities for **enhanced customer and passenger experience**.
- **Optimize infrastructure and resources** in an operationally, financially, and sustainable manner.
- Adopt **scalable development plans** that flexibly accommodate variations in demand and technology over the planning horizon.
- Protect **long range utility** of the Airport (post-2040).
- Recognize opportunities for enhanced **non-aeronautical revenue generation** in the utilization of MKE property and amplify the revenue-generating potential of Airport property.
- Define a long-range development plan that **reflects MKE's role in the community** and recognizes diversity in community stakeholder priorities.

Alignment with Draft Master Plan Goals

DRAFT Master Plan Goal	Alternative A	Alternative B	Alternative C
Affirm a future-focused airport that supports aviation growth in a safe, efficient, and cost-effective manner through an organized and synergistic long-range development plan.			
Recognize opportunities to enhance the sustainability, resiliency, and environmental sensitivity with continued growth of MKE.			
Seek opportunities for enhanced customer and passenger experience .			
Optimize infrastructure and resources in an operationally, financially, and sustainable manner.			
Adopt scalable development plans that flexibly accommodate variations in demand and technology over the planning horizon.			
Protect long range utility of the Airport (post-2040).			
Recognize opportunities for enhanced non-aeronautical revenue generation in the utilization of MKE property and amplify the revenue-generating potential of Airport property.			
Define a long-range development plan that reflects MKE's role in the community and recognizes diversity in community stakeholder priorities.			

LEGEND



Aligns Well with Master Plan Goal



Aligns with Master Plan Goal

Qualitative Cost Comparison

- Predicted ranking of construction cost (capital expenditure) – full concept implementation
 - Highest: Alternative C
 - Middle: Alternative A
 - Lowest: Alternative B
- Capital investments and potential sources of funds vary by facility type
 - Airport responsibility (e.g., airfield, gates, landside, etc.)
 - Tenant investment (e.g., hangars)
 - Hybrid (e.g., centralized deicing)
- Operating Expenses will be reduced with “right-sizing” (runway decommissioning)
- FAA funding for “third” runway subject to acceptance of justification
 - Eligible for FAA funding: Primary RW, Crosswind RW, Secondary RW
 - Ineligible for FAA funding: Additional RW

Cost Considerations

Table G-1 Runway Types and Eligibility

For the following runway type...	Must meet all of the following criteria...	And is...
a. Primary Runway RW 1L-19R	(1) A single runway at an airport is eligible for development consistent with FAA design and engineering standards.	Eligible
b. Crosswind Runway RW 7R-25L	(1) One of the following two criteria are met: (a) For the first crosswind, the wind coverage on the primary runway less than 95% (b) For more than one crosswind runway, the wind coverage on the primary runway less than 95% and the existing crosswind runway(s) are operating at 60% or more of their annual capacity, which is based on guidance developed by APP-400 as the threshold for considering when to plan a new runway.	Eligible if justified

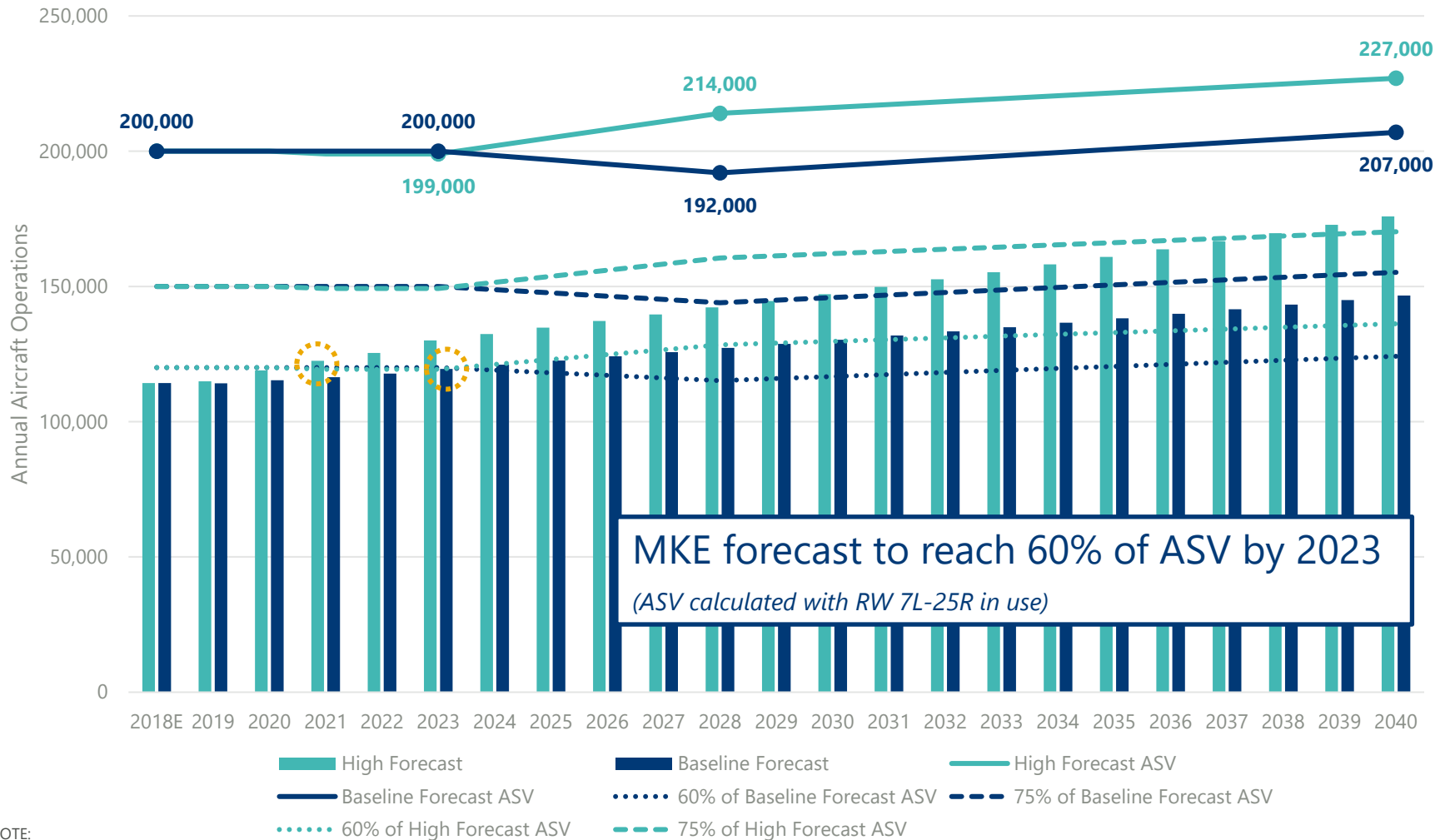
Source: FAA Order 5100.38D, Change 1, Airport Improvement Program Handbook, February 26, 2019.

Cost Considerations

For the following runway type...	Must meet all of the following criteria...	And is...
c. Secondary Runway RW XXX Secondary runway critical aircraft requires FAA approval.	(1) There is more than one runway at the airport. (2) This is not a crosswind runway. (3) Either of the following: (a) The primary runway (or primary runway AND all secondary runways) is operating at 60% or more of its annual capacity, which is based on guidance developed by APP-400 as the threshold for considering when to plan a new runway. (b) APP-400 has made a specific determination that the runway is required for operation of the airfield.	Eligible if justified.
d. Additional Runway	(1) There is more than one runway on the airport. (2) The ADO has determined that this runway does not meet the requirements to be designated a crosswind runway. (3) The ADO has determined that this runway does not meet the requirements to be designated a secondary runway.	Ineligible.

Source: FAA Order 5100.38D, Change 1, Airport Improvement Program Handbook, February 26, 2019.

Annual Airfield Capacity



NOTE:

ASV = Annual Service Volume

1. FAA recommends capacity development when activity approaches 60 to 75 percent of annual capacity. Capacity development could be in the form of a new runway, runway extension, additional exit taxiways, aircraft parking aprons, and replacement/supplemental airports.

SOURCES: Federal Aviation Administration Advisory Circular 150/5060-5 Change 2, Airport Capacity and Delay, December 1995; Federal Aviation Administration Order 5090.3C, Field Formulation of the National Plan of Integrated Airport Systems (NPIAS), December 2000; Ricondo & Associates, Inc., June 2019.

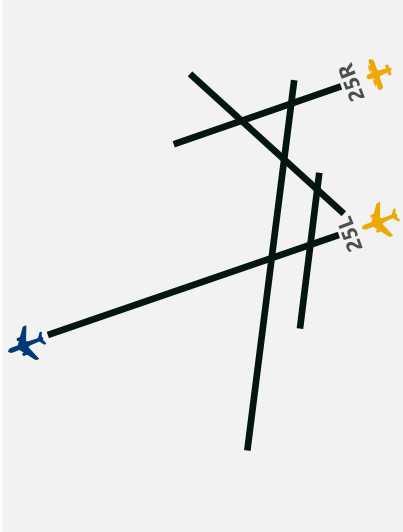
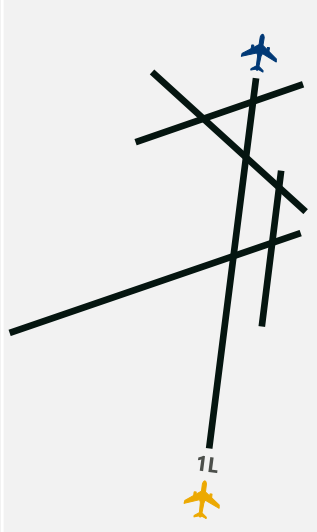
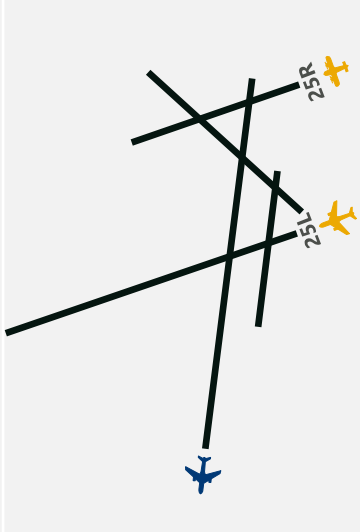
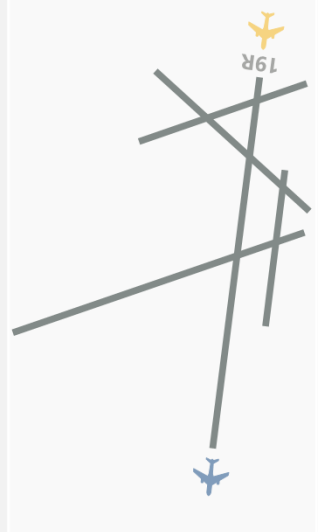
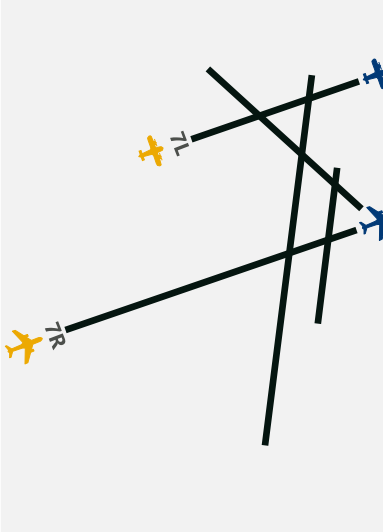


Airfield Considerations



Modeled Airfield Operating Configurations

Peak Hour Capacities

West Flow	North Flow	Southwest Flow	South Flow	East Flow
21.1 % VMC	19.6% VMC	16.2% VMC	13.5% VMC	11.2% VMC
2.4% IMC	6.2% IMC	2.0% IMC	4.4% IMC	3.4% IMC
				
68-71 VMC ops/hr	66-67 VMC ops/hr	71-74 VMC ops/hr	66-67 VMC ops/hr	68-74 VMC ops/hr
53-55 IMC ops/hr	54-55 IMC ops/hr	46-47 IMC ops/hr	54-55 IMC ops/hr	54-55 IMC ops/hr
65-67 annualized peak hour aircraft operations				

NOTES:

1/ Airfield operating configurations were modeled in runwaySimulator to determine VMC/IMC hourly capacities and Annual Service Volume.

2/ Hourly capacities associated with South Flow and North Flow are identical, therefore only the North Flow was modeled. The North Flow hourly capacities were then applied to the South Flow configuration.

Legend

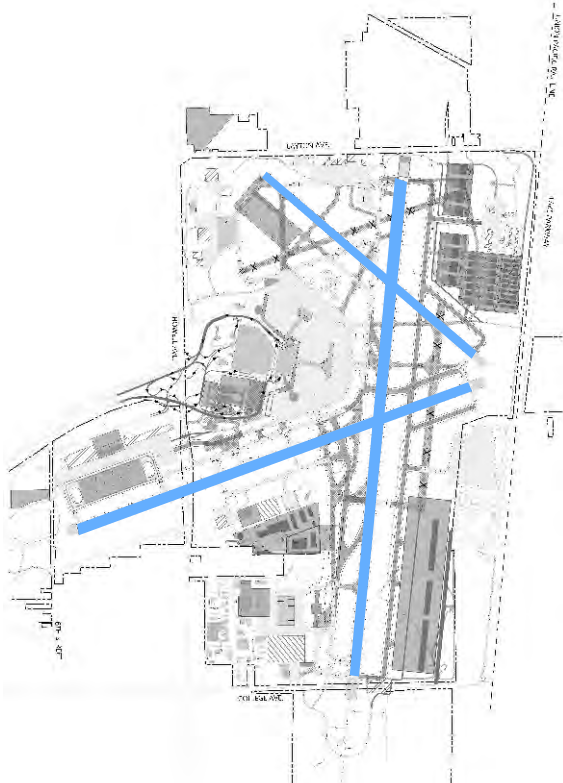
	Primary Arrivals		Prop Arrivals
	Primary Departures		Prop Departures

N
↑
not to scale

SOURCES: Federal Aviation Administration, Aviation System Performance Metrics, Airport Efficiency, MKE Daily Weather by Hour Report, January 1, 2008 through December 31, 2017; Ricondo & Associates, Inc., December 2018.

Airfield Combinations

Alternative A



Runways in Operation

1L-19R | 7R-25L | 13-31

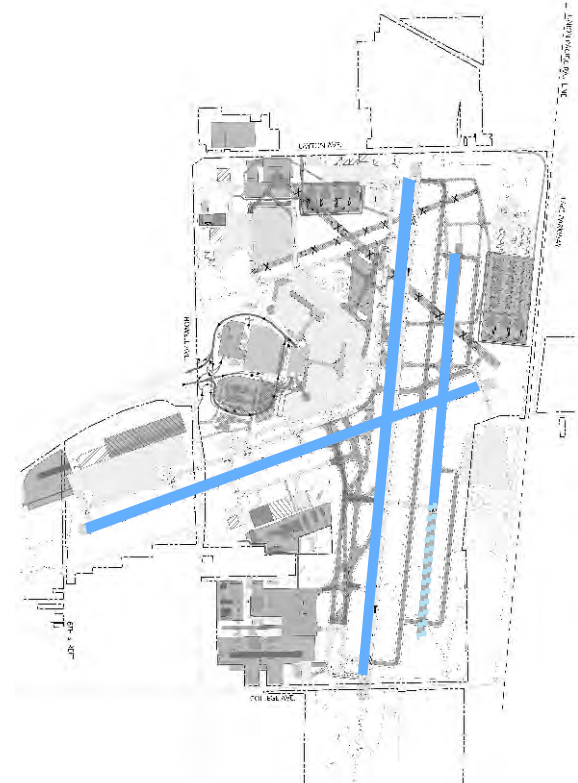
Alternative B



Runways in Operation

1L-19R | 7R-25L | 7L-25R

Alternative C



Runways in Operation

1L-19R | 7R-25L | 1R-19L

Airfield Taxi Routing – Terminal Area Aircraft

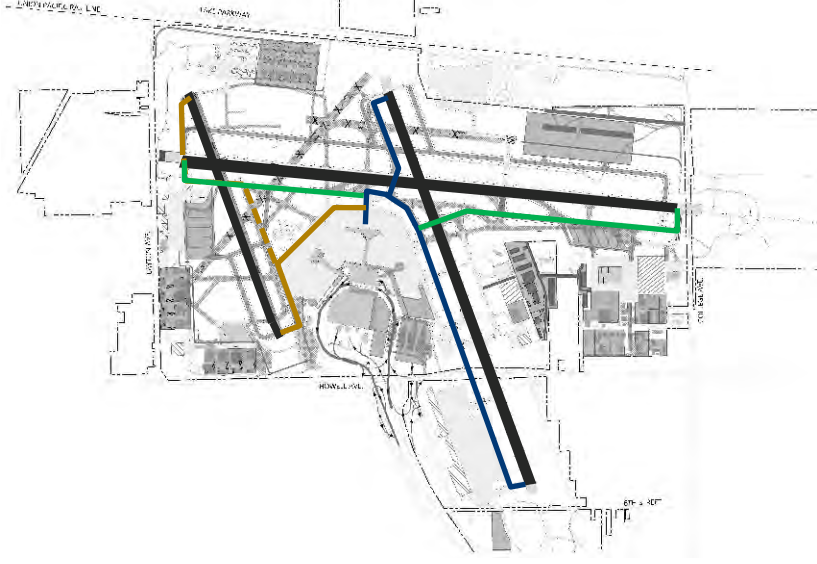
Alternative A



Taxi Flows

13-31 7R-25L 1L-19R

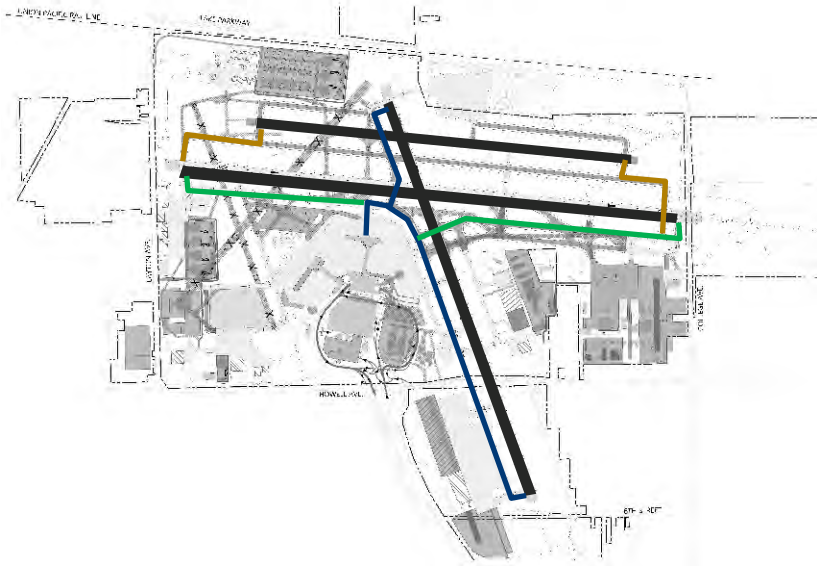
Alternative B



Taxi Flows

7L-25R 7R-25L 1L-19R

Alternative C



Taxi Flows

1R-19L 7R-25L 1L-19R

Airfield Alternative A - PCI Map Overlay



Airfield Alternative B - PCI Map Overlay



Airfield Alternative C - PCI Map Overlay



Runway Usage Statistics

Runway Utilization Summary by Aircraft Type CY 2017

	RW 1L-19R		RW 7R-25L		RW 7L-25R		RW 13-31		RW 1R-19L		Total	
Jets ¹	57,526	52.82%	35,346	32.45%	678	0.62%	399	0.37%	175	0.16%	94,124	86.42%
Props	6,298	5.78%	5,484	5.03%	2,412	2.21%	444	0.41%	156	0.14%	14,794	13.58%
	63,824		40,830		3,090		843		331		108,918	
Total RW Usage		58.60%		37.49%		2.84%		0.77%		0.30%		100.00%

1/ Jets includes "other" activity recorded in MKE's ANOMS.

Sources: Milwaukee County, General Mitchell International Airport Noise Program Office, L3Harris EnvironmentalVue, Calendar Year 2017; Ricondo & Associates, Inc.

2016-2019 Runway Utilization Summary

- 1L-19R: 55%
- 7R-25L: 40%
- 13-31: under 1%
- 7L-25R: 2-3%
- 1R-19L: under 1%

Sources: BridgeNet Baseline Noise Contour Study Assumptions memo, December 15, 2019; Traffic Flow Management System Counts (TFMSC), [https://aspm.faa.gov/tfms/sys/\(date accessed 3/3/2020\)](https://aspm.faa.gov/tfms/sys/(date%20accessed%203/3/2020)).

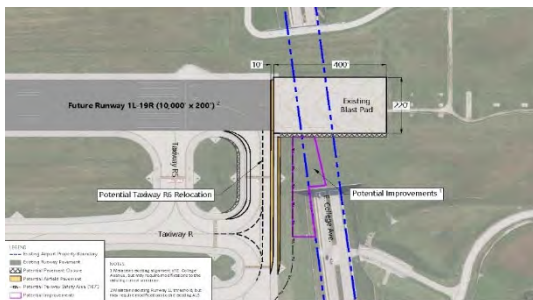
Runway 1L-19R 10 ft Extension Alternatives

NORTH EXTENSION

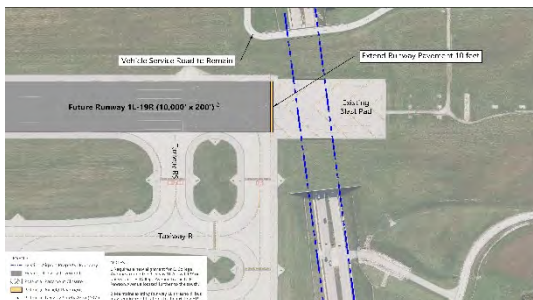


- ***Accommodates realignment of Taxiway F***
- Additional blast pad area needed to accommodate standard blast pad dimensions (regardless of alternative selected)

SOUTH EXTENSION



- ***Does not require modification of College Avenue tunnel to accommodate shift in TOFA (Taxiway R6)***
- Additional full strength and shoulder pavement needed along south edge of Taxiway R6



- ***Extend full strength runway pavement; no southern shift of Taxiway R6***
- Utilization of additional 10 ft requires modified aircraft taxi entry movement

Deicing Facilities

Alternative A



Alternative B



Alternative C



Terminal Considerations



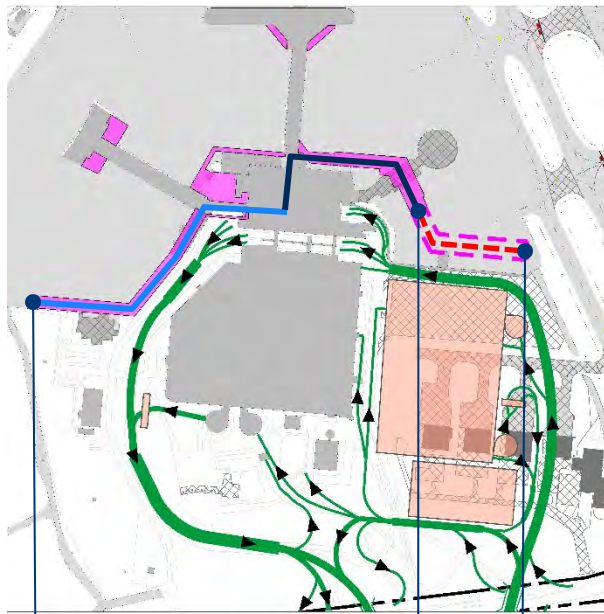
Terminal Considerations

- All alternatives meet 2040 gate requirement (+4 to +10 gates)
- Centralized Security Screening Checkpoint (SSCP) accommodated in all alternatives
- Four gate Concourse E redevelopment common to all alternatives
- Consideration given to post-2040 gate expansion capability (> +10 gates)
- Required baggage room improvements accommodated
- COVID-19 impact may drive changes in terminal planning standards as industry recovery progresses
 - Area requirements
 - Dimensional allowances
 - Uni-directional flows

In a right-sizing environment, the terminal concept (gate expansion) is driven by the airfield configuration.

Terminal Walking Distances

Alternative A



Concourse E: 1,030'

Concourse E (Beyond 2040): 1,640'

New Concourse: 1,500'

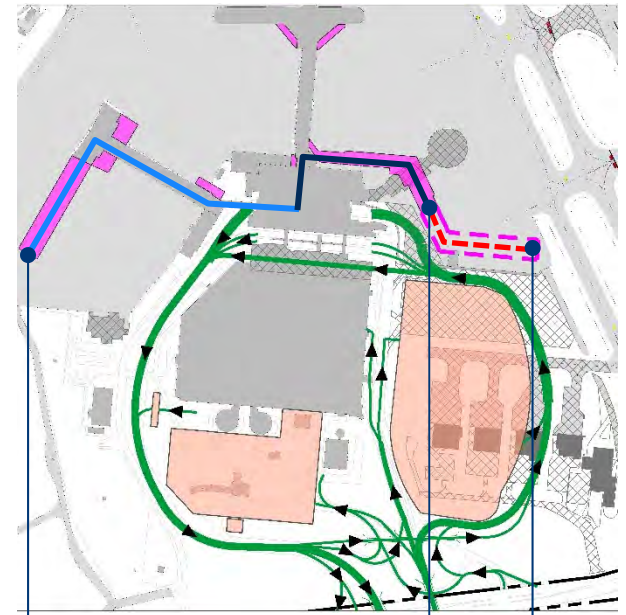
Alternative B



New Concourse (Beyond 2040): 1,280'

Concourse E : 1,750'

Alternative C



Concourse E: 1,030'

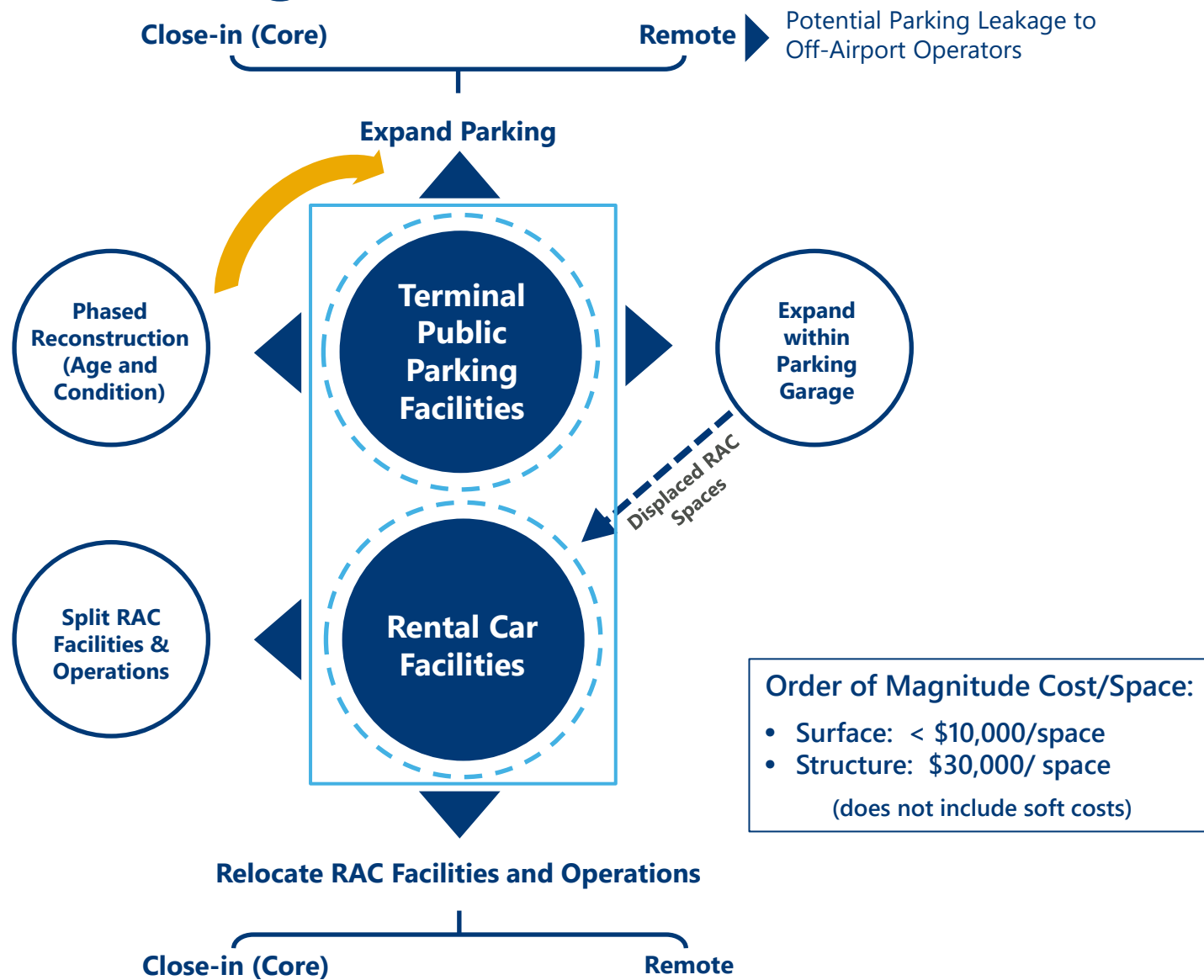
Concourse C Extension: 1,700'

Concourse E (Beyond 2040): 1,640'

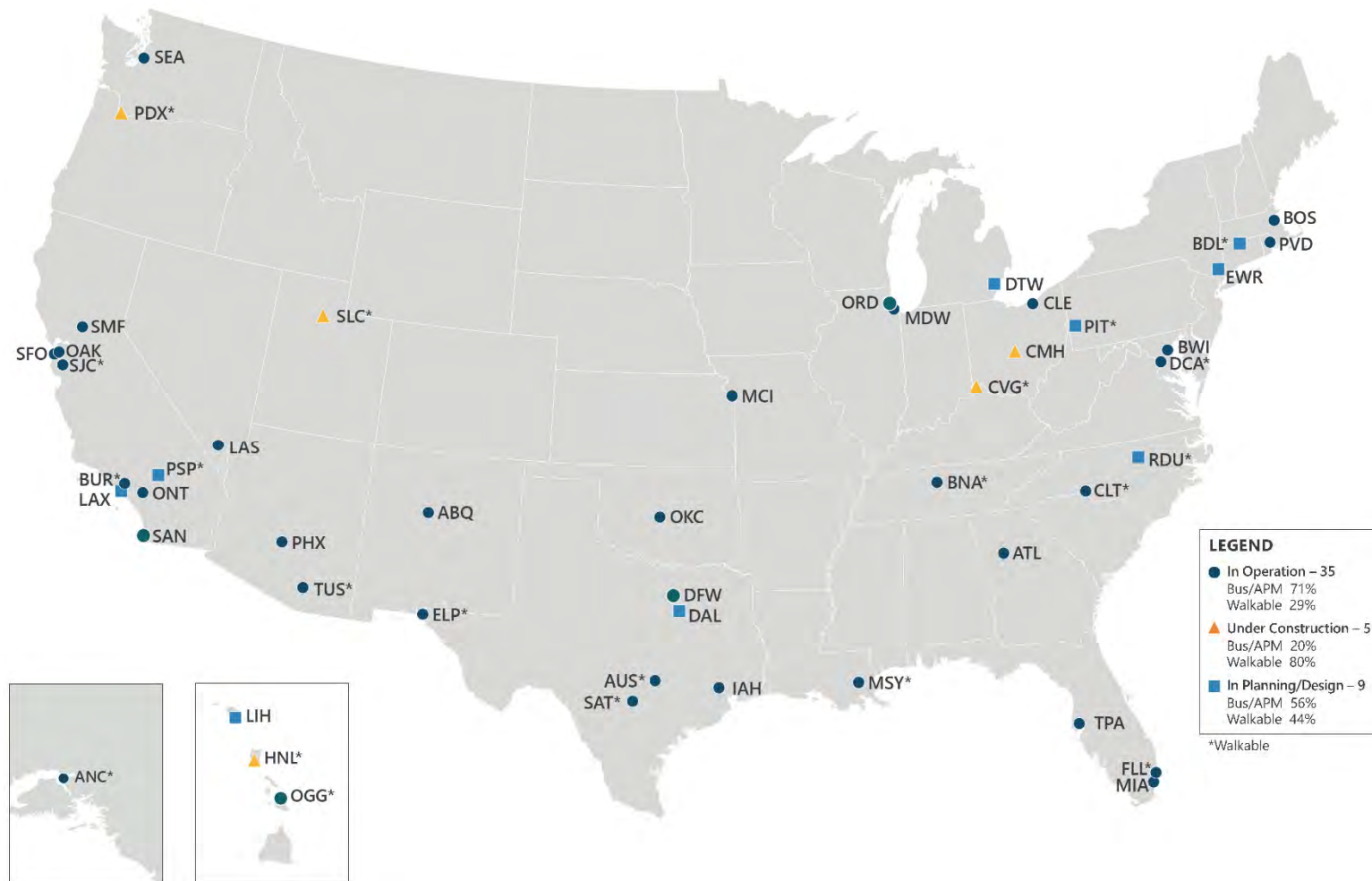
Landside Considerations



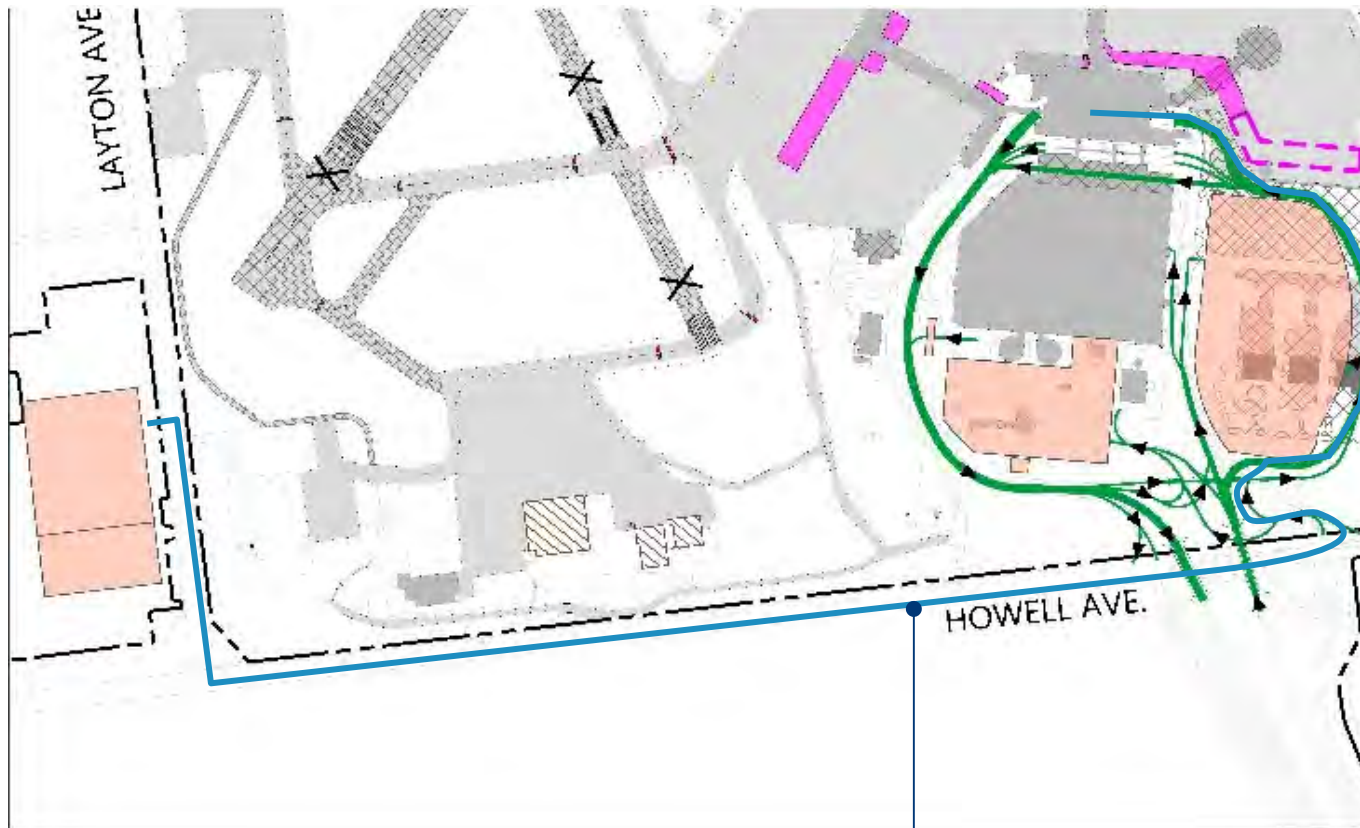
Landside – Parking and Rental Car



Airports with Stand-alone CONRAC



Landside Considerations – Travel Times to Remote Facility



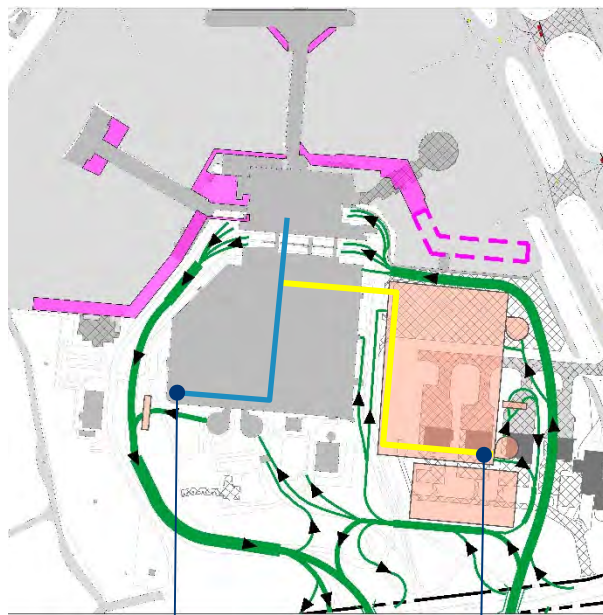
Notes:
Light cycle estimated to be 1 minute (x2)
Average 15 MPH travel to Layton and Howell = 0.97 mins
Average 25 MPH Layton/Howell to Airport Left Turn = 2.04 mins
Average 15 MPH to Curb = 2.4 mins

8,950'
(1.7 Miles)

Total Travel Time : 7.5 mins

Representative Maximum Parking Walking Distances

Alternative A



Existing Garage: 1,460'

Future ConRAC: 2,200'

Alternative B

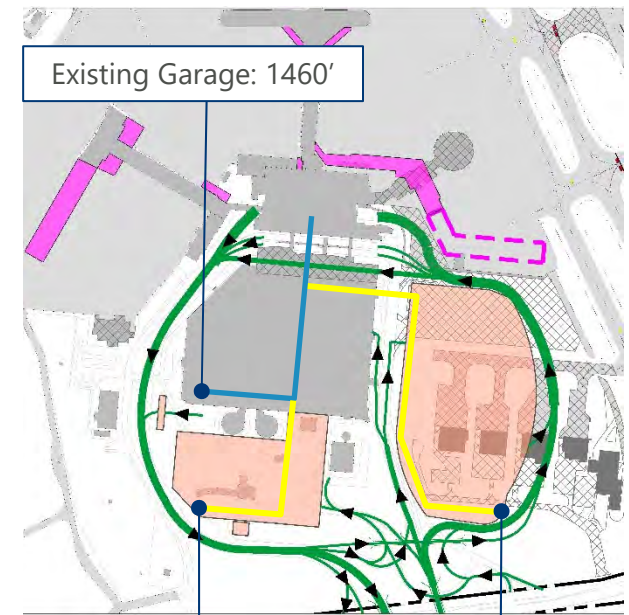


Existing Garage: 1,460'

Extended Garage: 1,650'

Future Parking Structure: 3,030'

Alternative C



Existing Garage: 1460'

Extended Garage: 1,930'

Future Parking Structure: 2,340'

Non-aeronautical Land Use

REVIEW CRITERIA	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
Non-Aeronautical Developable Land (by Land Use)			
Industrial	175.2	185.9	171.5
Hotel	6.3	2.8	10.3
Retail	14.4	28.2	14.0
TOTAL	195.8 Acres	216.9 Acres	195.8 Acres
Key Non-Aeronautical Development Sites			
Layton Avenue & Howell (Northeast Corner Site)	<p>This Site has the greatest non-aeronautical development potential, aside from industrial sites.</p> <p>Retail, hospitality, and/or office uses align with Aerotropolis Plan and market feedback.</p> <p>Alternative A reserves a portion of site for non-aeronautical development. It appears that access and visibility from Layout Avenue would be sufficient for small scale retail development.</p>	<p>This Site has the greatest non-aeronautical development potential, aside from industrial sites.</p> <p>Retail, hospitality, and/or office uses align with Aerotropolis Plan and market feedback.</p> <p>Alternative B reserves the entire site for non-aeronautical development, ensuring access and visibility from Layton Avenue and a larger site to accommodate a mix of uses.</p>	Not available in Alternative C
College Avenue & Howell Avenue (Northeast Corner Site)	<p>Acquisition of the College Avenue & Howell Avenue Site will be important for unlocking the long-term redevelopment potential of the MKE Regional Business Park.</p> <p>Given the access and visibility from College and Howell Avenues, there may be potential for industrial and/or retail development.</p>	Not available in Alternative B	Not available in Alternative C
Key Non-Aeronautical Development Goals			
Enhancing the Airport Entrance	<p>Multiple non-aeronautical sites along Howell Avenue provide potential for a cluster of hospitality and retail development to enhance the Airport entrances for travelers and employees.</p>	<p>Fewer sites along Howell Avenue offer less potential for a hospitality/retail cluster at the Airport entrance.</p> <p>Instead, non-aeronautical development will likely concentrate near existing hotels on Howell Avenue (south of the Airport entrance) or near the Layton Avenue and Howell Avenue Site (northeast corner).</p>	<p>Multiple non-aeronautical sites along Howell Avenue provide potential for a cluster of hospitality and retail development to enhance the Airport entrances for travelers and employees.</p> <p>These sites are largest in Alternative C, offering the most potential at the Airport entrance for non-aeronautical development.</p>

Cargo Considerations

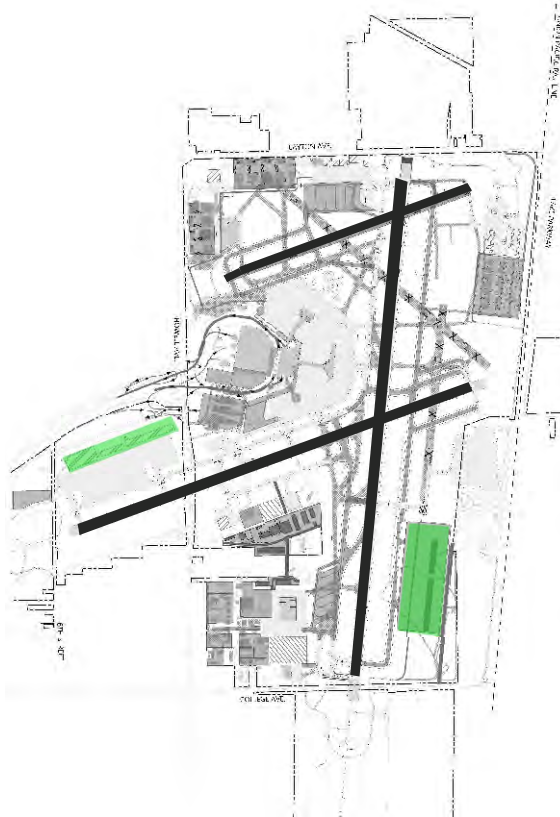


Cargo Locations

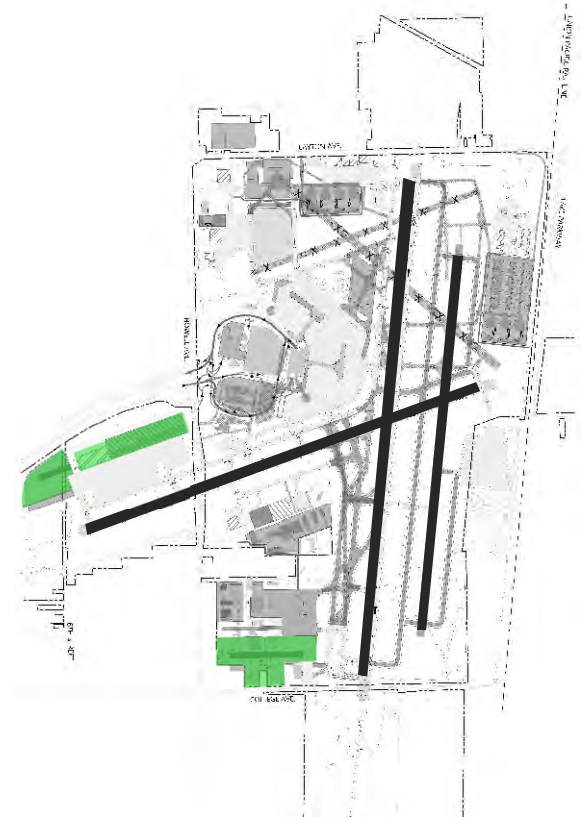
Alternative A



Alternative B



Alternative C



Cargo Taxi Routing

Alternative A



Alternative B

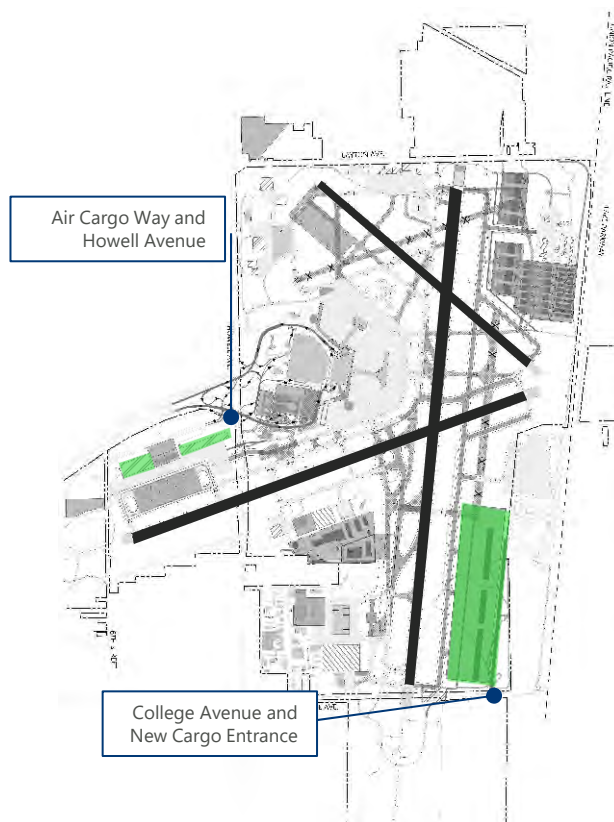


Alternative C

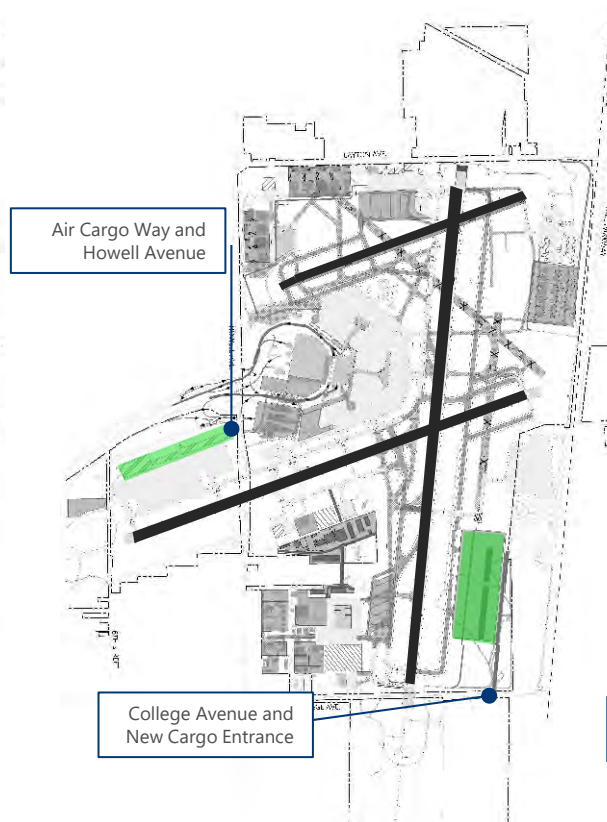


Primary Cargo Access Points

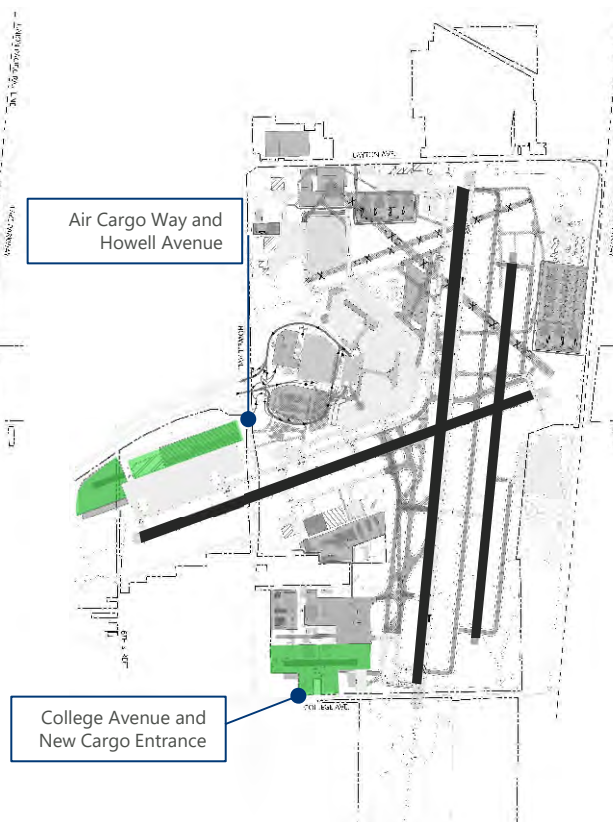
Alternative A



Alternative B



Alternative C



General Aviation Considerations



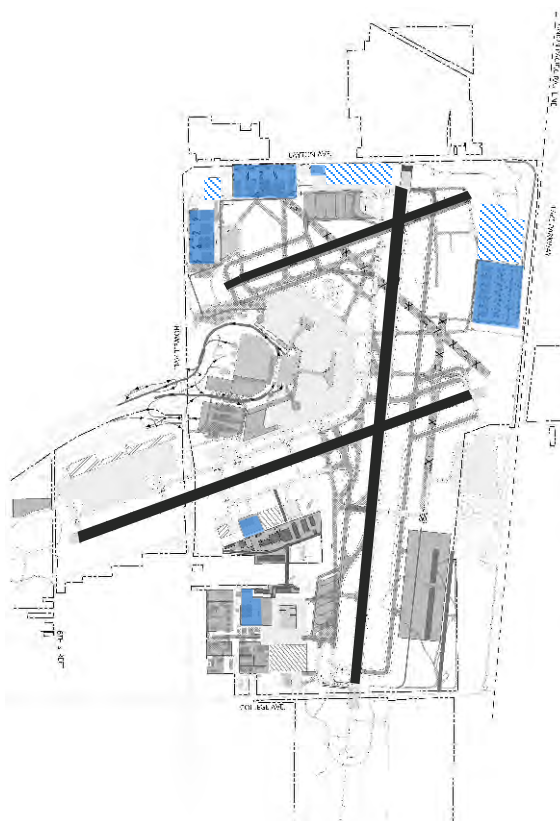
General Aviation Locations

Alternative A



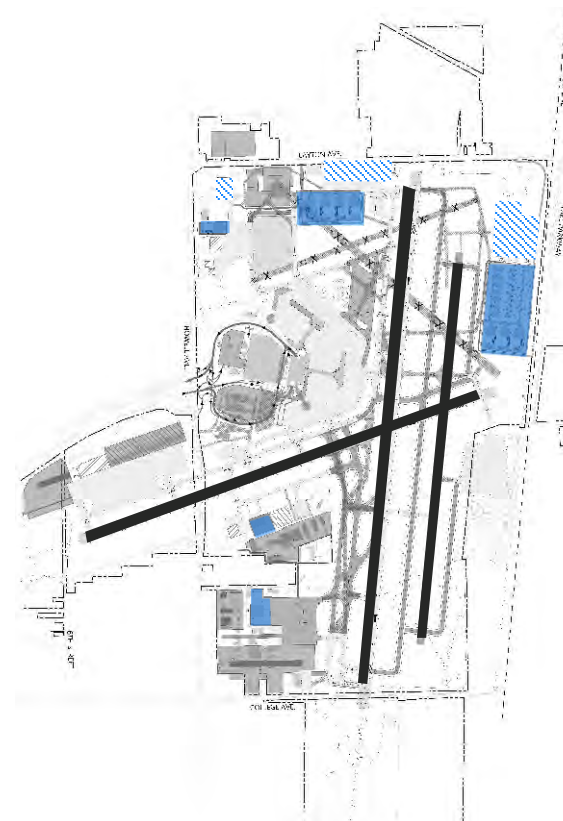
- Northwest 5% • Northeast 75%
- Southwest 10% • Southeast 0%

Alternative B



- Northwest 45% • Northeast 45%
- Southwest 10% • Southeast 0%

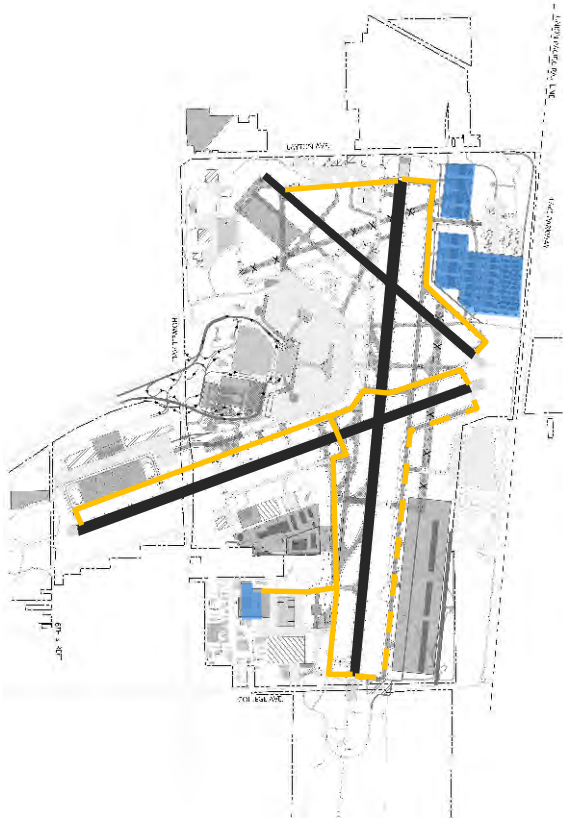
Alternative C



- Northwest 35% • Northeast 55%
- Southwest 10% • Southeast 0%

General Aviation Taxi Flows

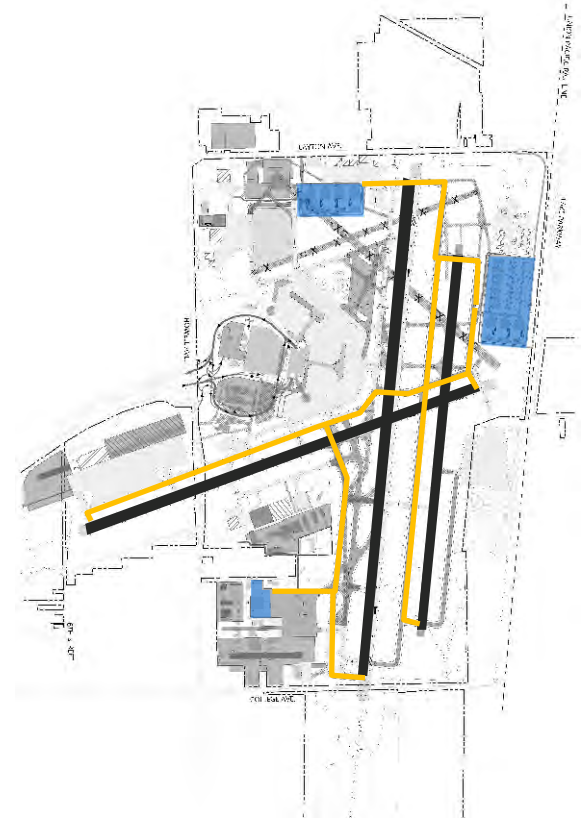
Alternative A



Alternative B

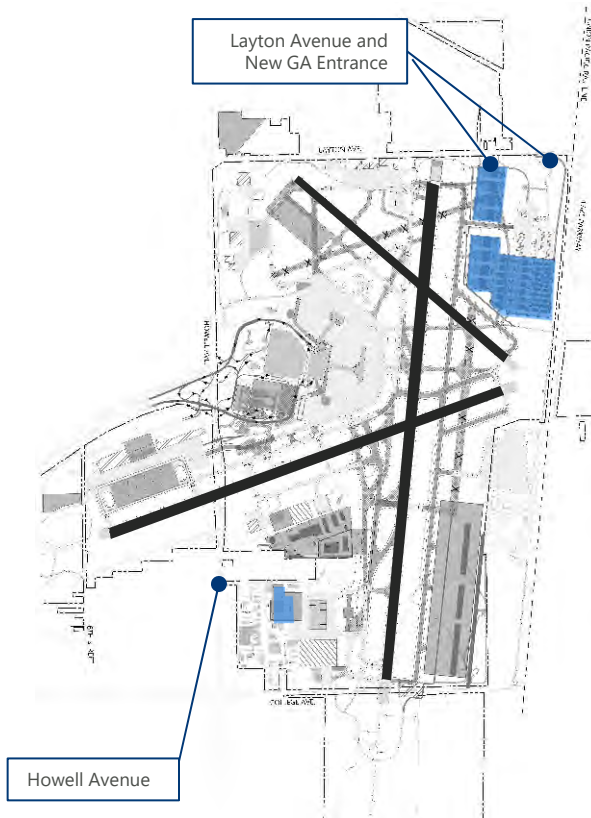


Alternative C

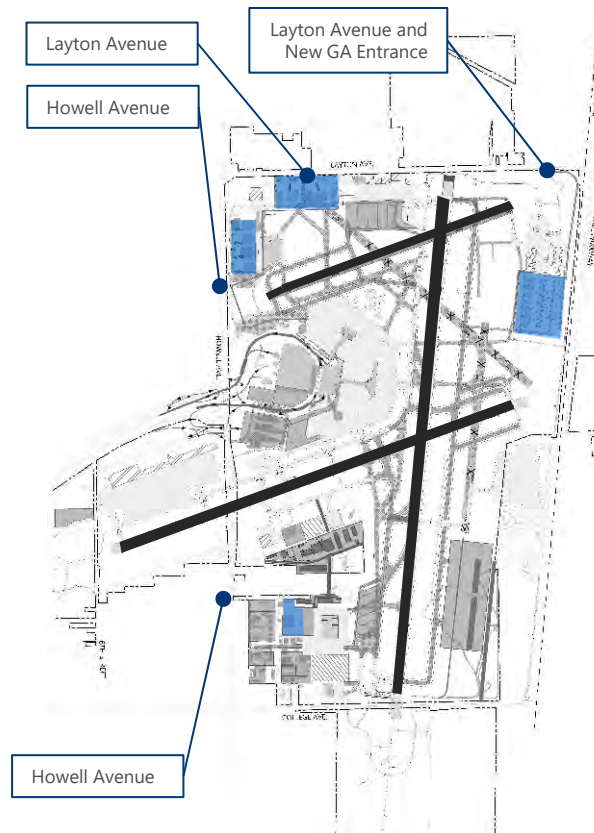


General Aviation Primary Access Points

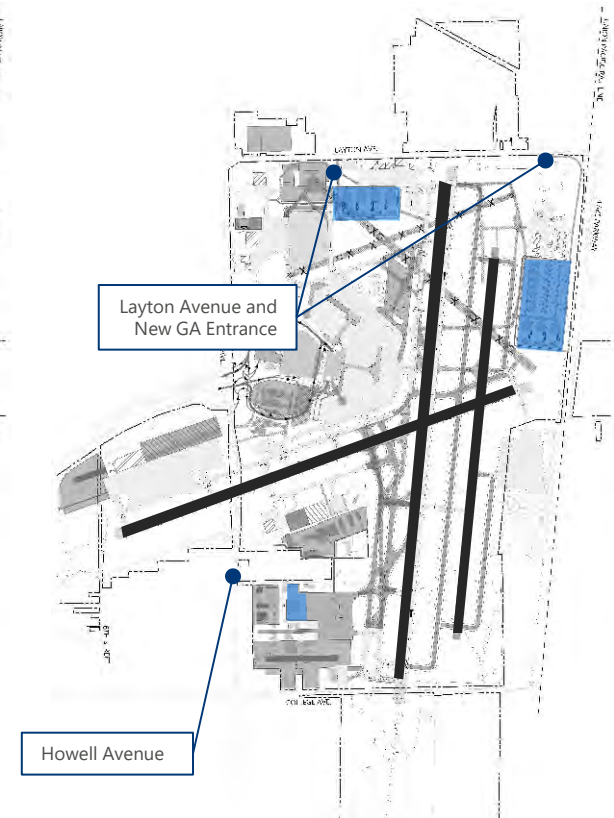
Alternative A



Alternative B



Alternative C



Additional Support Facilities



Aircraft and Airport Maintenance Areas

Alternative A



Alternative B



Alternative C



Legend

■ Aircraft Maintenance ■ Airport Maintenance

Working Session



Alternative A Review



Advantages

- Allows WiANG facility expansion
- Provides enhanced taxi capabilities on east side of airport (military and supports future cargo area)
- Reuses existing deicing facilities (7R pad)
- Allows for diversity of development in MKE Regional Business Park




Disadvantages

- Entails longer taxi distances from deice pads
- Relies on land exchange with WiANG
- Potential WiANG facility expansion may increase noise exposure (additional aircraft operations)
- Dual parallel Taxiways R/Q (ultimate) would require relocation of SRE staging area and compass pad
- Requires eastward extension of College Ave. tunnel (VSR reroute and future taxiway OFA)
- Limited airfield capacity when RW 13-31 in use
- Howell Avenue bridge relocation required (1 of 2)
- Upgrade of RW 13-31 to ADG C-III (greater than 500 annual operations) requires use of declared distances

Alternative A Review

Tradeoffs

- 
- New Cargo development (SE Quadrant) **versus** Redevelopment of MKE Regional Business Park
 - Ultimate terminal development potential **versus** ultimate airfield capacity
 - RW 13-31 alignment has limited but valuable utility **versus** long-term airfield capacity
 - Dedicated use of 7R deice pad **versus** taxiway and service road bridge structure required for efficient use of deice pad
 - Consolidated joint use (rental car & parking) facility in core area **versus** relocation of surface parking component to Layton/Howell parcel (limits commercial development, requires busing operation, competitive environment with private parking operators)

Alternative B Review



Advantages

- Allows WiANG facility expansion
- RW 7L availability supports segregation of GA traffic (current ATC preference)
- Parcel at Howell/Layton available for revenue-generating development
- Configuration has potential for growth in long-term airfield capacity
- Campus-type development allows for incremental expansion of clustered activity



Disadvantages

- Potential WiANG facility expansion may increase noise exposure (additional aircraft operations)
- Dual parallel Taxiways R/Q constrained by south deicing pad
- SE Cargo aircraft RW 1L departures can't utilize full length runway departure (~300-foot reduction due to taxiway configuration)
- Howell Avenue bridge relocation required (1 of 2)
- Alternative with most limited gate potential for ultimate capacity
- Air Cargo Way egress to I-94 circulates via Grange Avenue

Alternative B Review

Tradeoffs



- Maintenance/MRO campus consolidates similar activities **versus** other redevelopment of MKE Regional Business Park (aeronautical versus non-aeronautical)
- Ultimate airfield capacity (post 2040) **limited** by physical constraint of Howell Avenue (capability limited to aircraft that can utilize ~5,100 feet)
- MKE Regional Business Park is fully redeveloped, **limits** the ability to accommodate "Next Big Thing"

Alternative C Review

Advantages



- Maximum achievable ultimate airfield capacity
- Maximum achievable runway length potential
- Separation of Airport Maintenance from County Highway Department facilities/operations
- Remote CONRAC does not impose traffic burden on terminal roadway system
- Relocation of parking garage exit plaza allows for metered traffic flow on terminal exit roadway
- RON parking positions adjacent to terminal apron
- Runway configuration well suited for predominant winter operations (North Flow)

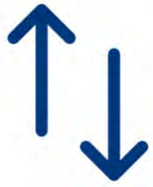
Disadvantages



- RTR relocation required by centralized deice facility (and fuel farm roadway)
- Aircraft originating in NW corner must circulate adjacent to terminal area due to landside road connection to Layton Ave (GA vehicle traffic)
- Long walking distances to expanded parking garage area

Alternative C Review

Tradeoffs



- Cargo campus consolidates similar activities **versus** other redevelopment of MKE Regional Business Park (aeronautical versus non-aeronautical)
- Relocation of County Highway Department allows for consolidated maintenance campus **versus** limits potential future development in MKE Regional Business Park
- Parking expansion in core area **drives** relocation of rental car facilities out of core area
- Consolidated rental car facility **versus** non-aeronautical development of Layton/Howell parcels

Discussion of Concept Preferences

(switch to spreadsheet)



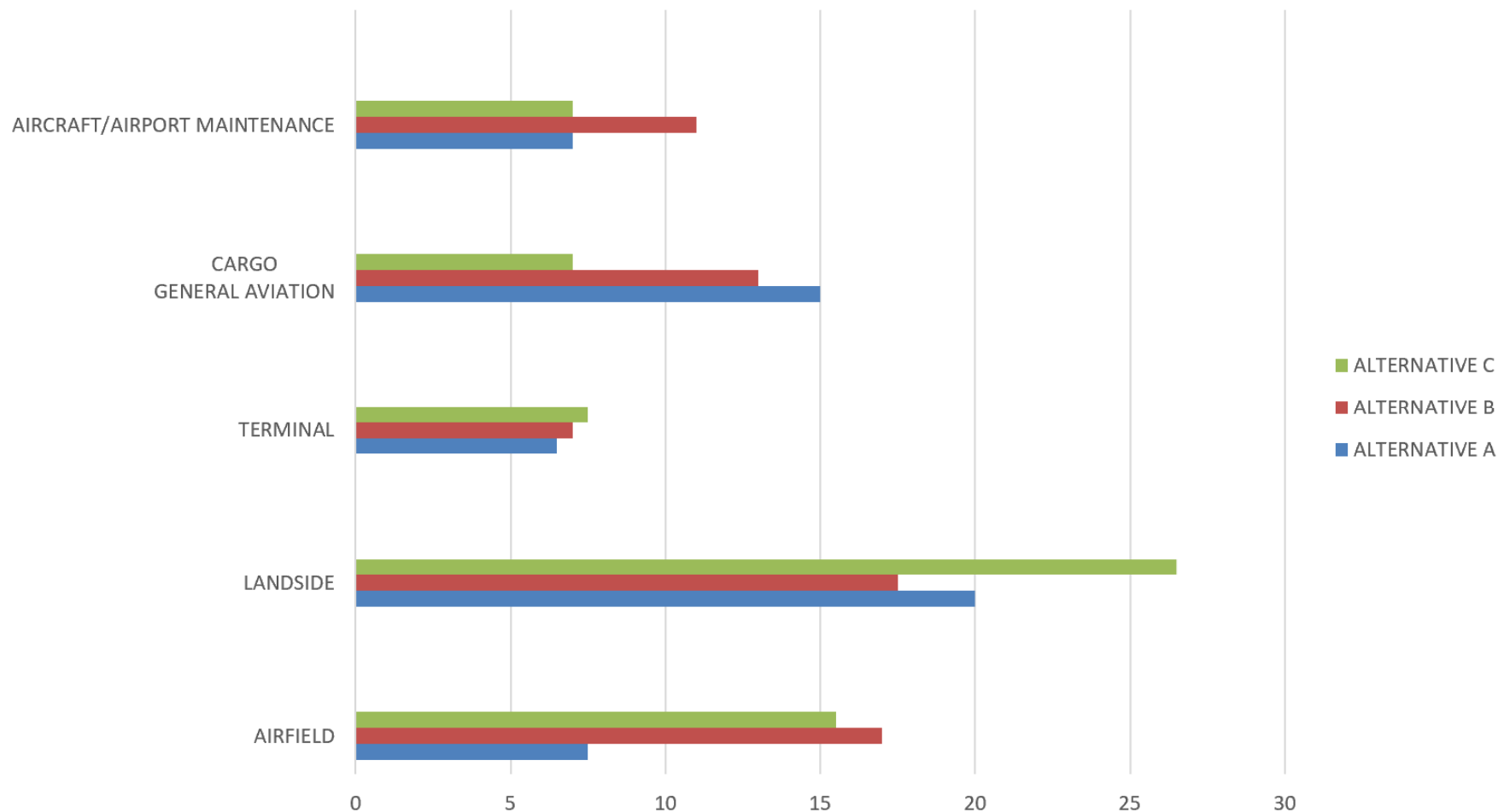
Alternative Preferences

- Primary drivers of alternative selection
 - Airside (runways and supporting taxiway network)
 - Landside Facilities
- Selected Preferred Alternative can vary from the “best scoring” option

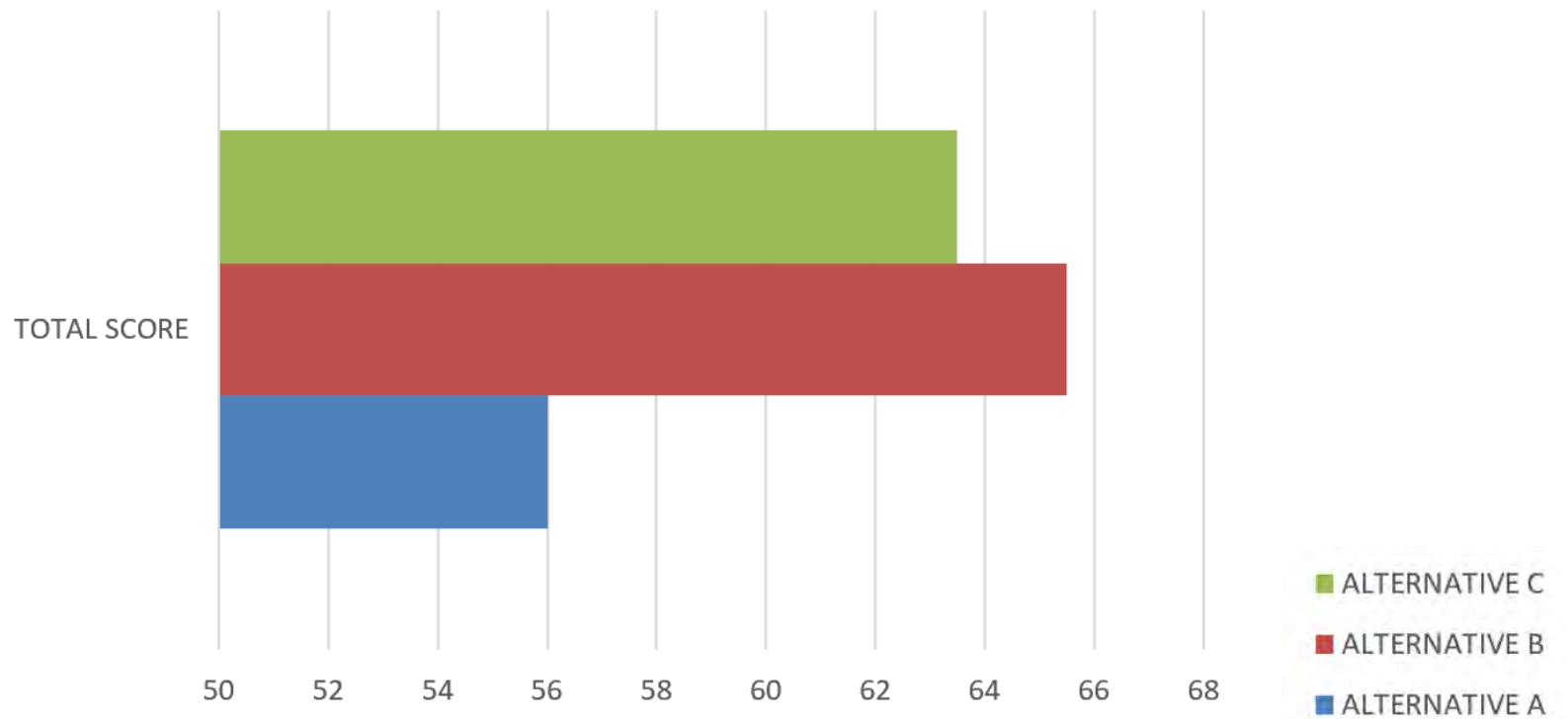
ALTERNATIVE PREFERENCES																																				
MKE REPRESENTATIVE	AIRSIDE						LANDSIDE														TERMINAL			CARGO			GENERAL AVIATION			AIRCRAFT MAINTENANCE			AIRPORT MAINTENANCE			
	AIRFIELD			DEICE FACILITIES			ROADWAY			CURBSIDE			PARKING			RENTAL CAR			TERMINAL			CARGO			GENERAL AVIATION			AIRCRAFT MAINTENANCE			AIRPORT MAINTENANCE					
	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C			
C. Baker																																				
K. Berry																																				
K. David																																				
B. Dranzik																																				
G. Failey																																				
J. Forro																																				
D. Gelting																																				
J. Grava																																				
M. Hoffman																																				
J. Martin																																				
H. Mester																																				
S. Nadolny																																				
T. Pearson																																				
P. Rowe																																				
A. Shoemaker																																				
T. Torcivia																																				
J. Trapp																																				
C. Turk																																				
G. Waszak																																				
J. Zsebe																																				
SAMPLE	3	2	1																																	
SUBTOTAL	0	0	0	0	0				0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
COUNT: 1	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
COUNT: 2	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
COUNT: 3	0	0	0	0	0	0			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Example → Switch to separate spreadsheet

Summary Evaluation (by Facility Type)



Summary Evaluation (Overall Concept)



Next Steps

- Following this working session
 - Present three shortlisted alternatives to TAG and SAG for feedback
 - Present three shortlisted alternatives and Preferred Alternative to the public (Public Open House #4)
 - Refine Preferred Alternative
- Master Plan Process
 - Prepare implementation plan
 - Prepare environmental overview
 - Draft Capital Improvement Program (CIP)
 - Prepare ALP and Narrative Report (FAA signs and approves ALP)
 - FAA ALP review period: up to 180 days
 - Finalize and submit Master Plan report

Workshop #4 Conclusion Review

August 25, 2020

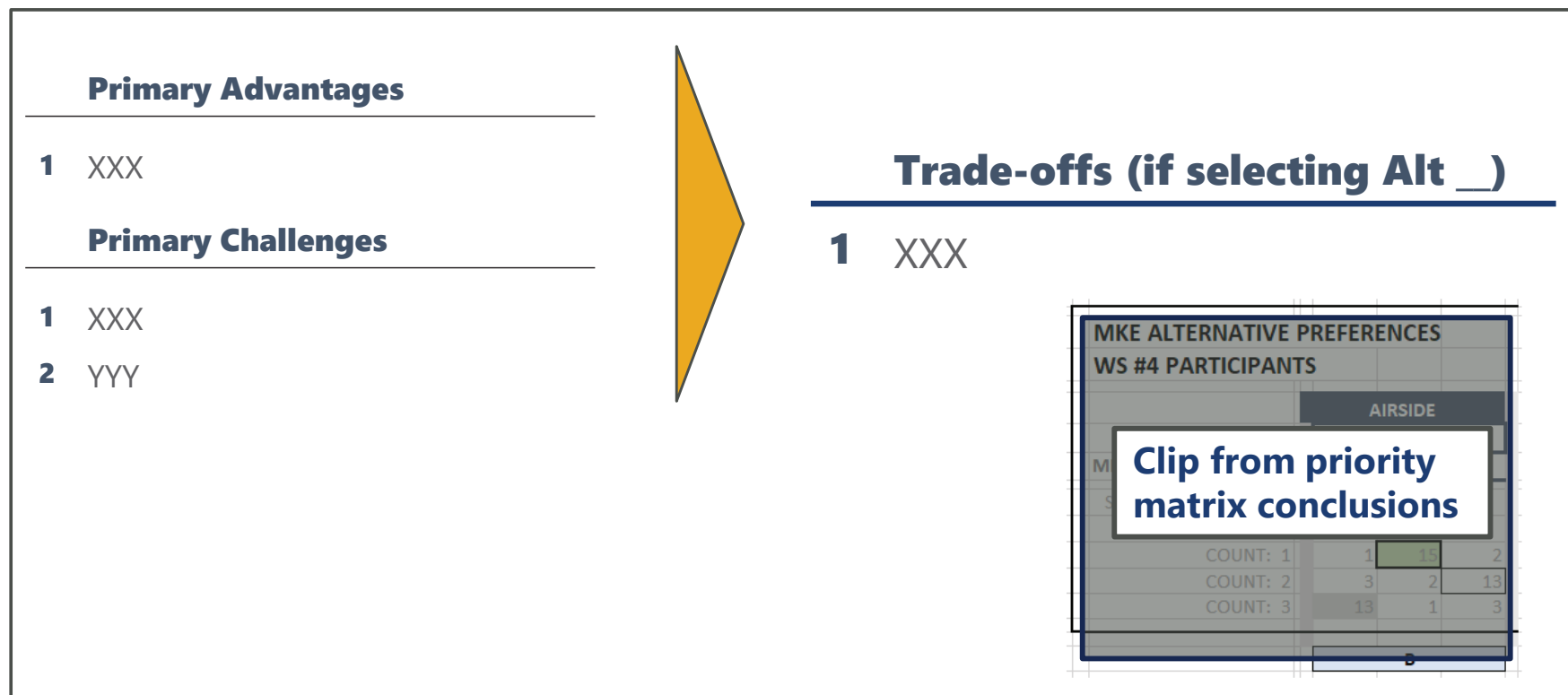


MASTER PLAN **2040**



Objectives

- Review conclusions of component preferences
- Final input
- Confirmation of preferred alternative (subject to refinement)
- Template: presentation of facility conclusions



Airfield and Deice Pad Results



Airfield Conclusion – Alternative A

Primary Advantages

- 1 Operational flexibility during limited but specific weather conditions
- 2 Accommodates deice pad in north airfield
- 3 Decommissioned RW 1R-19L has lowest PCI values

Primary Challenges

- 1 No long-term capacity potential
- 2 Without availability of RW 7L-25R, reduction in current capacity (ASV)
- 3 Post-2040, future capacity likely to require substantial land acquisition (future parallel RW 7-25)
- 4 More regular and intensive use of runway (>500 annual operations) may affect critical aircraft designation and required dimensional and operational standards



Trade-offs (if selecting Alt A)

- 1 Reduced (existing) capacity and long-term capacity constraint are significant limitations balanced against limited utility of Runway 13-31

MKE ALTERNATIVE PREFERENCES			
WS #4 PARTICIPANTS			
	AIRSIDE		
	AIRFIELD		
MKE REPRESENTATIVE	A	B	C
SUBTOTAL (Low Score)	23	31	
COUNT: 1	13	6	
COUNT: 2	5	11	
COUNT: 3	0	1	
	B		

Airfield Conclusion – Alternative B

Primary Advantages

- 1 Maintains existing capacity (annual service volume (ASV))
- 2 With on-airport extension to 5,100 feet (RW 7L-25R), incremental capacity gain anticipated
- 3 Supports operational segregation of GA traffic
- 4 Accommodates deice pad in north airfield (runway crossing required)
- 5 RW 7L-25R: favorable PCI values



Trade-offs (if selecting Alt B)

- 1 Long-term capacity increase limited without land acquisition (to accommodate air carrier aircraft)

Primary Challenges

- 1 Post-2040, future capacity likely to require land acquisition (extension over Howell Ave or future parallel RW 7-25)
- 2 Limited 7L-25R extension capability (on-airport)

MKE ALTERNATIVE PREFERENCES			
WS #4 PARTICIPANTS			
	AIRSIDE		
	AIRFIELD		
MKE REPRESENTATIVE	A	B	C
SUBTOTAL (Low Score)		23	31
COUNT: 1		13	6
COUNT: 2		5	11
COUNT: 3		0	1
	B		

Airfield Conclusion – Alternative C

Primary Advantages

- 1 Provides maximum long-term capacity
- 2 Allows incremental RW extensions to meet fleet evolution
- 3 Deicing adjacent to terminal gate area

Primary Challenges

- 1 Condition of RW 1R-19L pavement (capital investment needed) → reconstruct aging asset
- 2 Parallel TW needed between 1-19 runways (significant capital investment)
- 3 Limits adjacent land uses (WiANG)
- 4 RW crossing for component of GA activity

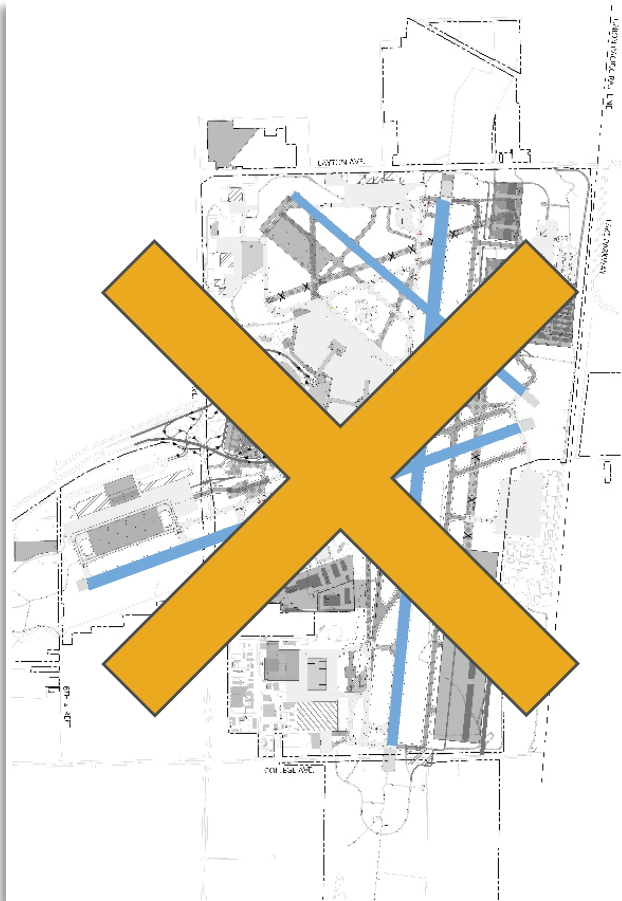


Trade-offs (if selecting Alt C)

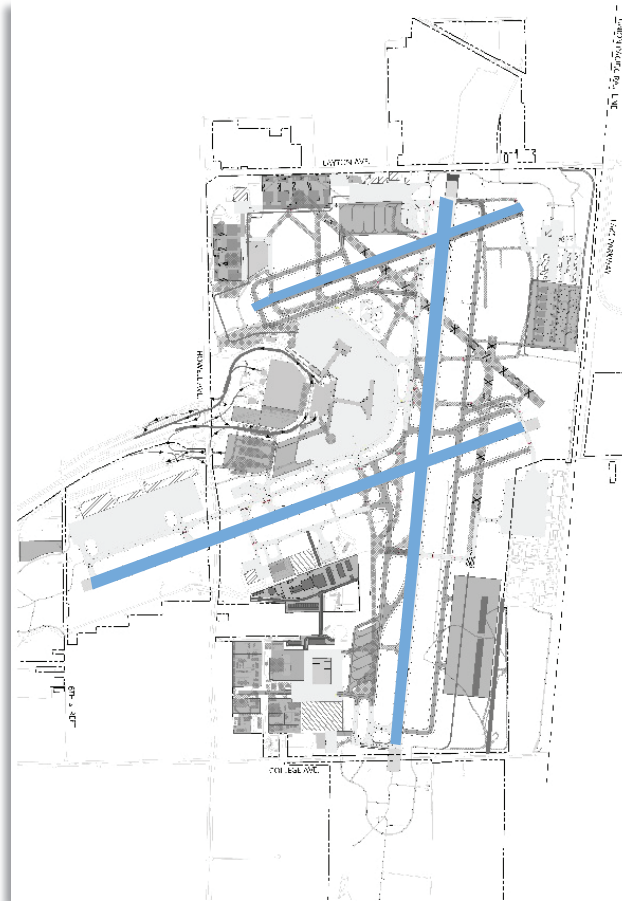
- 1 Significant near-term capital investment required; protects long-term capacity growth potential

MKE ALTERNATIVE PREFERENCES			
WS #4 PARTICIPANTS			
	AIRSIDE		
	AIRFIELD		
MKE REPRESENTATIVE	A	B	C
SUBTOTAL (Low Score)		23	31
COUNT: 1		13	6
COUNT: 2		5	11
COUNT: 3		0	1
	B		

Airfield Conclusion



Alternative A



Alternative B



Alternative C

NOTE: 10-foot extension of RW 1L-19R (10,000-foot total runway length) at north end is preferred (WS #4) and will be incorporated into concept.

Deice Pad

Deice Pad Conclusion – Alternative A

Primary Advantages

- 1 7R deice pad is existing with deicing fluid collection system

Primary Challenges

- 1 Efficient use of 7R deice pad requires TW bridge over Howell Ave and relocation of compass pad (substantial cost driver)
- 2 No dedicated deice pad at RW 1L (a primary winter departure runway)
- 3 North deice pad requires modification to accommodate Airfield Alternative B



Trade-offs (if selecting Alt A)

- 1 Significant capital investment needed for efficient use of 7R deice pad (taxiway bridge, VSR bridge over Howell Ave)

MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	AIRSIDE DEICE FACILITIES		
	A	B	C
SUBTOTAL (Low Score)	46	22	37
COUNT: 1	1	15	2
COUNT: 2	3	2	13
COUNT: 3	13	1	3
B			

Deice Pad Conclusion – Alternative B

Primary Advantages

- 1 Deice pads at both ends of RW 1L-19R (primary winter runway)

Primary Challenges

- 1 South deice pad configuration constrains options for future dual parallel taxiway (R and Q) to support RW 1L-19R and MKE Regional Business Park (if developed for aeronautical uses)
- 2 Proximity of north deice pad to residential area (north of Layton Ave) anticipated to create community concern



Trade-offs (if selecting Alt B)

- 1 Future dual parallel taxiway to support RW 1L-19R constrained by future south deice pad
- 2 Anticipated community opposition to north deice pad

MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	AIRSIDE DEICE FACILITIES		
	A	B	C
SUBTOTAL (Low Score)	46	22	37
COUNT: 1	1	15	2
COUNT: 2	3	2	13
COUNT: 3	13	1	3
B			

Deice Pad Conclusion – Alternative C

Primary Advantages

- 1 Deicing adjacent to terminal gate area
- 2 Accommodates future dual parallel taxiway system to RW 1L (TWs R and Q)

Primary Challenges

- 1 Limited capacity of south deice pad (potential to expand with future relocation of burn pit)
- 2 North deice pad requires modification to accommodate Airfield Alternative B (reduction in size/capacity)

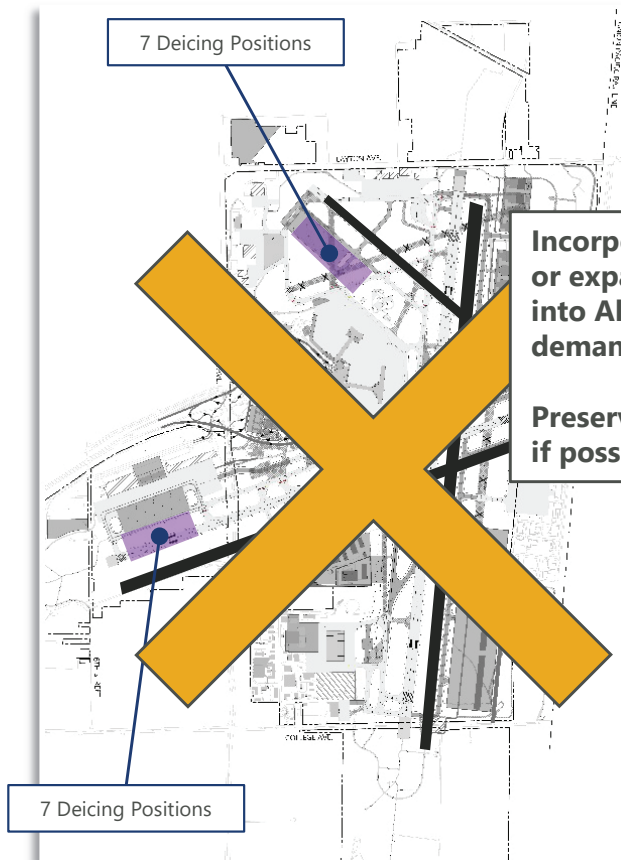


Trade-offs (if selecting Alt C)

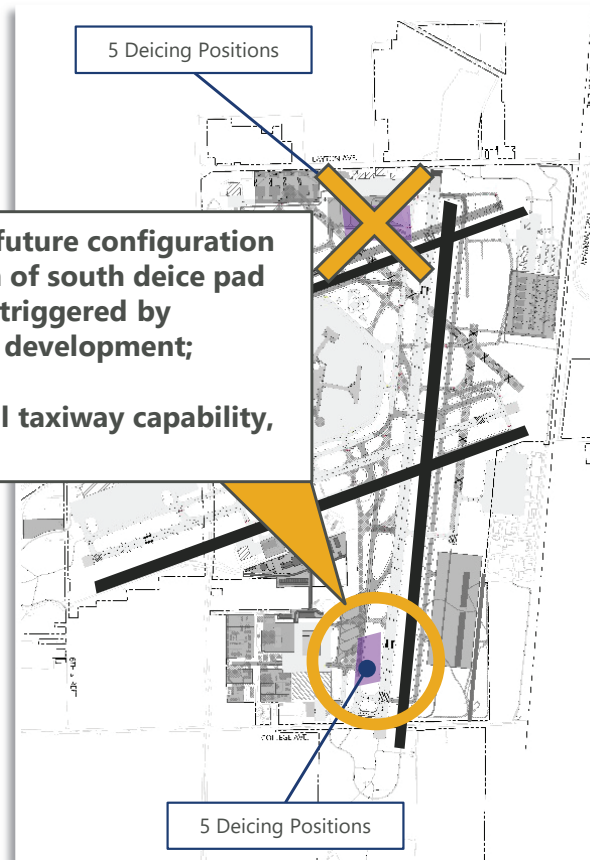
- 1 Modification to north deice pad
- 2 Restricted development potential in portion of MKE Regional Business Park

MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	AIRSIDE DEICE FACILITIES		
	A	B	C
SUBTOTAL (Low Score)	46	22	37
COUNT: 1	1	15	2
COUNT: 2	3	2	13
COUNT: 3	13	1	3
B			

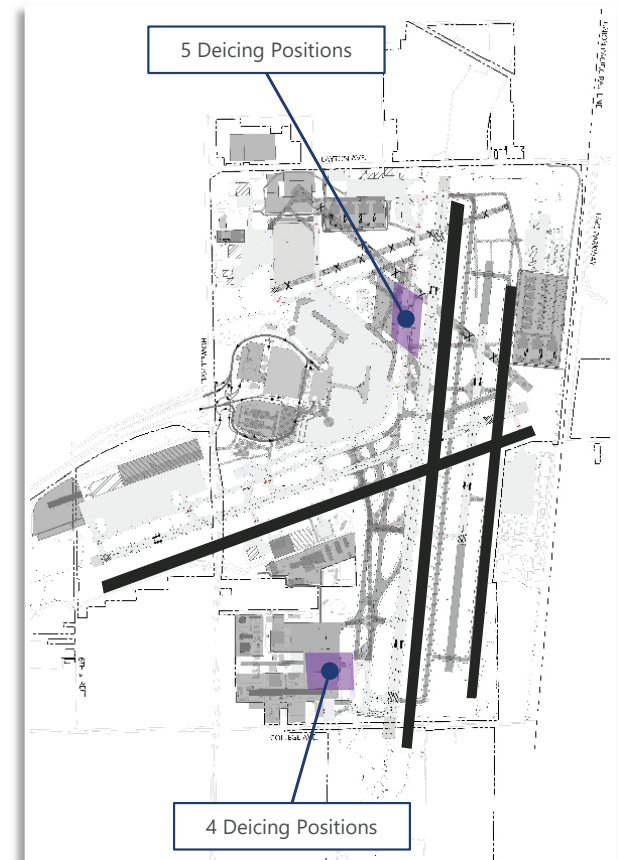
Deicing Facilities Conclusion



Alternative A



Alternative B



Alternative C
(Modified)

Terminal

Terminal Results



Terminal Conclusion – Alternative A

Primary Advantages

- 1 Minimal dependency on roadway improvements (timing/phasing advantage)
- 2 Compatible with Landside Alternatives B and C (flexibility)

Primary Challenges

- 1 Requires modification (expansion of Conc. E) to accommodate Airfield Alternative B (RW 7L-25R); reduces long-term gate capability
- 2 Operational complexity in the area of Conc. C and Conc. B when paired with Airfield Alternative B (RW 7L-25R)
- 3 Requires relocation or reconstruction of Airport Admin facility (third level of future concourse); reduces phasing flexibility



Trade-offs (if selecting Alt A)

- 1 Reduction in long-term gate expansion capability if (RW 7L-25R limits gate expansion)
- 2 Relocation or reconstruction of Airport Admin Facility increases capital need without improving capacity or operational efficiency

MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	TERMINAL		
	A	B	C
SUBTOTAL (Low Score)	35	35	35
COUNT: 1	5	3	5
COUNT: 2	6	3	9
COUNT: 3	6	7	4
B			

Terminal Conclusion – Alternative B

Primary Advantages

- 1 General compatibility with existing roadway and landside facilities
- 2 Allows incremental (demand driven) expansion of Concourse E gates
- 3 Concentrates new gates on south side of terminal complex, closer to primary runways used by air carriers

Primary Challenges

- 1 Not compatible with Landside Alternatives A or C without significant modification
- 2 Displaces DL GSE building



Trade-offs (if selecting Alt B)

- 1 Impact to footprint of landside facilities (parking and/or rental car)

MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	TERMINAL		
	A	B	C
SUBTOTAL (Low Score)	35	35	35
COUNT: 1	5	3	5
COUNT: 2	6	3	9
COUNT: 3	6	7	4
B			

Terminal Conclusion – Alternative C

Primary Advantages

- 1 Compatible with Landside Alternatives A and B (flexibility)
- 2 Allows incremental RW extensions to meet anticipated fleet evolution
- 3 Provides maximum terminal expansion potential
- 4 Deicing adjacent to terminal gate area

Primary Challenges

- 1 Puts additional passenger circulation demand on Concourse C "stem"; potential for widening concourse to accommodate circulation demand
- 2 Operational complexity in the area of extended Conc. C when paired with Airfield Alternative B (RW 7L-25R)
- 3 Concourse C gates taken out of service during construction



Trade-offs (if selecting Alt C)

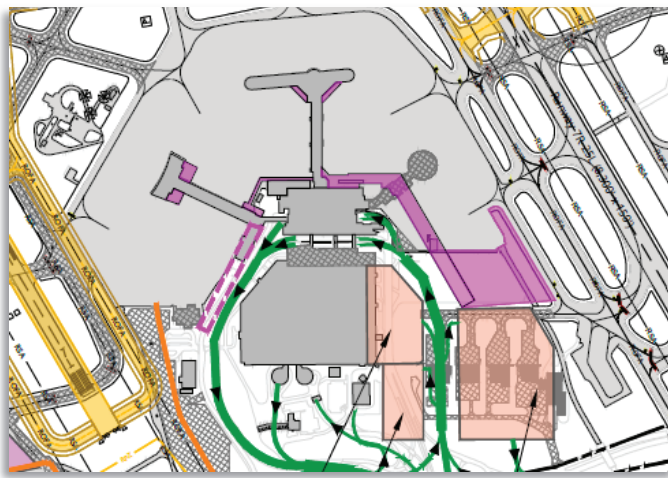
- 1 Footprint of expanded Concourse C requires modification to accommodate Airfield Alternative B (RW 7L-25R)

MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	TERMINAL		
	A	B	C
SUBTOTAL (Low Score)	35	35	35
COUNT: 1	5	3	5
COUNT: 2	6	3	9
COUNT: 3	6	7	4
B			

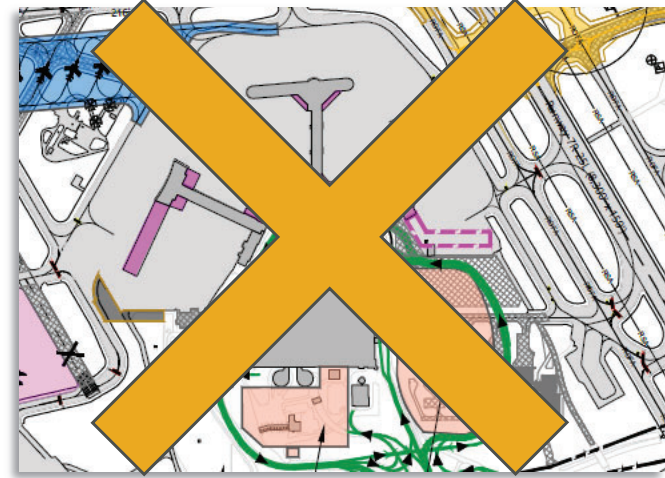
Terminal Conclusion



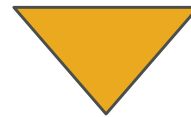
Alternative A



Alternative B



Alternative C



Roadway

Landside Results

Roadway



Roadway Conclusion – Alternative A

Primary Advantages

- 1 Enhanced segregation of inbound traffic (increased decision times and longer weave distances)
- 2 Roadway improvements west of Howell Ave allow roadway elements to be more widely dispersed

Primary Challenges

- 1 Affordability of bridging Howell Ave and Air Cargo Way; increased on-Airport roadway lengths
- 2 Impact to Super Saver B Lot (limited reduction in parking capacity)
- 3 Implementation timing given the coordination necessary for modifications to Airport Spur (bridging over Howell Ave) and roadway improvements west of Howell Ave
- 4 Circuitous roadway routings
- 5 Limited incremental phasing opportunities (commitment to bridge and roadway configuration required)



Trade-offs (if selecting Alt A)

- 1 Increased roadway footprint and traffic segregation challenges affordability
- 2 Timing and cost uncertainties for roadway modifications off MKE property
- 3 Large-scale “program” necessary (financial commitment) due to inability to incrementally construct

MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	LANDSIDE ROADWAY		
	A	B	C
SUBTOTAL (Low Score)	35	36	34
COUNT: 1	5	7	6
COUNT: 2	6	4	8
COUNT: 3	6	7	4
	B		C

Roadway Conclusion – Alternative B

Primary Advantages

- 1 Reduced complexity of Air Cargo Way and Howell Ave intersection (southward shift)
- 2 Main truck route from Air Cargo Way to Airport Spur improved (all right-hand turns, simplified entrance)

Primary Challenges

- 1 Affordability (widening of inbound Airport Spur bridge)
- 2 Required modification of Super Saver Lot A reduces available revenue-generating spaces



Trade-offs (if selecting Alt B)

- 1 Timing and cost uncertainties for roadway modifications off MKE property

MKE ALTERNATIVE PREFERENCES			
WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	LANDSIDE		
	ROADWAY		
	A	B	C
SUBTOTAL (Low Score)	35	36	34
COUNT: 1	5	7	6
COUNT: 2	6	4	8
COUNT: 3	6	7	4
	B		C

Roadway Conclusion – Alternative C

Primary Advantages

- 1** No impact to Airport Spur bridges
- 2** All roadway improvements are on-Airport
- 3** Relocated parking garage revenue/exit plaza enhances merge onto airport exit roadway
- 4** Implementation flexibility
- 5** Affordability (flyover bridge for recirculation is major cost item)

Primary Challenges

- 1** Expanded surface parking exits onto inbound terminal roadway putting all exiting vehicles through the core area
- 2** Limited improvement to intersection of Air Cargo Way and Howell Ave
- 3** Reuse of roadway elements limits entrance road geometry (turn radii, speeds)
- 4** Requires modification to accommodate Terminal Alternative B

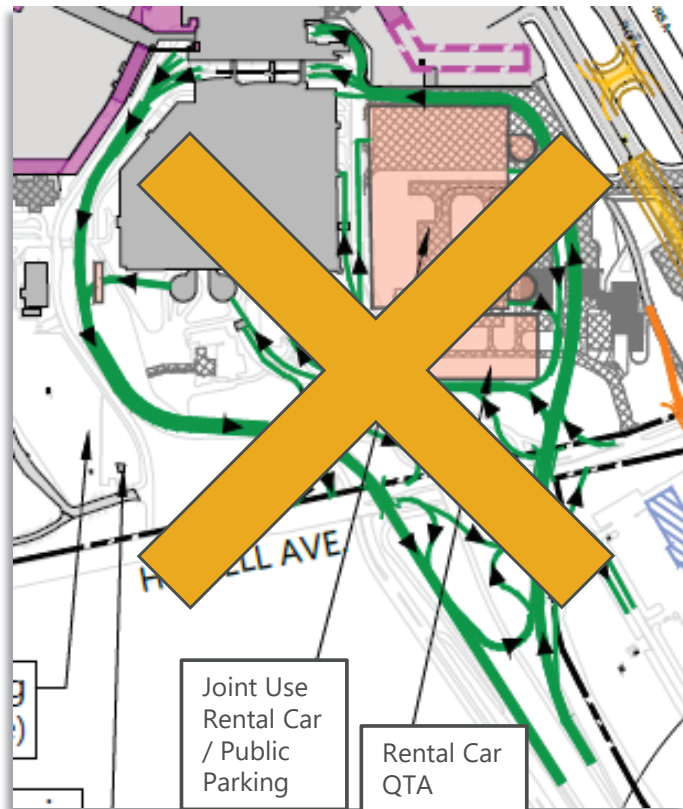


Trade-offs (if selecting Alt C)

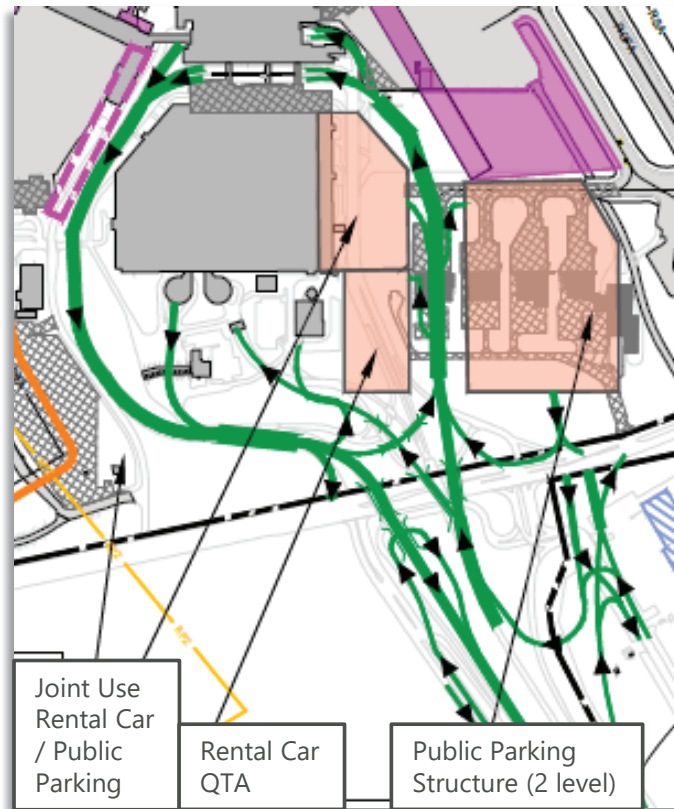
- 1 Enhanced affordability limits scope of roadway adjustments (tight turn radii)
- 2 Modification required to accommodate Terminal Alternative B (convert surface parking to structure)

MKE ALTERNATIVE PREFERENCES			
WS #4 PARTICIPANTS			
	LANDSIDE		
	ROADWAY		
MKE REPRESENTATIVE	A	B	C
SUBTOTAL (Low Score)	35	36	34
COUNT: 1	5	7	6
COUNT: 2	6	4	8
COUNT: 3	6	7	4
	B	C	

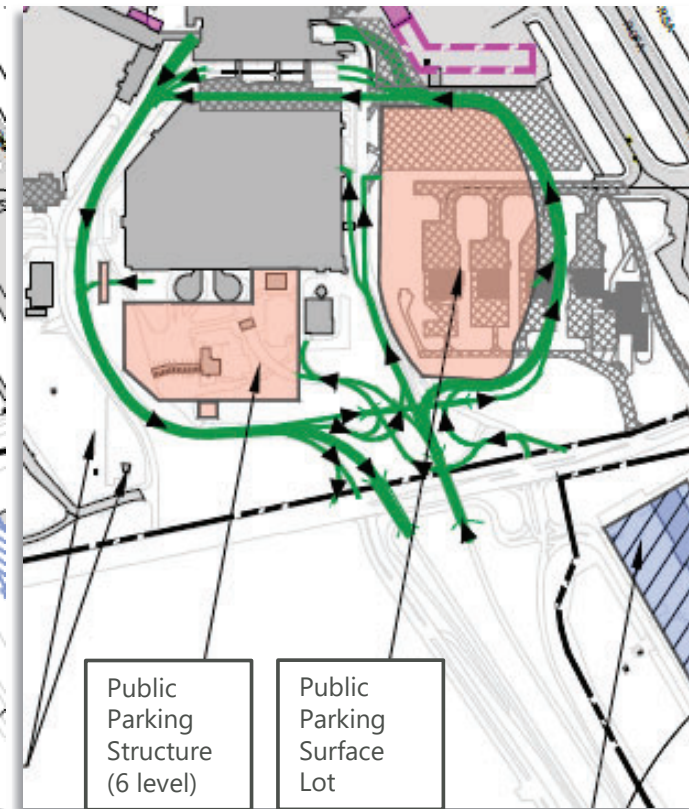
Roadway Conclusion



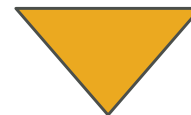
Alternative A



Alternative B



Alternative C



Parking

Roadway Overlay – Alternatives A, B, and C



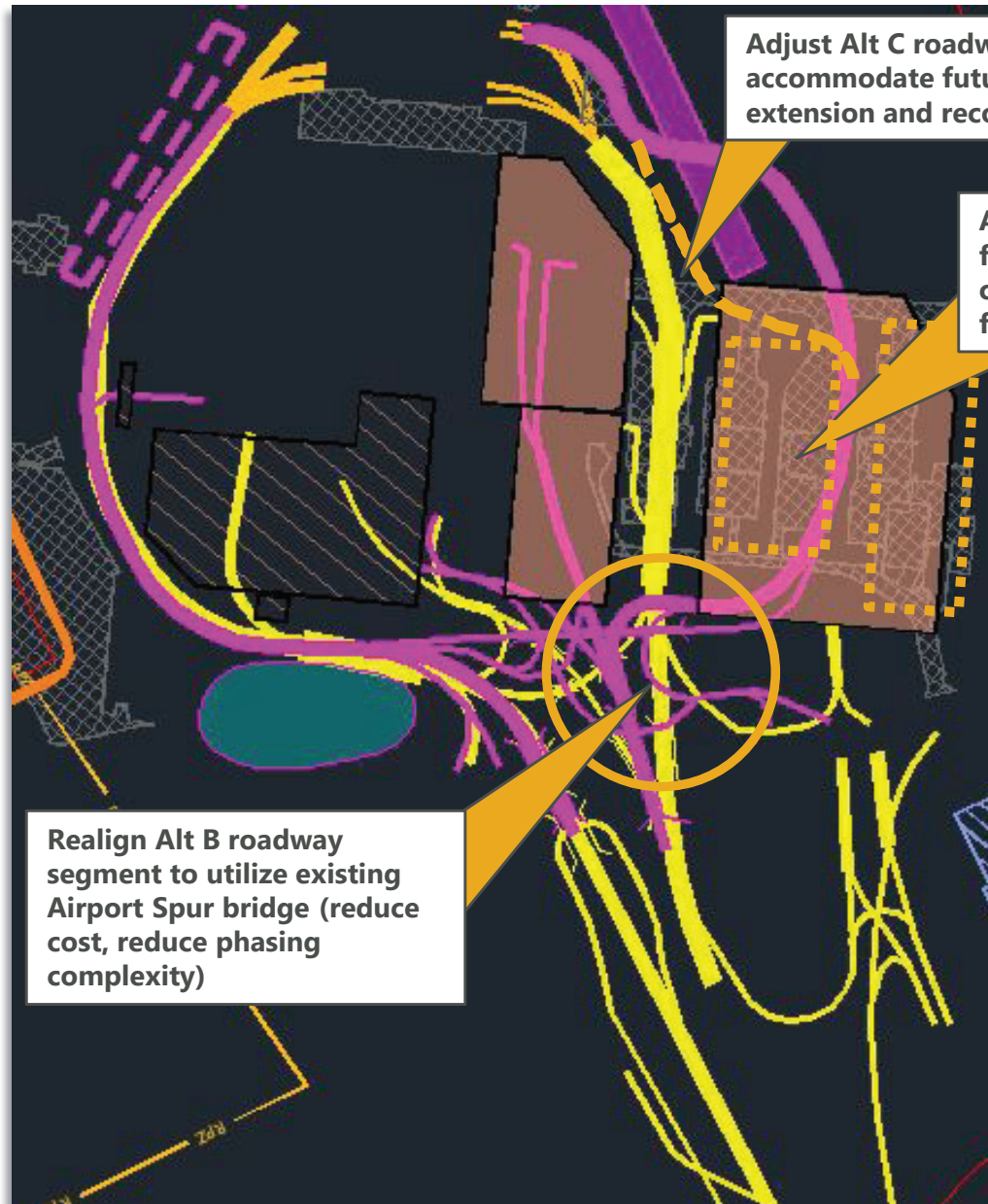
- Consider opportunities to adjust elements of roadway concepts to provide flexibility among concepts over long-term
- Timing of potential Airport Spur modifications limits ability to implement Alternative A in near- or mid-term
- Affected facilities
 - Terminal entrance roadway
 - Parking/rental car footprint
 - Air Cargo Way intersection

Alternative A

Alternative B

Alternative C

Roadway Overlay – Alternatives B and C



Adjust Alt C roadway alignment to accommodate future Concourse E extension and reconfigured parking facility

Adjust Alt C parking facility footprint and roadway configuration to accommodate future Concourse E extension

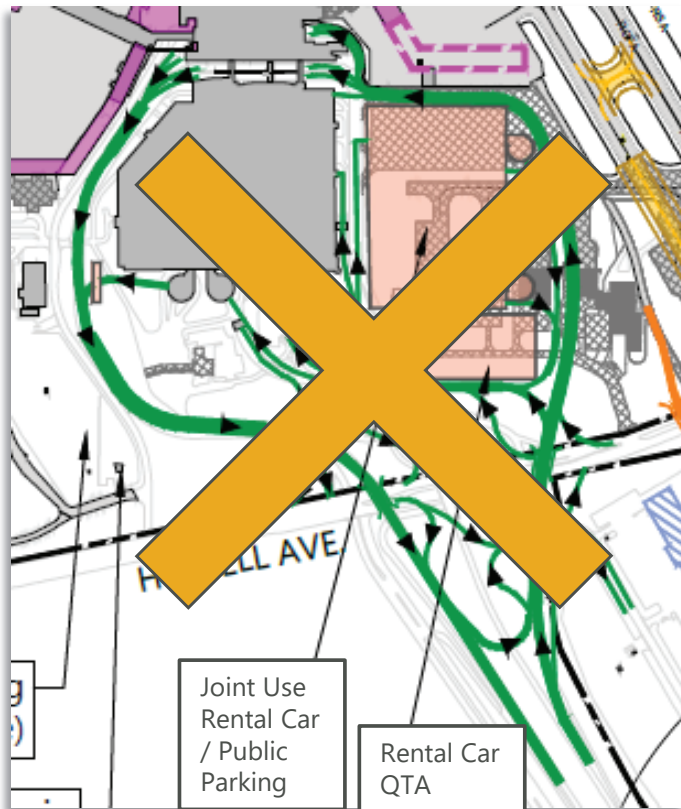
Realign Alt B roadway segment to utilize existing Airport Spur bridge (reduce cost, reduce phasing complexity)

- Phase parking alternative to accommodate Alt B or Alt C when improvement is triggered (separated structure(s))
- Protect ability to adjust roadway configuration to Alternative A if long-range WisDOT plans allow

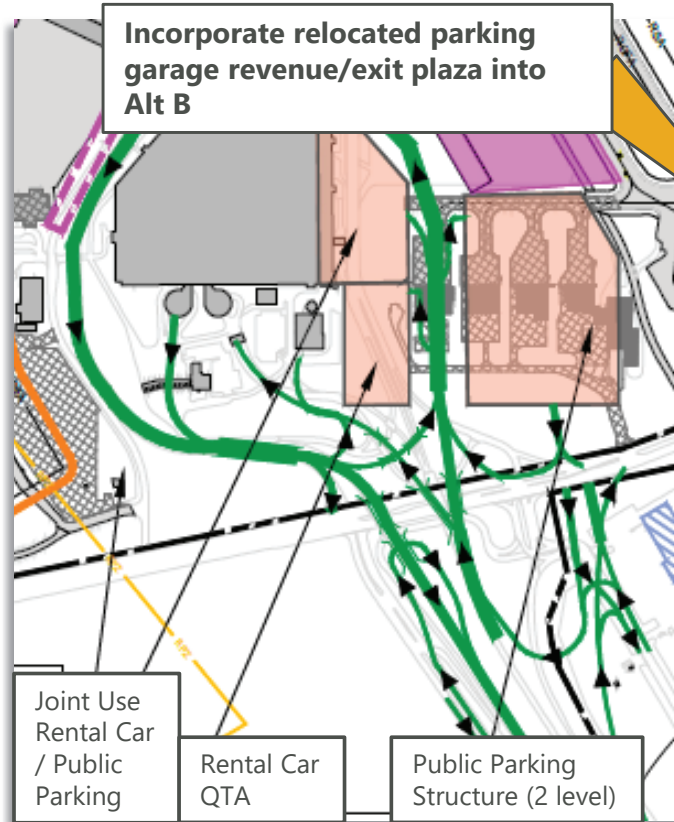
Alternative B

Alternative C

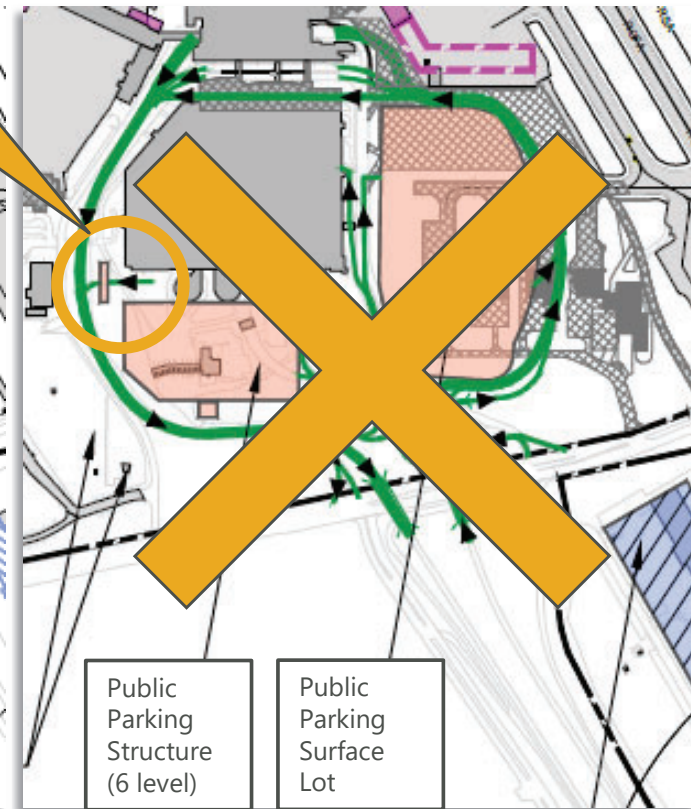
Roadway Conclusion



Alternative A



Alternative B
(Modified)



Alternative C

Parking

Parking Results

Public Parking



Parking Conclusion – Alternative A

Primary Advantages

- 1 Proximity to terminal of significant portion of future public parking
- 2 Expanded remote surface parking increases economy parking (price sensitive users)

Primary Challenges

- 1 Affordability
- 2 Limited ability for incremental development or flexible phasing to respond to demand triggers (large-scale program driven by bridge relocation)
- 3 Large-scale landside program requires substantial financial commitment with potential to extend implementation duration
- 4 Prioritizes rental car capacity over parking capacity in terminal core (drives additional remote parking)
- 5 Joint use facility requires modification to accommodate Terminal Alternative B



Trade-offs (if selecting Alt A)

- 1 Affordability: large-scale landside program anticipated, dependent on bridge relocation
- 2 Competition with private parking operators (leakage) given expanded remote parking facilities
- 3 Integration with rental car structure creates project dependencies

MKE ALTERNATIVE PREFERENCES			
WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	LANDSIDE PARKING		
	A	B	C
SUBTOTAL (Low Score)	33	32	40
COUNT: 1	5	9	4
COUNT: 2	8	4	6
COUNT: 3	4	5	8
B			

Parking Conclusion – Alternative B

Primary Advantages

- 1 Proximity to terminal of significant portion of future public parking
- 2 Expanded remote surface parking increases economy parking (price sensitive users)
- 3 Parking improvements (2-level structure) can be implemented independent of roadway configuration (temporary connections)

Primary Challenges

- 1 Limited parking expansion capability beyond 2040 horizon (challenging to expand structure vertically; height limits due to ATC line-of-sight)
- 2 Roadway relocation required to accommodate joint rental car/parking facility
- 3 Affordability
- 4 Walking distance to terminal entrance stretches convenience (may require shuttle)
- 5 Remote surface parking not compatible with preferred Cargo Alternative C (requires additional replacement spaces)



Trade-offs (if selecting Alt B)

- 1 Phasing/implementation flexibility can be balanced with overall financial capability
- 2 Integration with rental car structure creates project dependencies

MKE ALTERNATIVE PREFERENCES			
WS #4 PARTICIPANTS			
	LANDSIDE		
	PARKING		
MKE REPRESENTATIVE	A	B	C
SUBTOTAL (Low Score)	33	32	40
COUNT: 1	5	9	4
COUNT: 2	8	4	6
COUNT: 3	4	5	8
	B		

Parking Conclusion – Alternative C

Primary Advantages

- 1 Proximity to terminal of all additional public parking
- 2 Parking facilities can be implemented largely independent of roadway improvements
- 3 Flexibility in parking facility phasing and implementation timing (align with demand)
- 4 Relative affordability

Primary Challenges

- 1 Height of expanded parking structure is limited (maximum 5 levels) by preferred Airside Alternative B (maintain runway 7L-25R in operation)
- 2 Surface parking facility requires modification to accommodate preferred Terminal Alternative B and supporting roadway
- 3 Affordability

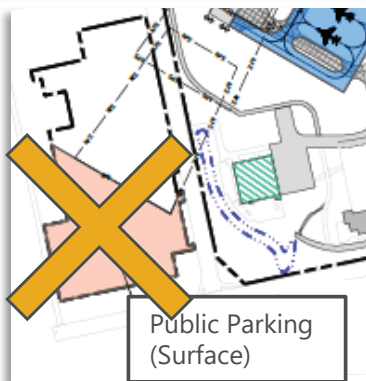
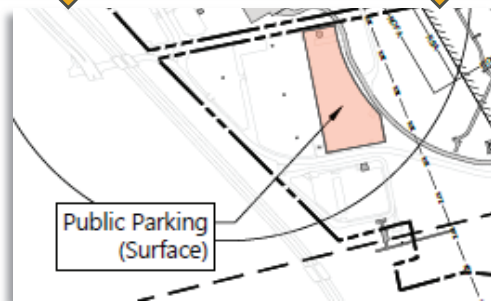
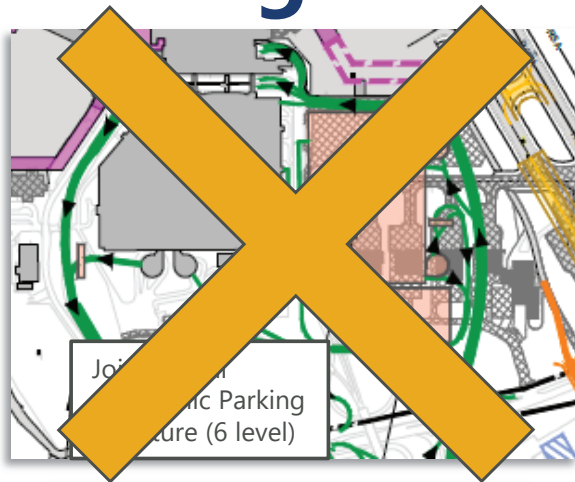


Trade-offs (if selecting Alt C)

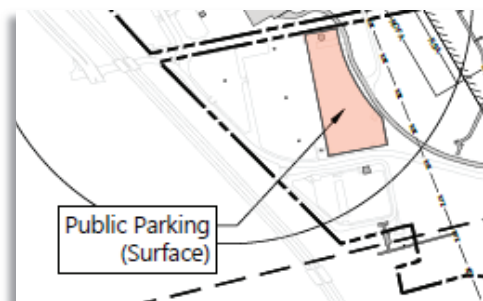
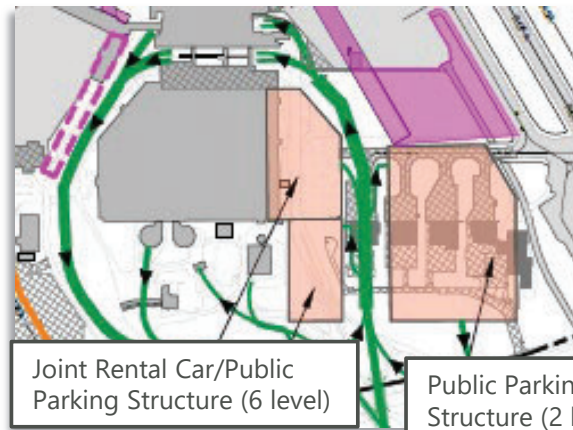
- 1 Prioritizes public parking proximity over rental car proximity
- 2 Concentrating public parking in core provides flexibility in scope and timing of improvements (financial feasibility)

MKE ALTERNATIVE PREFERENCES			
WS #4 PARTICIPANTS			
	LANDSIDE		
	PARKING		
MKE REPRESENTATIVE	A	B	C
SUBTOTAL (Low Score)	33	32	40
COUNT: 1	5	9	4
COUNT: 2	8	4	6
COUNT: 3	4	5	8
	B		

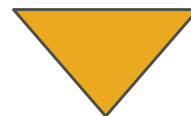
Parking Conclusion



Alternative A

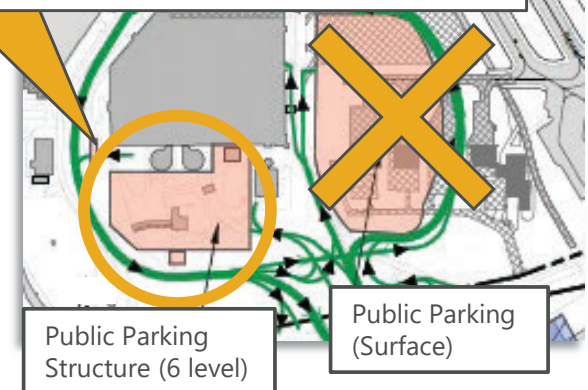


Alternative B (Modified)



Rental Car

Incorporate expansion of existing parking structure into Alt B to provide maximum development flexibility when triggered by demand



Alternative C

Landside Results

Rental Car



Rental Car Facilities Conclusion – Alternative A

Primary Advantages

- 1 Proximity to terminal of rental car facilities
- 2 On-site QTA reduces vehicle traffic (on terminal roadway and Howell Ave; currently shuttling to remote QTA)

Primary Challenges

- 1 Not compatible with preferred Terminal Alternative B (modification opportunity [increased height] limited by line-of-sight considerations)
- 2 Large-scale landside program requires substantial financial commitment with potential to extend implementation duration
- 3 Affordability



Trade-offs (if selecting Alt A)

- 1 Rental car facilities reduce long-term parking capacity in terminal core → more remote parking in competitive environment
- 2 Integration with parking structure creates project dependencies (timing may not align with demand)

MKE ALTERNATIVE PREFERENCES			
WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	LANDSIDE		
	RENTAL CAR		
	A	B	C
SUBTOTAL (Low Score)	38	30	41
COUNT: 1	4	11	4
COUNT: 2	8	5	5
COUNT: 3	6	3	9
B			

Rental Car Facilities Conclusion – Alternative B

Primary Advantages

- 1 Proximity to terminal of rental car facilities
- 2 On-site QTA reduces vehicle traffic (on terminal roadway and Howell Ave; currently shuttling to remote QTA)

Primary Challenges

- 1 Affordability
- 2 Large-scale landside program requires substantial financial commitment with potential to extend implementation duration
- 3 Proximity of QTA (vehicle fueling) to ATCT (blast mitigation, other security measures may be required → cost drivers)



Trade-offs (if selecting Alt B)

- 1 Rental car facilities reduce parking capacity in terminal core → more remote parking in competitive environment
- 2 Integration with parking structure creates project dependencies (timing may not align with demand)

MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	LANDSIDE RENTAL CAR		
	A	B	C
SUBTOTAL (Low Score)	38	30	41
COUNT: 1	4	11	4
COUNT: 2	8	5	5
COUNT: 3	6	3	9
B			

Rental Car Facilities Conclusion – Alternative C

Primary Advantages

- 1 Allows 2040 parking demand to be accommodated at close-in location
- 2 Rental car activity not on terminal roadway network; introduce rental car shuttles as new vehicle mode in landside environment
- 3 Avoids project dependencies between rental car and parking facilities
- 4 Simplified construction phasing (site outside of terminal core allows more efficient construction) → cost driver

Primary Challenges

- 1 Travel time/convenience to remote facility (weakens rental car location as differentiator)
- 2 Desirability of designated remote location for other revenue generating uses (*NOTE: Remote CONRAC may be accommodated on other remote sites*)

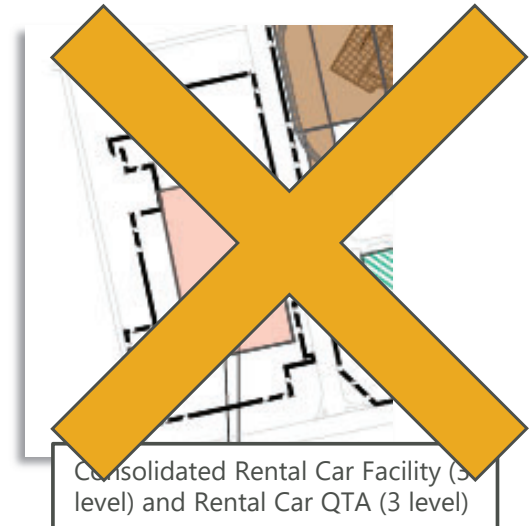
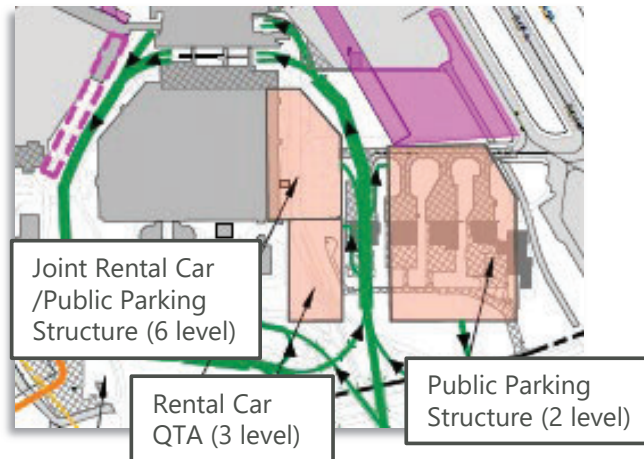
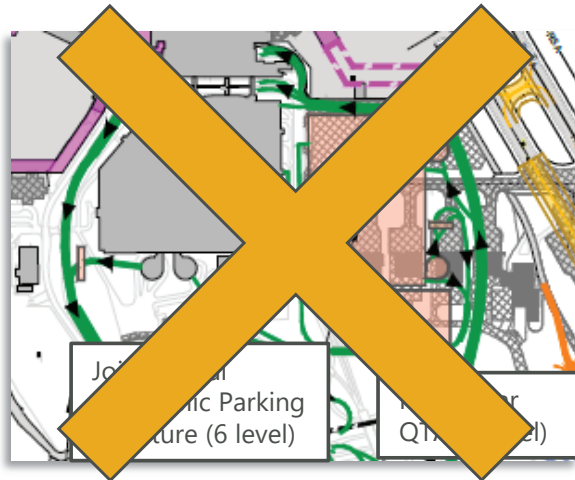


Trade-offs (if selecting Alt C)

- 1 Minimize dependency on roadway and parking facility projects (timing and cost)
- 2 Remote parcel (irrespective of location) not available for alternative revenue-generating development/uses

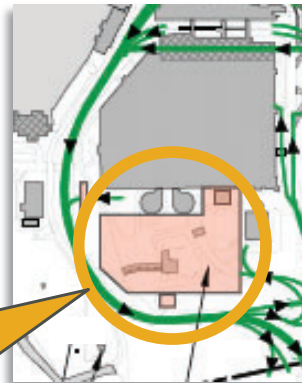
MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	LANDSIDE RENTAL CAR		
	A	B	C
SUBTOTAL (Low Score)	38	30	41
COUNT: 1	4	11	4
COUNT: 2	8	5	5
COUNT: 3	6	3	9
B			

Rental Car Conclusion



(NOTE: Remote CONRAC may be accommodated on other remote sites)

Incorporate expansion of existing parking structure into Alt B to provide maximum development flexibility when triggered by rental car or parking demand



Alternative A

Alternative B
(Modified)

Alternative C

Landside Results

Curbside



Curbside Conclusion – Alternative A/B

Primary Advantages

- 1 Affordability – linear extension and allocation of curb may require canopy/enclosed space
- 2 Consistency with current operation
- 3 Linear curbside extension flexibility is maximized by full single-level roadway system; facilitates incremental expansion

Primary Challenges

- 1 Curbfront management necessary to protect roadway throughput capacity



Trade-offs (if selecting Alt A or Alt B or hybrid)

- 1 Management of curbside (policy), reallocating curbside among modes, maintains level of service with minimal infrastructure investment

MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	LANDSIDE CURBSIDE		
	A	B	C
SUBTOTAL (Low Score)	30	30	30
COUNT: 1	4	6	5
COUNT: 2	7	3	5
COUNT: 3	4	6	5
	B		

Curbside Conclusion – Alternative C

Primary Advantages

- 1 Maximizes terminal roadway capacity with limited infrastructure investment
- 2 Allows for segregation of traffic modes

Primary Challenges

- 1 Limitation on vehicle types that can utilize remote curbside (vertical clearance); *(Note: vertical limitation can be mitigated by demo of 1-2 bays of existing parking structure when reconstructed)*
- 2 Remote curb users have longer walk than current; multiple vertical transitions to cross terminal roadway
- 3 Aging garage structure rehabilitation (or reconstruction) could impact remote curb
- 4 Displaces existing rental car customer counters and operations

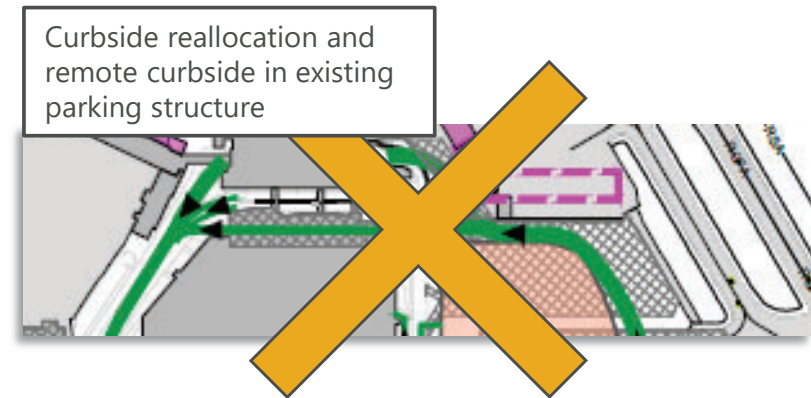
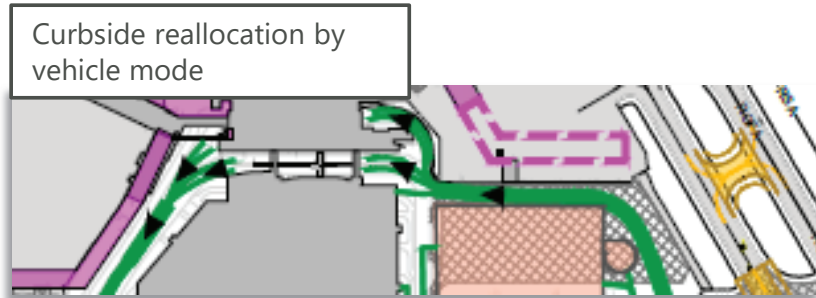


Trade-offs (if selecting Alt C)

- 1 Efficient curbside environment increases passenger vertical transitions to use remote curb
- 2 Requires construction of CONRAC facility prior to implementation of interior garage remote curb

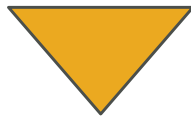
MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	LANDSIDE CURBSIDE		
	A	B	C
SUBTOTAL (Low Score)	30	30	30
COUNT: 1	4	6	5
COUNT: 2	7	3	5
COUNT: 3	4	6	5
B			

Curbside Conclusion



Alternative A/B

(Modified – curbside reallocation by mode as triggered by demand)



Support Facilities

Cargo Results



Cargo Facilities Conclusion – Alternative A

Primary Advantages

- 1 Incremental expansion potential in response to demand
- 2 Dedicated cargo campus reduces cargo-related traffic at Air Cargo Way and Howell Ave intersection
- 3 MKE Regional Business Park remains available for revenue generating uses

Primary Challenges

- 1 Affordability – significant airfield infrastructure required to support new cargo campus
- 2 Undeveloped land is primary drainage area for watershed (significant drainage and potential environmental mitigation required to develop)
- 3 Not compatible with ultimate protection of RW 1R-19L airspace



Trade-offs (if selecting Alt A)

- 1 Substantial capital cost
- 2 Cargo development not compatible with RW 1R-19L protection (ultimate condition)

MKE ALTERNATIVE PREFERENCES			
WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	CARGO		
	A	B	C
SUBTOTAL (Low Score)	36	37	32
COUNT: 1	5	3	10
COUNT: 2	5	11	2
COUNT: 3	7	4	6
			C

Cargo Facilities Conclusion – Alternative B

Primary Advantages

- 1 Incremental expansion potential in response to demand
- 2 Dedicated cargo campus reduces cargo-related traffic at Air Cargo Way and Howell Ave intersection
- 3 Post-2040 expansion capability

Primary Challenges

- 1 Affordability – significant airfield infrastructure required to support new cargo campus
- 2 Undeveloped land is primary drainage area for watershed (significant drainage and potential environmental mitigation required to develop)
- 3 Not compatible with ultimate protection of RW 1R-19L airspace



Trade-offs (if selecting Alt B)

- 1 Substantial capital cost
- 2 Cargo development not compatible with RW 1R-19L protection (ultimate condition)

MKE ALTERNATIVE PREFERENCES			
WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	CARGO		
	A	B	C
SUBTOTAL (Low Score)	36	37	32
COUNT: 1	5	3	10
COUNT: 2	5	11	2
COUNT: 3	7	4	6
			C

Cargo Facilities Conclusion – Alternative C

Primary Advantages

- 1 Incremental expansion potential in response to demand
- 2 Redevelopment of majority of MKE Regional Business Park for aeronautical use
- 3 Relative affordability

Primary Challenges

- 1 Phased redevelopment/upgrade of existing west cargo facilities is operationally challenging



Trade-offs (if selecting Alt C)

- 1 Relatively affordable cargo development (avoids substantial airfield/taxiway investment)

MKE ALTERNATIVE PREFERENCES			
WS #4 PARTICIPANTS			
	CARGO		
MKE REPRESENTATIVE	A	B	C
SUBTOTAL (Low Score)	36	37	32
COUNT: 1	5	3	10
COUNT: 2	5	11	2
COUNT: 3	7	4	6
			C

Cargo Locations



Alternative A



Alternative B



Alternative C

General Aviation Results



General Aviation Facilities Conclusion – Alt. A

Primary Advantages

- 1 Incremental expansion potential in response to demand
- 2 Development concentrated in area with limited utility for other types of development
- 3 xxx

Primary Challenges

- 1 Facilities configuration requires adjustment to accommodate preferred Airfield Alternative B
- 2 Corporate GA facilities not segregated from small GA facilities
- 3 Not compatible with ultimate protection of RW 1R-19L airspace



Trade-offs (if selecting Alt A)

- 1 Consolidation of GA facilities does not facilitate segregation of corporate GA development
- 2 GA development not compatible with RW 1R-19L protection (ultimate condition)

MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	GENERAL AVIATION		
	A	B	C
SUBTOTAL (Low Score)	38	29	38
COUNT: 1	4	11	3
COUNT: 2	5	3	10
COUNT: 3	8	4	5
B			

General Aviation Facilities Conclusion – Alt. B

Primary Advantages

- 1 Incremental expansion potential in response to demand
- 2 Compatible with ultimate RW 1R-19L
- 3 Segregation of corporate GA facilities from small GA facilities

Primary Challenges

- 1 Corporate GA development abutting Layton Ave may cause community concern
- 2 Displaces existing aircraft maintenance facilities



Trade-offs (if selecting Alt B)

- 1 Segregation of corporate GA facilities (abutting Layton Ave) may not be compatible with community preferences

MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	GENERAL AVIATION		
	A	B	C
SUBTOTAL (Low Score)	38	29	38
COUNT: 1	4	11	3
COUNT: 2	5	3	10
COUNT: 3	8	4	5
B			

General Aviation Facilities Conclusion – Alt. C

Primary Advantages

- 1 Incremental expansion potential in response to demand
- 2 Limited segregation of corporate GA facilities from small GA facilities
- 3 Development concentrated in area with limited utility for other types of development

Primary Challenges

- 1 Corporate GA facilities in north quadrant require adjustment to accommodate preferred Airfield Alternative B



Trade-offs (if selecting Alt C)

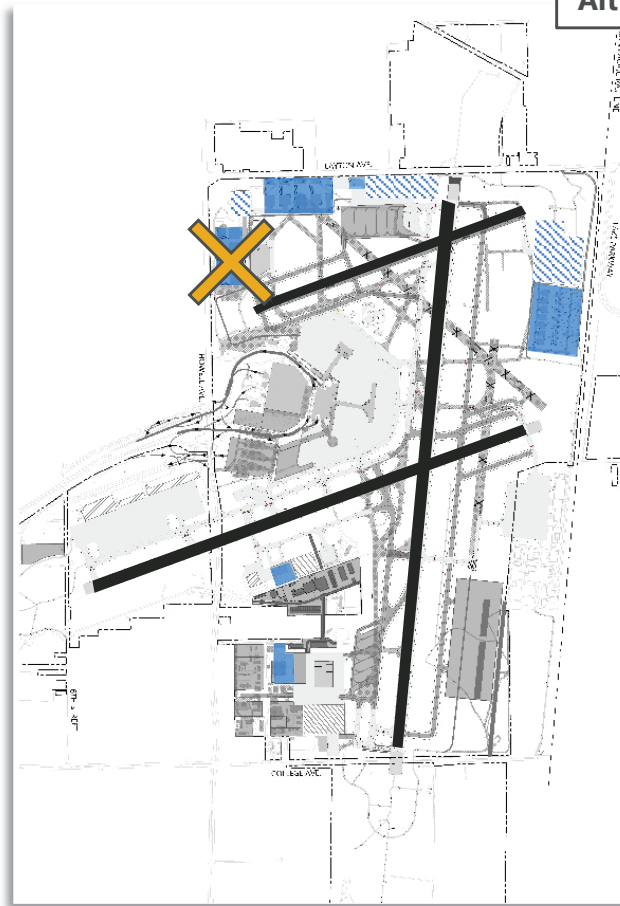
- 1 Limited segregation of corporate GA facilities necessary to avoid development abutting Layton Ave

MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	GENERAL AVIATION		
	A	B	C
SUBTOTAL (Low Score)	38	29	38
COUNT: 1	4	11	3
COUNT: 2	5	3	10
COUNT: 3	8	4	5
B			

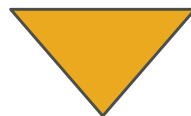
General Aviation Locations



Alternative A



**Alternative B
(Modified)**



Incorporate expanded GA area into
Alt B



Alternative C

Maintenance Facilities Results



Maintenance Facilities Conclusion – Alt. A

Primary Advantages

- 1 County Highway Department remains in existing facilities
- 2 Consolidated Airport maintenance facilities
- 3 Snow removal vehicle staging accommodated on roadway (no longer staged on TW Y)

Primary Challenges

- 1 Land exchange with WiANG required for Airport Maintenance Facility development (Guard West parcel)
- 2 Development of Guard West parcel influenced by future dual parallel TW R/TW Q configuration



Trade-offs (if selecting Alt A)

- 1 Land exchange/transaction to maintain consolidated and contiguous facilities

MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	AIRPORT MAINTENANCE		
	A	B	C
SUBTOTAL (Low Score)	33	35	31
COUNT: 1	6	2	8
COUNT: 2	3	12	2
COUNT: 3	7	3	6
	C		

MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	AIRCRAFT MAINTENANCE		
	A	B	C
SUBTOTAL (Low Score)	40	27	38
COUNT: 1	1	12	5
COUNT: 2	9	3	6
COUNT: 3	7	3	7
	B		

Maintenance Facilities Conclusion – Alt. B

Primary Advantages

- 1 County Highway Department remains in existing facilities
- 2 Snow removal vehicle staging accommodated on roadway (no longer staged on TW Y)
- 3 Aircraft maintenance campus accommodates incremental/phased expansion
- 4 Redevelopment of majority of MKE Regional Business Park for aeronautical use



Trade-offs (if selecting Alt B)

- 1 Dispersed Airport maintenance facilities does not require land transaction

Primary Challenges

- 1 Airport maintenance facilities partially dispersed
- 2 With deicing pad, concentration of aircraft maintenance facilities may require dual parallel taxiway with increased activity

MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	AIRPORT MAINTENANCE		
	A	B	C
SUBTOTAL (Low Score)	33	35	31
COUNT: 1	6	2	8
COUNT: 2	3	12	2
COUNT: 3	7	3	6
	C		

MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	AIRCRAFT MAINTENANCE		
	A	B	C
SUBTOTAL (Low Score)	40	27	38
COUNT: 1	1	12	5
COUNT: 2	9	3	6
COUNT: 3	7	3	7
	B		

Maintenance Facilities Conclusion – Alt. C

Primary Advantages

- 1 Consolidated Airport maintenance facilities
- 2 Snow removal vehicle staging accommodated on roadway (no longer staged on TW Y)
- 3 Aircraft maintenance campus accommodates incremental/phased expansion

Primary Challenges

- 1 Relocation to County Highway Department facilities to MKE Regional Business Park parcel (not available for revenue generating development)
- 2 Aircraft maintenance development abutting Layton Ave may cause community concern



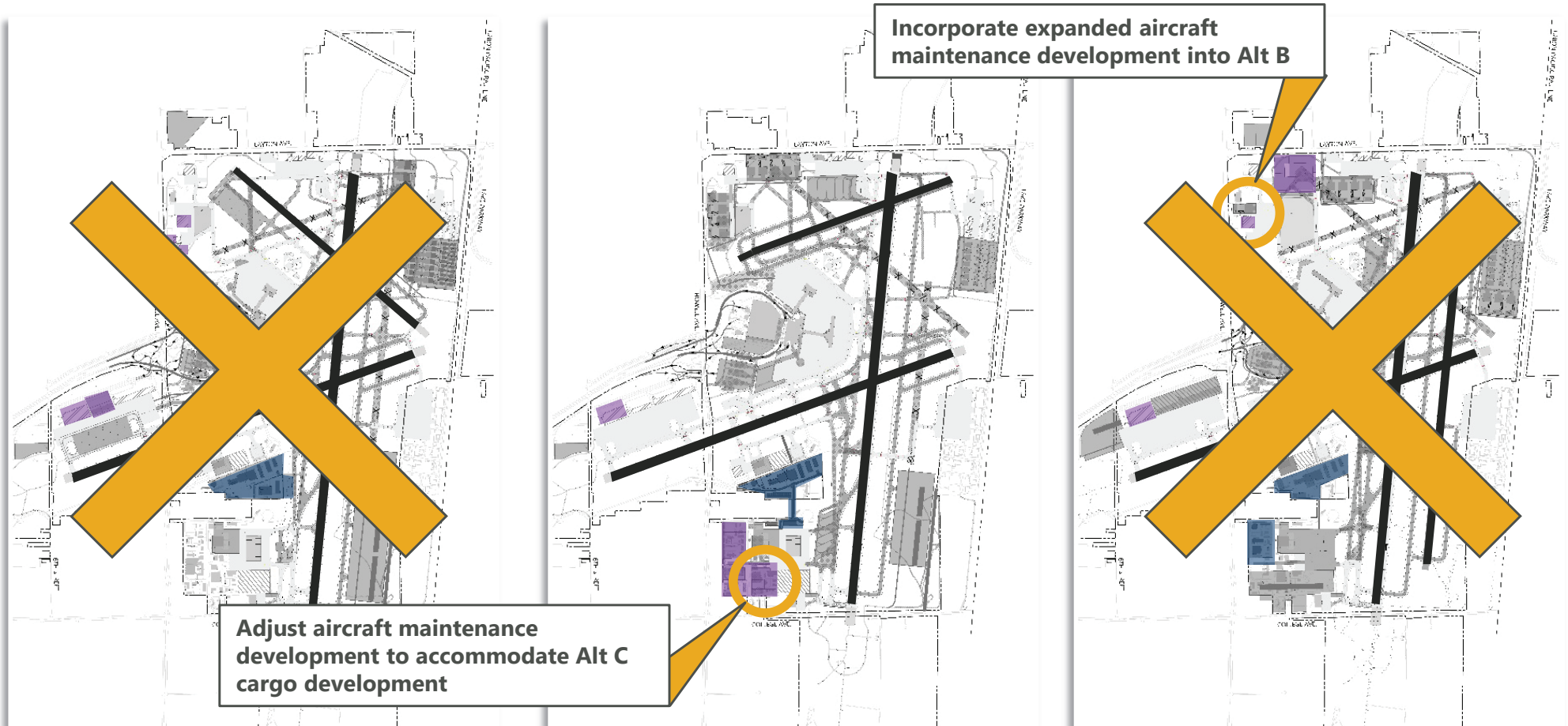
Trade-offs (if selecting Alt C)

- 1 Relocation of County Highway Department is not highest and best use of MKE Regional Business Park land
- 2 Consolidated aircraft maintenance campus location (along Layton Ave) may cause community concern

MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	AIRPORT MAINTENANCE		
	A	B	C
SUBTOTAL (Low Score)	33	35	31
COUNT: 1	6	2	5
COUNT: 2	3	12	2
COUNT: 3	7	3	6
	C		

MKE ALTERNATIVE PREFERENCES WS #4 PARTICIPANTS			
MKE REPRESENTATIVE	AIRCRAFT MAINTENANCE		
	A	B	C
SUBTOTAL (Low Score)	40	27	38
COUNT: 1	1	12	5
COUNT: 2	9	3	6
COUNT: 3	7	3	7
	B		

Aircraft and Airport Maintenance Areas



Alternative A

Alternative B
(Modified)

Alternative C

Legend

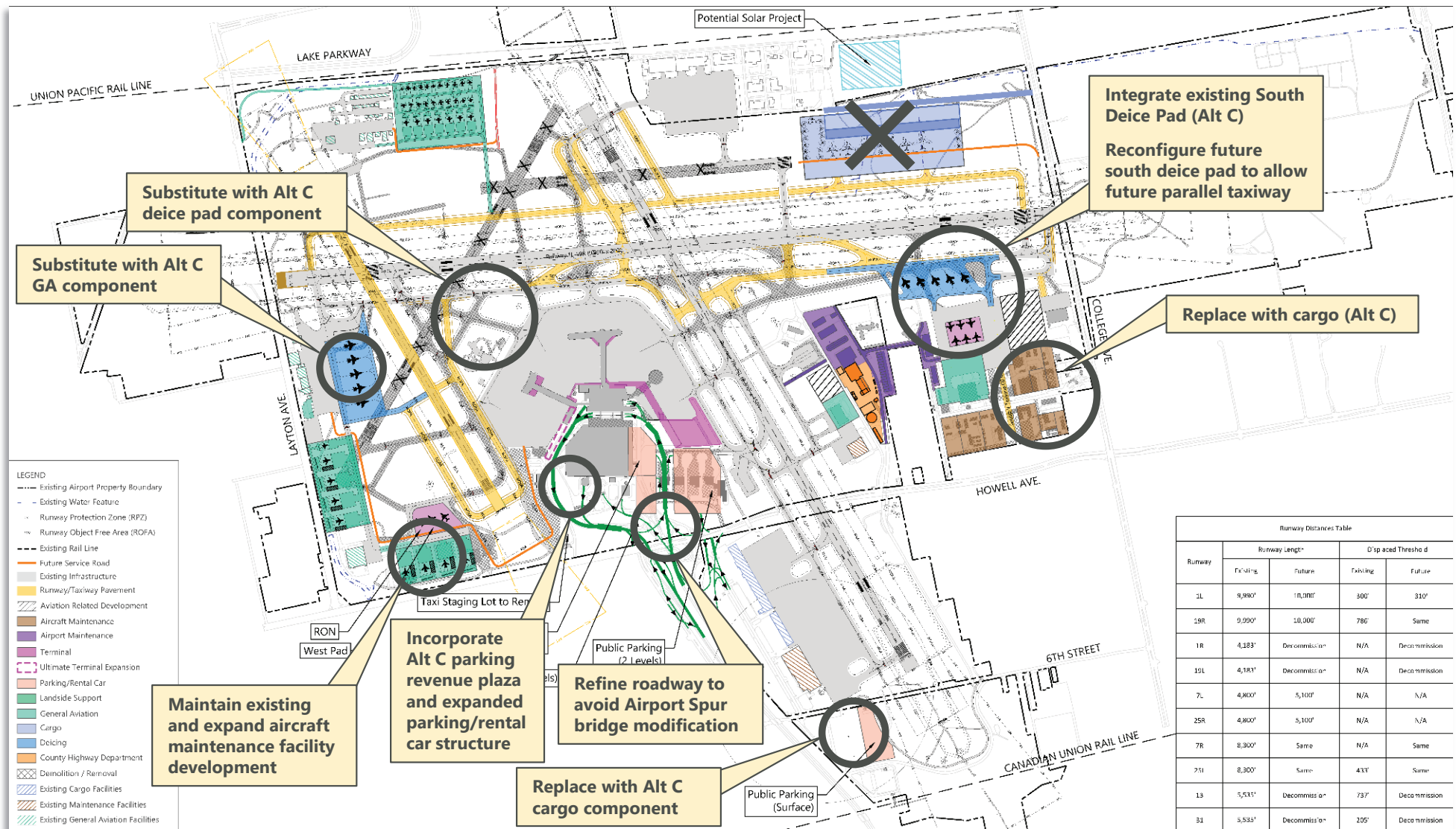
■ Aircraft Maintenance ■ Airport Maintenance

Preferred Alternative

Requires Concept Refinement



Preferred Alternative (refinements identified)



Next Steps


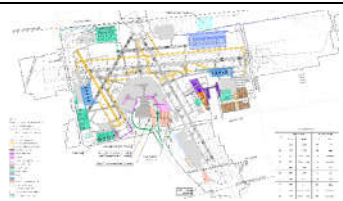

- TAG/SAG Meeting (scheduled, September 25, 2020)
 - Review alternatives shortlisting and evaluation
 - Present Preliminary Preferred Alternative for feedback
- Refine preferred alternative
 - MKE input (comments discussed today)
 - TAG/SAG input
- Upcoming (triggered) tasks
 - Cost estimating
 - Implementation planning
 - Financial analysis / CIP
 - Environmental Overview & Noise analysis
 - Airport Layout Plan preparation



APPENDIX D.5

Evaluation Matrix

Milwaukee Mitchell International Airport

			AIRFIELD	AIRFIELD	AIRFIELD	AIRFIELD	AIRFIELD	AIRFIELD	DEICING	DEICING	DEICING	DEICING	DEICING	
			Removes Airfield Constraints (reduces runway intersections, does not increase runway crossings)	Allows Traffic Segregation (in operating configurations)	Improves Operational Flexibility/Redundancy (provides parallel runways)	Facilitates Increasing Long-Term Runway Capacity (Post 2040)	Developable Area Potential (relative to the existing terminal area)	Relative Cost to Construct	Compatibility During Winter Operations	Accommodates Additional Taxi Capability	Proximity to Primary Departure Runway Ends in Winter Operations	Opportunity for future expansion; additional deicing positions	Impact to Existing Infrastructure	
			0 Alternative reduces runway intersections, but maintains converging runway configuration.	0 Alternative does not allow traffic segregation (runway configurations are dependent).	0 Alternative does not provide a parallel runway configuration.	0 Alternative does not facilitate long-term capacity benefits (no parallel runways).	0 Alternative maintains Runway 7L-25R limiting the development opportunity to the immediate north.	0 Alternative would require significant runway and taxiway construction costs.	0 Deice pad locations create compatibility issues to adjoining facilities (both Runway 1L & 19R).	0 Deice Pad Location does not provide a direct route between Terminal and Runway (for both 1L & 19R).	0 Does not provide deicing positions in proximity to either Runway 1L or 19R.	0 Does not provide space for future deicing positions to either Runway 1L or 19R.	0 Impacts facilities that are not otherwise shown for removal (ex: fuel farm / RTF).	
			1 Alternative reduces runway intersections, but would increase runway crossings.	1 Alternative allows traffic segregation with runway dependencies (closely spaced).	1 Alternative does provide parallel runways with the second parallel being limited in length.	1 Alternative does facilitate long-term capacity benefits with limitations.	1 Alternative maintains Runway 13-31 enhancing the development opportunity to the immediate north.	1 Alternative would have minimal runway and taxiway construction costs.	1 Deice Pad locations may introduce jet blast or deice spray concerns to one end (1L or 19R).	1 Requires an indirect route from Terminal to Deice Pad to Runway (for either 1L or 19R).	1 Provides deicing positions in proximity to Runway 1L or 19R, but not both.	1 Provides space for future deicing positions at Runway 1L or 19R, but not both.	1 Impacts only facilities that are already shown for removal or relocation (ex: runway closure / relocation).	
ID	ALTERNATIVE DESCRIPTION		2 Alternative reduces runway intersections and crossings.	2 Alternative allows traffic segregation with no runway dependencies (widely spaced parallel runways).	2 Alternative does provide parallel runways with the second parallel providing a length of up to 7,500'.	2 Alternative does facilitate long-term capacity benefits.	2 Alternative maximizes the development opportunity to the immediate north decommissioning both Runway 7L-25R and 1R-19L.	2 Alternative would be limited to taxiway construction costs.	2 Deice Pad locations do not impose jet blast or deicing spray concerns onto adjoining facilities.	2 Provides direct taxi route from Terminal to Deice Pad to Runway (for both 1L & 19R).	2 Provides deicing positions in good proximity to both Runway 1L & 19R.	2 Provides space for future deicing positions at both Runway 1L & 19R.	2 Requires little or no impact to existing airfield or facilities. (Can be implemented today).	SCORE
		WEIGHTING FACTOR: 0.5 to 2.0	1.00	0.50	1.00	0.50	0.50	2.00	1.00	1.00	1.00	1.00	1.00	
Airfield														
A	Decommission 7L-25R and 1R-19L - Decommission Runway 7L-25R and 1R-19L to allow for expanded cargo and GA facilities. - Airfield improvements include new taxiways for the required connectivity and hotspot/incursion mitigation. - Extends Runway 1L-19R 10 feet to the North. 		0	0	0	0	1	2	2	0	0	0	1	7.5
B	Decommission 13-31 and 1R-19L Extend 7L-25R - Decommission Runway 13-31 and 1R-19L to allow for expanded cargo and GA facilities. - Maintains Runway 7L-25R to support GA activity and upgrades it to be commercial service capable. - Airfield improvements include new taxiways for the required connectivity and hotspot/incursion mitigation. - Extends Runway 1L-19R 10 feet to the South. 		2	2	1	2	0	1	1	2	2	1	1	16
C	Decommission 13-31 and 7L-25R Extend 1R-19L - Decommission Runway 13-31 and 7L-25R to allow for expanded GA and Aircraft Maintenance. - Airfield improvements include new taxiways for the required connectivity (includes dual south parallel taxiways) and hotspot/incursion mitigation. - Extends Runway 1L-19R 10 feet to the South. 		1	1	2	2	2	0	1	2	2	1	0	12.5

Milwaukee Mitchell International Airport

			TERMINAL	TERMINAL	TERMINAL	TERMINAL	TERMINAL	TERMINAL	TERMINAL	
			Expandability Beyond 2040	Requires Relocation of Existing Gates	Construction Complexity	Impact to MKE Admin Space	Consolidation of Operations	Location of RON	Expandability of Check in/ Bag Claim	
			0	0	0	0	0	0	0	
			Terminal does not have additional expansion area beyond 2040 planning horizon	Many (2+) gates will be closed or relocated during construction	Requires connections and rebuild of existing, rework of pavement	Relocation Needed to MKE Admin Space	Large number of separated concourses ; Small groupings of gates on each concourse	RON remote from terminal area	Limitations to the expansion	
			1	1	1	1	1	1	1	
			Terminal can expand beyond 2040 planning horizon, expansion area limited	Few (1 or 2) gates will be closed or relocated during construction	Limited rebuild of existing	Limited Relocation needed of MKE Admin Space	Concourse with useable number of gates	Some RON near terminal Area	Some limitations to expansion of	
ID	TERMINAL DESCRIPTION		2	2	2	2	2	2	2	SCORE
		WEIGHTING FACTOR: 0.5 to 2.0	1.00	1.00	2.00	1.00	1.00	1.00	0.50	
A	Create New Concourses B and E - 4 gate facility on concourse E - 6 gate facility (Concourse B) - Ultimate expansion stems from Concourse E		0	1	2	0	0	1	1	6.5
B	New Concourse E - 10 gate facility at Concourse E - Ultimate expansion in Concourse B area (Stem of Concourse C)		1	2	1	1	1	0	0	7
C	New Concourse E and Expand Concourse C - Concourse E accommodates 4 gates - Concourse C expansion accommodates 6 additional gate positions		2	0	0	1	2	2	1	7.5

Milwaukee Mitchell International Airport

			TERMINAL	TERMINAL	TERMINAL	TERMINAL	TERMINAL	TERMINAL	TERMINAL	
			Expandability Beyond 2040	Requires Relocation of Existing Gates	Construction Complexity	Impact to MKE Admin Space	Consolidation of Operations	Location of RON	Expandability of Check in/ Bag Claim	
			0	0	0	0	0	0	0	
			Terminal does not have additional expansion area beyond 2040 planning horizon	Many (2+) gates will be closed or relocated during construction	Requires connections and rebuild of existing, rework of pavement	Relocation Needed to MKE Admin Space	Large number of separated concourses ; Small groupings of gates on each concourse	RON remote from terminal area	Limitations to the expansion	
			1	1	1	1	1	1	1	
			Terminal can expand beyond 2040 planning horizon, expansion area limited	Few (1 or 2) gates will be closed or relocated during construction	Limited rebuild of existing	Limited Relocation needed of MKE Admin Space	Concourse with useable number of gates	Some RON near terminal Area	Some limitations to expansion of	
ID	TERMINAL DESCRIPTION		2	2	2	2	2	2	2	SCORE
		WEIGHTING FACTOR: 0.5 to 2.0	1.00	1.00	2.00	1.00	1.00	1.00	0.50	
A	Create New Concourses B and E - 4 gate facility on concourse E - 6 gate facility (Concourse B) - Ultimate expansion stems from Concourse E		0	1	2	0	0	1	1	6.5
B	New Concourse E - 10 gate facility at Concourse E - Ultimate expansion in Concourse B area (Stem of Concourse C)		1	2	1	1	1	0	0	7
C	New Concourse E and Expand Concourse C - Concourse E accommodates 4 gates - Concourse C expansion accommodates 6 additional gate positions		2	0	0	1	2	2	1	7.5

Milwaukee Mitchell International Airport

		LANDSIDE ROADWAY	LANDSIDE ROADWAY	LANDSIDE ROADWAY	LANDSIDE ROADWAY	LANDSIDE ROADWAY	LANDSIDE ROADWAY	LANDSIDE ROADWAY	LANDSIDE CURBSIDE	LANDSIDE CURBSIDE	LANDSIDE CURBSIDE	LANDSIDE CURBSIDE	
		Relative Cost to Construct	Implementation Complexity	Impact to Airport Spur Bridges (single or multiple locations)	Visibility to Terminal Core Area	Segregates Traffic Based on Destination	Operational Impact of Construction	Benefits to Air Cargo Way Circulation	Mitigates Line of Sight Impacts and Improves Wayfinding	Increases Volume of Curbside Traffic	Expandable Beyond 2040 Horizon	Encompasses GTC Capable of Handling Varied Modes	
		0 High cost to construct	0 Most Complex, Many Phases of Construction and detours	0 Multiple Bridges impacted or rebuilt	0 Traffic seems to be diverting in directions not visibly linear to destination	0 More or frequent decisions needed to wayfinding to destination	0 Most complex construction impacts	0 Does the least to improve traffic issues at Air Cargo Way	0 Least early lane separation for Departures/Arrivals /GT Traffic	0 Large increase of curbside volume	0 Curbside has little room to expand	0 No Area for GTC incorporation	
		1 Average construction cost relative to other alternatives	1 Average Complexity to	1 Single new Bridge required and may require widening of an existing bridge	1 Some Terminal Core Visibility, with some structures obstructing view	1 Some Binary Decisions, but more frequent choices need to be made	1 Some phasing of construction requiring detours	1 Improves Air Cargo Way access	1 Some early lane separation for Departures/Arrivals /GT Traffic	1 Some increase to landside volume	1 Curbside has flexibility to extend in length toward Concourse A	1 GTC capable in existing curbside area	
OPTION	DESCRIPTION	2 low relative cost to construct	2 Least amount of road detours and phases of construction	2 No Bridges impacted, but may require shoulder narrowing to allow for extra lanes	2 Natural Flow of traffic to Terminal Core Area	2 Easy Binary Decisions based on Parking vs. Terminal options	2 Construction has little impact on roadways or Terminal construction	2 Most innovative solution to Air Cargo Way Circulation	2 Best Early Lane separation for Departures/Arrivals/GT Traffic	2 limited or no increase to curbside column	2 Curbside has flexibility to extend in length toward Concourse A and expand behind ConRAC Counters into garage	2 GTC capable if expanded into garage	SCORE
Landside Roads		1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
A	New Recirculation West of Howell, Relocate Airport Spur Bridges - Allows for streamlining of traffic and segregation of parkers and terminal access functions. - New circulation pattern to Air Cargo Way, - Recirculation to terminal area located west of Howell Ave.	0	0	0	2	2	1	1	2	1	1	1	11
B	Simplify Entrance Roads, Allow for Parking Expansion of Existing Garage - Terminal roadway shifted south to accommodate parking garage expansion - Entrance roadway bridge of Howell Ave. expanded and location modified - New traffic pattern for trucks on Air Cargo Way	1	0	1	1	0	1	1	1	1	1	1	9
C	Utilize Existing Roads, Add New Entrance Road South of Parking Expansion - All circulation east of Howell Ave. - New flyover allows recirculation to terminal entrance road - Existing bridges remain in current locations	1	1	2	0	2	2	0	1	0	1	1	11

		LANDSIDE PARKING	LANDSIDE PARKING	LANDSIDE PARKING	LANDSIDE PARKING	LANDSIDE PARKING	LANDSIDE PARKING	LANDSIDE PARKING	LANDSIDE PARKING	LANDSIDE PARKING	LANDSIDE RENTAL CAR	LANDSIDE RENTAL CAR	LANDSIDE RENTAL CAR	LANDSIDE RENTAL CAR	LANDSIDE RENTAL CAR	LANDSIDE RENTAL CAR	
		Remote Public Parking	HIGHEST AND BEST USE OF LAND	Impacts to Walking Distances (close-in parking)	Requires Shuttles (future parking areas)	Relative Cost to Construct (structure vs surface; all landside components)	Construction Complexity	Operational Complexity	Accommodates New Exit Plaza for Parking Garage to Meter Traffic Flow onto Exit Roadway	Expansion Capability	Requires Shuttle	Highest and Best Use of Land	Construction Complexity	Distance to Shuttle Between Ready/Return Area and Service Area	Expansion Capability	TRAVEL TIME	
		0		0 High increase in walking distances	0 Majority of facilities require shuttling	0 High cost to construct	0 High construction complexity	0 More challenging operational complexity	0 No new exit plaza to meter traffic flow onto exit roadway	0 Extremely difficult to expand facilities to accommodate requirements beyond 2040	0 All facilities require shuttling		0 High construction complexity		0 Extremely difficult to expand the facility to accommodate requirements beyond 2040	0 ????	
		1		1 Moderate increase in walking distances	1 Some facilities require shuttling	1 Average construction cost relative to other alternatives	1 Average construction complexity	1 Average operational complexity	1 New exit plaza to somewhat meter traffic flow onto exit roadway	1 Somewhat difficult to expand facilities to accommodate requirements beyond 2040	1 Facilities are walkable, but also provide a shuttle		1 Average construction complexity		1 Somewhat difficult to expand the facility to accommodate requirements beyond 2040	1 ????	
OPTION	DESCRIPTION	2		2 No increase in walking distances	2 No facilities require shuttling	2 Low relative cost to construct	2 Low construction complexity	2 Low operational complexity	2 New exit plaza to adequately meter traffic flow onto exit roadway	2 Not difficult to expand facilities to accommodate requirements beyond 2040	2 No facilities require shuttling		2 Low construction complexity		2 Not difficult to expand the facility to accommodate requirements beyond 2040	2	SCORE
		1.00	1.00	1.00	2.00	1.00	1.50	1.50	1.50	1.50	2.00	1.00	1.00	1.00	1.50	1.00	
Parking and Rental Car																	
A	New Surface Parking at Layton/Howell, Joint Use Facility (Structure) -			0	0	1	1	1	1	1	1		0		0		9
B	Expand Existing Garage (Parking and RAC), New Parking Structure South of Existing Garage -			1	1	0	0	0	0	1	2		0		0		8.5
C	ConRAC Off-site at Layton//Howell, Expand Garage for Public Parking, New Surface Lot South of Existing Garage -			0	1	1	1	1	1	2	0		2		2		15.5

Milwaukee Mitchell International Airport

			CARGO	CARGO	CARGO	CARGO	CARGO	GENERAL AVIATION	GENERAL AVIATION	GENERAL AVIATION	GENERAL AVIATION	GENERAL AVIATION	
			Creates a Campus Environment (Consolidation)	Impact to Existing Facilities	Compatibility with Roadway Network	Implementation Complexity	Airside Operational Complexity	Creates a Campus Environment (Consolidation)	Corporate Aviation Visibility and Consolidation	Access Locations	Allows for Expansion Beyond 2040 Need	Implementation Complexity	
			0 Multiple cargo facilities mixed with a single function non-cargo facility	0 Major impact on facilities. Relocation more difficult.	0 Major impact on facilities. Relocation more difficult.	0 Major facility relocation prior to implementation	0 Major constraints to airside access and cargo campus functionality	0 Multiple GA facilities mixed with a single function non-GA facility	0 Location(s) removed from roadways with poor visibility ; corporate facilities in multiple areas of the airfield.	0 Limited proximity to existing landside and/or major road infrastructure improvements needed.	0 Constrained but possible expansion with major facility relocation or property acquisition	0 Major facility relocation prior to implementation	
ID	DESCRIPTION		1 Consolidates all activity into two separate campuses	1 Some impact on facilities, with potential relocation of facilities	1 Some impact on facilities, with potential relocation of facilities	1 Minor facility relocation prior to implementation	1 Minor constraints to airside access and cargo campus functionality	1 Consolidates all activity GA into two separate campuses	1 Provides landside visibility to some corporate hangars but not others. Corporate facilities	1 Proximity to landside with minor road infrastructure improvements needed.	1 Slightly constrained, possible expansion with minor facility relocation or property	1 Minor facility relocation prior to implementation	SCORE
			2 Consolidates all cargo activity into a single campus	2 Minimal impact	2 Minimal impact	2 Available for immediate deployment or expansion	2 No constraints to taxiway and runway access. No interference with cargo	2 Consolidates all GA activity into a single campus	2 Location provides good visibility and access from public roadways. Good consolidation of	2 Immediate access and proximity to landside	2 Unconstrained	2 Available for immediate deployment or expansion	
		WEIGHTING FACTOR: 0.5 to 2.0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Cargo													
A	Consolidated Southeast Cargo - Most cargo activity relocated to a consolidated southeast campus. - Some activity remains on existing cargo apron		2	2	1	2	2						9
B	Partial Southeast Cargo - Most cargo activity relocated to a consolidated southeast campus. - Additional Capacity remains on Cargo Apron		1	1	1	1	2						6
C	West and South Cargo Campuses - Future cargo activity relocated to a consolidated south (Former 440th)campus. - Additional Capacity remains on Cargo Apron - Additional Capacity on West Apron		1	0	2	1	1						5
General Aviation													
A	Consolidated Northeast GA Expansion -							2	1	1	1	1	6
B	Consolidated Northwest Perimeter GA Expansion -							1	2	1	2	1	7
C	Consolidated Northwest Perimeter GA Expansion -							0	0	0	1	1	2

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			AIRCRAFT MAINTENANCE	AIRCRAFT MAINTENANCE	AIRCRAFT MAINTENANCE	AIRCRAFT MAINTENANCE	AIRPORT MAINTENANCE	AIRPORT MAINTENANCE	AIRPORT MAINTENANCE	AIRPORT MAINTENANCE	AIRPORT MAINTENANCE	
			Creates A Campus Environment (Consolidation)	Impact to Existing Facilities	Proximity to GRE	Provides Space for Future Growth and / or Consolidation	Requires Land Transaction with WIANG	Relocates Highway Department Facilities	Allows for Staging of SRE off taxiway	Landside/Airside split accommodates extended Per. Service Road	Consolidates Airport Maintenance Facilities	
			0 Maintenance operations occurring within three or more regions of the Airport	0 Requires relocation of some existing maintenance facilities and future site(s) require additional facility relocations.	0 Future maintenance operations shown remotely located from GRE	0 Does not provide space for future growth or expansion	0 Requires land transaction with WIANG	0 Requires complete displacement of County Highway Department Facilities	0 Does not provide staging of SRE equipment off movement area taxiways	0 Resulting perimeter road alignment accommodates smaller service vehicles, but challenging for larger equipment to navigate.	0 Airport maintenance facilities scattered or needs continue to be met through use of former 440th buildings and facilities	
ID	DESCRIPTION		1 Creates opportunity to cluster aircraft maintenance operations	1 Requires relocation of some existing maintenance facilities.	1 Some maintenance facilities remotely located from GRE, but	1 Provides room for either growth or consolidation	1 Does not require land transaction with WIANG	1 Requires some relocation of Highway Department Facilities	1 Provides staging of SRE equipment off movement area	1 Provides a perimeter service road with some minor curves, but not challenging for larger equipment to navigate.	1 Groups the majority of Airport maintenance facilities together.	SCORE
			2 Consolidates all maintenance activity into a single campus	2 No impact to existing facilities	2 All maintenance operations within close and direct taxi distance to GRE	2 Provides room for future growth and consolidation		2 Does not impact County Highway Department Facilities		2 Provides a perimeter service road alignment easily negotiated by SRE & Maintenance equipment	2 Provides space for all Airport maintenance facilities in one campus	
		WEIGHTING FACTOR: 0.5 to 2.0	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Aircraft Maintenance												
A	Existing Facilities Remain in Place, Future Expansion Adjacent to SkyWest	-	1	1	1	1						4
B	Consolidated South Campus (Former 440th)	-	2	0	2	2						6
C	Consolidated Northwest Campus (Some facilities remain in place)	-	1	1	0	1						3
Airport Maintenance												
A	Airport Operations Expand to Guard West Property, County Highway Department remains in place	-					0	1	0	1	1	3
B	Operations Expand South and Take portion of County Highway Department Space	-					1	1	0	2	1	5
C	Relocated County Highway Department space, Operations has full utility of existing space	-					1	0	1	0	2	4

Milwaukee Mitchell International Airport

	AIRFIELD	LANDSIDE	TERMINAL	CARGO GENERAL AVIATION	AIRCRAFT/AIRPORT MAINTENANCE	
Alternative						SCORE
ALTERNATIVE A	7.5	20	6.5	15	7	56
ALTERNATIVE B	16	17.5	7	13	11	64.5
ALTERNATIVE C	12.5	26.5	7.5	7	7	60.5