# Q3-2019 Airport Construction Impact Report

# U.S. Core 30+ Airports 3-Year Construction Outlook

System Operations Services - Performance Analysis FAA National Headquarters, Washington, DC 20591

July 1, 2019

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POC: 9-AJR-Construction-Report@faa.gov

Disclaimer: Not for operational use. This report contains active and planned airport construction projects, which may impact airport capacity and delays. Due to the nature of airport construction, this information is constantly changing and may be postponed or canceled at any time. This report will be updated quarterly.



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Additional Airports	<u>69</u>
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## **Construction Impact Key**

No Capacity Effect – Departures taxi delays and/or Arrivals airborne holding delays are 15 minutes or less

Reduced Capacity and Delay Impact – Departures taxi delays and/or Arrivals airborne holding delays of 16 to 45 minutes

Reduced Capacity and Greater Delay Impact – Departures taxi delays and/or Arrivals airborne holding delays greater than 45 minutes

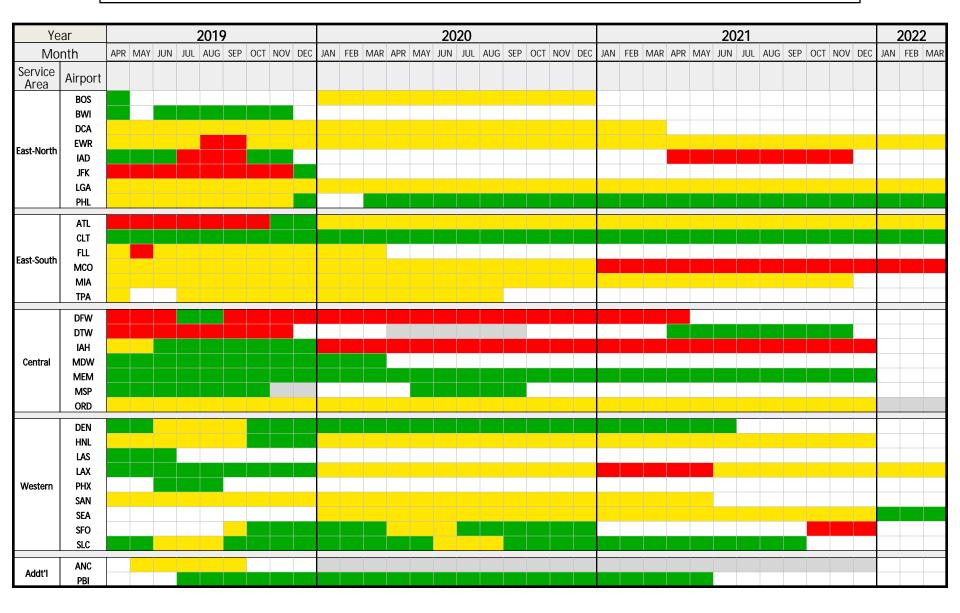
#### **IATA Airport-Level Designations**

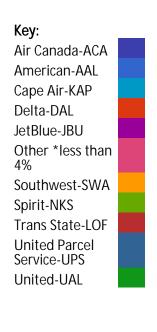
Level 1 - Airport infrastructure capacity is generally adequate to meet the demands of airport users at all times

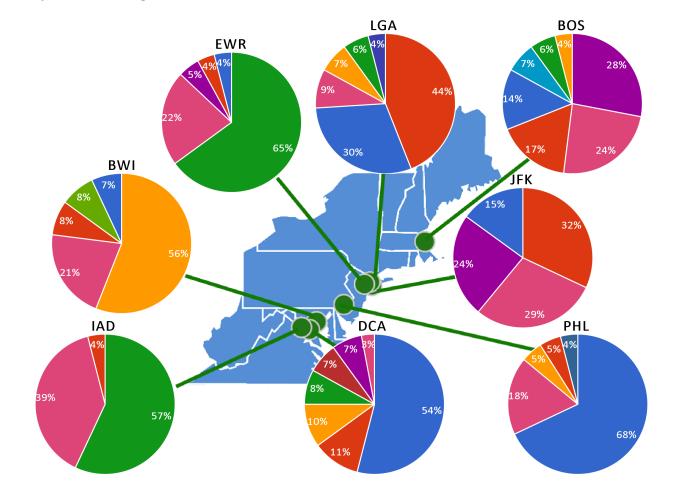
Level 2 – Airports where potential for congestion exists during some periods that can be resolved by schedule adjustments mutually agreed between the airlines and facilitator

**Level 3** – Airports with full slot controls where demand for airport infrastructure significantly exceeds the capacity during certain periods and expansion of infrastructure to meet demand is not possible in the short term

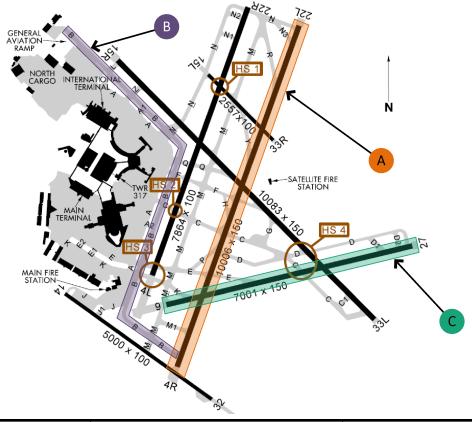
This summary timeline shows construction projects expecting to impact the NAS at the Core 30 busiest airports. Expanded details for each airport can be found on the following pages.





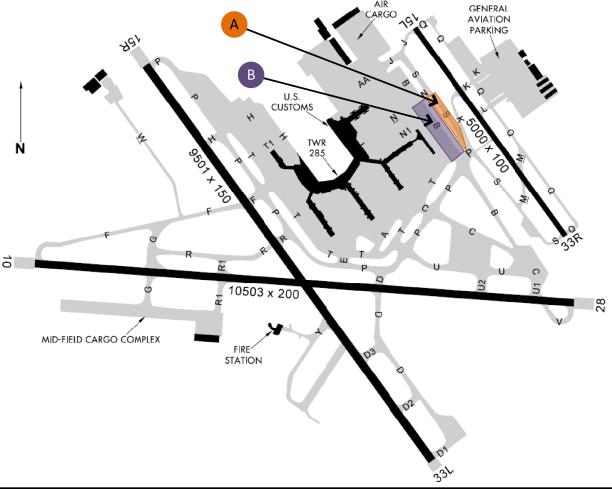






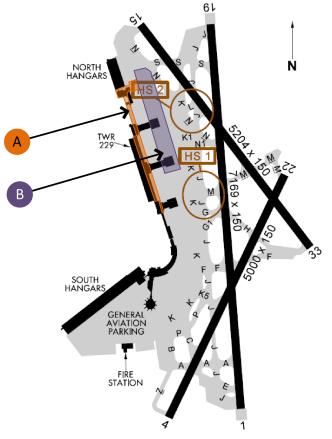
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Α	RWY 4R Lighting																																		
В	TWY B Lighting																																		
С	RWY 9/27																																		

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
A	RWY 4R Lighting	Replacing all of the risers on the lights on the RWY.	March 2019 to April 2019	Complete		Work to be completed on the overnights, so no anticipated impact to RWY availability.
E	TWY B Lighting	Taxiway B centerline lights replacement	2020 TBD	Upcoming		Expecting ramp and taxiway congestion.
C	RWY 9/27	RWY 9/27 closed for rehabilitation. Milling and repaving.	2020 TBD	Upcoming		Pending start/end dates and duration.



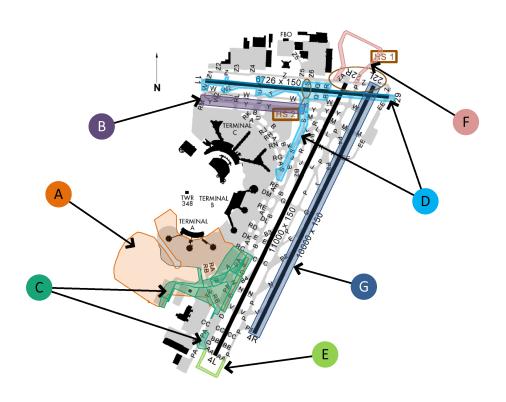
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Α	TWY S																																		
В	TWY B																																		

ľ		Project	Description of Work	Estimated Dates	Status	Impact	Notes
	Α	TWY S	TWY S, between TWYs P and N, requires improvements prior to TWY B closing.	03/11/2019 to 04/30/2019	Complete		TWY S is a parallel taxiway to TWY B that will receive all of TWY B's traffic once TWY B closes.
	В	TWY B	TWY B requires resurfacing between TWYs N & P.	06/06/2019 to 11/01/2019	In Progress		TWY B will be closed between TWYs N & P. No impact is expected.



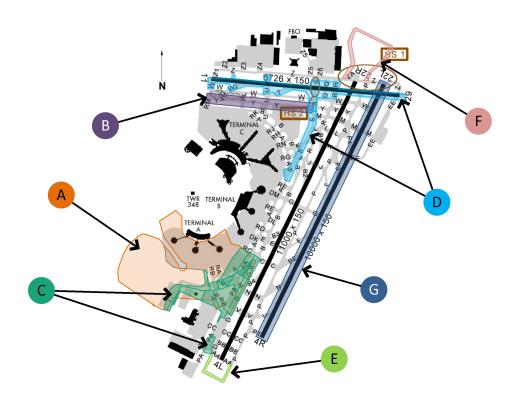
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Α	North Concourse																																
В	Ramp Configuration																																

		Project	Description of Work	Estimated Dates	Status	Impact	Notes
ļ	Α	MOLITI CONCOURSE	New regional concourse gates replacing surface gates.	04/19/2017 to 03/19/2021	In Progress	•	Safety Risk Assessment determined medium risk due to controller workload increase.  New 14 regional Jet (RJ) gates with jet bridges will allow handling of larger aircraft with 76-seats, versus current restriction of smaller aircraft with 50-seats.
E	В	Ramp Configuration	New ramp configuration for AAL commuters.	04/06/2019 to 2020 TBD	In Progress		May have some impact on DCA operations. No end date at this time.



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Α	Terminal One																															
В	TWY Y																															

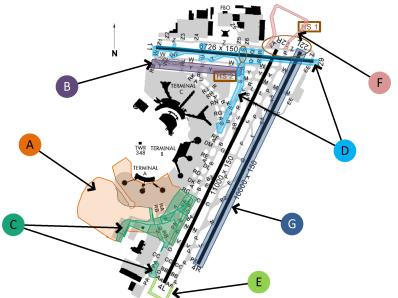
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α		Terminal One redevelopment program. Demolition of existing Terminal A complex and construction of new Terminal One complex. Construction involves all infrastructure required to support a 33 gate terminal complex.		In Progress		Multi-phased project. Expect taxiing delays in/out due to ramp congestion.  Partial Terminal Opening, Q3-2021 (21 Gates) Full Terminal Opening, Q3-2022 (33 Gates)
В	TWY Y	TWY Y closed for rehabilitation. Milling and overlay asphalt between TWY RM and TWY S.	02/01/2018 to 06/20/2019	Complete		Project work includes updating of taxiway lighting as necessary to meet current FAA standards.



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С	South TWYs & Ramp Area																																				

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
		Rehabilitation and paving of South TWYs and ramp areas.				
С	South TWYs & Ramp Area	Stage 3 - 6/28/19 to 8/12/19 Stage 4 - 8/12/19 to 9/24/19 Stage 5 - 9/24/19 to 11/15/19 Stage 6A - 11/15/19 to 12/31/19 &11/15/20 to 6/30/2021 Stage 6B, 6C, 6D, 7, 8 - 11/15/19 to 11/15/20 Stage 9, 10 - 11/15/20 to 6/30/21	April 2019 to June 2021	In Progress		Expecting ramp and taxiway congestion.

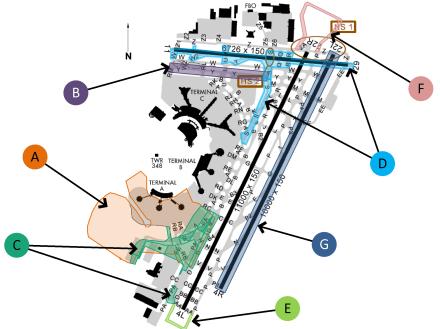
IATA Level 2





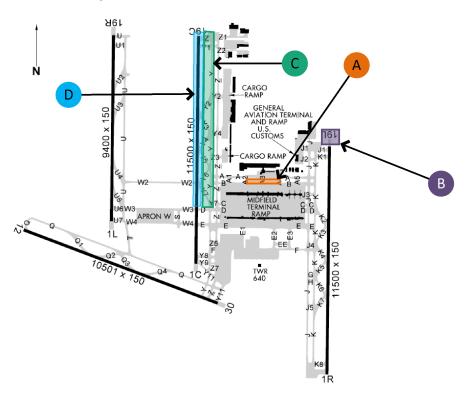
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D	RWY 11/29 & TWYs																																			

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
		Project 1 - RWY 11/29 rehabilitation. Crossing TWYs rehabilitation. Lighting systems upgrade/replacement. TWY renaming, airfield signage, and pavement sensors. Two 38-hour extended weekends, Fri 11pm-Sun 1pm, on 6/14-16 and 6/21-23 10-hour weekday nights, 10pm-8am, 6/16-6/21 & 7/14-19 Two 38-hour extended weekends, Fri 11pm-Sun 1pm, on 7/12-14 and 7/19-21	05/01/2019 to 08/15/2019	In Progress		5/1-8/15 runway closed 10pm–1pm (15 hrs.) Additional: 32-hour weekend closures, (6/28, 7/5, and 7/26)
D	RWY 11/29 & TWYs	TWY S close continuous-7 Days	07/01/2019 to 07/08/2019 TBD	Upcoming		Expecting ramp and taxiway congestion.
		Project 2 - RWY 11/29 closed continuous for rehabilitation  Closure - 21 days.	08/19/2019 to 09/08/2019	Upcoming		RWY usage as primary/secondary arrival runway unavailable. Expecting ramp and taxiway congestion. TMI's will be necessary to meter arrival traffic volume through the continuous closure period.
		Project 3 - RWY 11/29 rehabilitation. Continuous 9-hour nightly closures (2200L-0700L).	09/09/2019 to 11/23/2019	Upcoming		Runway 11 or Runway 29 will be available to accommodate increased arrival demand during peak arrival hours, for use as a secondary arrival runway. TMI's will be necessary during periods of adverse weather conditions.



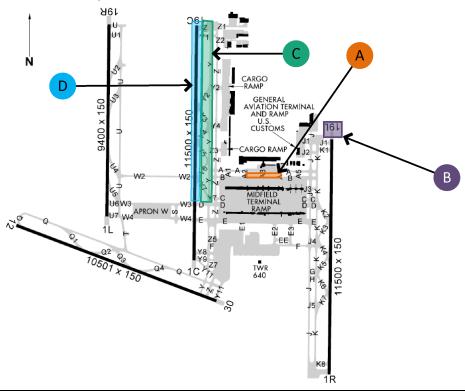
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E	RWY 4L, End-Around TWY (South End)																																			
F	RWY 22R, End-around TWY (North End)																																			
G	RWY 4R/22L																																			

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
E	RWY 4L, End-Around TWY (South End)	Construction of a new end-around taxiway (EAT).	2021 TBD to 2023 TBD	Upcoming		Project is still uncommitted (no decision to proceed). EAT would begin near TXY PA (near FedEx building) follow the perimeter of the dike and existing parking lot, and connect to TXY P between RWYs 4L and 4R.
F	RWY 22R, End-around TWY (North End)	Construction of a new end-around taxiway and 470' runway extension.	2021 TBD to 2023 TBD	Upcoming		Project is still uncommitted (no decision to proceed). EAT would begin near TWY Z. The runway will be extended 470' and the EAT will extend 1,500' northeast. The EAT will loop and connect to TWY P.
G	RWY 4R/22L	RWY 4R/22L closed for rehabilitation. Includes milling and overlay. Will shift the RWY centerline slightly.	2021 TBD	Upcoming		



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Α	Taxilane B (Middle)																																	
В	RWY 19L ALSF-2																																	

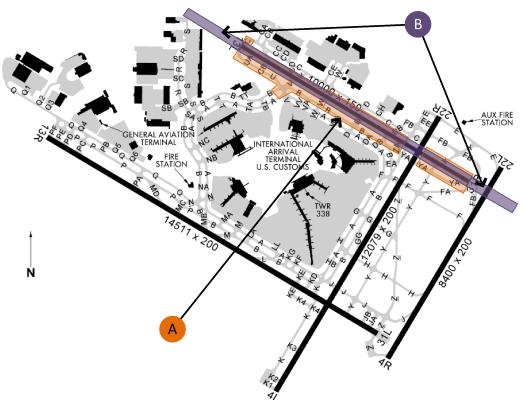
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α		Reconstruction and widening between Taxilane A2 and A4.	04/22/2019 to 11/22/2019	In Progress		Group IV and larger aircraft must exit/enter apron on the side of the construction that they park on, increasing taxi distance/time. Mitigation by providing approach control with list of flights that need to enter from the east or west. When feasible they are assigned the runway closer to entrance.
В	RWY 19L ALSF-2	Update RWY19L Approach Lighting System with Sequence Flashing Lights (ALSF-2). Open trench work at the approach end of RWY 19L.	Jul 2019 TBD to Sep 2019 TBD	Upcoming		RWY1R/19L operational impacts due to work inside the RSA. Possible three-week closure at night to complete project. Possible displaced threshold. AT notified of project by Tech Ops. Current mitigation for the least amount of disruption to users. Project bidding complete.



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С	TWYs Y, Y2, Y3, Y4, & Y5																															
D	RWY 1C/19C																															

		Project	Description of Work	Estimated Dates	Status	Impact	Notes
С	;	TWYs Y, Y2, Y3, Y4, & Y5	Reconstruction & widening of TWYs Y, Y3, & Y4, outside the RSA. Reconstruction of TWYs Y2, Y3, Y4 & Y5, outside the RSA.	04/02/2021 to Nov 2021 TBD	Upcoming		Project will coincide with RWY 1C/19C construction.  Loss of capacity on RWYS 1C and 19C due to closure of first 2 high-speed exits for RWY 19C and the closure of last 2 high-speed exits for RWY 1C.  Greater in-trail spacing will be required due to increased aircraft runway occupancy time.  Project will start Q1 2021.
D	)	RWY 1C/19C	Reconstruction of the North section of RWY 1C/19C & High Speed TWYs Y2, Y3, Y4 & Y5, inside the Runway Safety Area (RSA).	04/06/2021 to Nov 2021 TBD	Upcoming		Crossing TWYs W2, W3 and W4 will remain open for aircraft arriving or departing RWY 1L/19R.  Project will start Q1 2021.

IATA Level 3

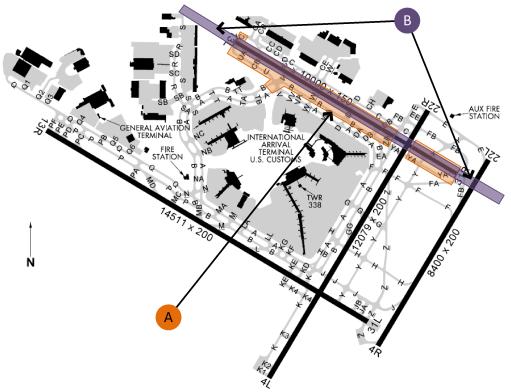


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Α	RWY 13L/31R & TWYs																																				

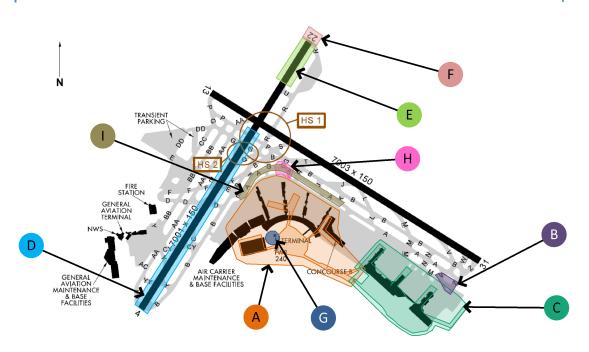
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	RWY 13L/31R & TWYs	RWY 13L/31R closed for reconstruction and widening to 200 ft. New high-speed Taxiway. Crossing TWYs closed for rehabilitation and upgrades for Group VI aircraft.  Rehabilitation and realignment of TWY U and TWY intersection (U/V/B) for A380 operations. Reconstruction of TWY YA stub for future realignment. Drainage system upgrades.	04/01/2019 to 11/16/2019	In Progress		Available TWY/RWY crossings for RWY 22R departures: 4/1/19-6/20/19 - TWYs E, V, B or C (up to group IV aircraft 11:00L to 23:00L). 6/21/19-6/30/19 - TWYs E, D and DB or Y. 7/1/19-7/14/19 - TWYs Y, E, D and DB. The RWY between TWY D and E - 11:00L to 23:00L or coordinated. 7/15/19-8/24/19 - TWYs Y, E, D, DB and W. RWY between TWY W and E - 11:00L to 23:00L or coordinated. 8/25/19-11/15/19 - TWYs Y, E, D, DB, W, and V or U or U/C.

**Q3-2019 Airport Construction Outlook** 



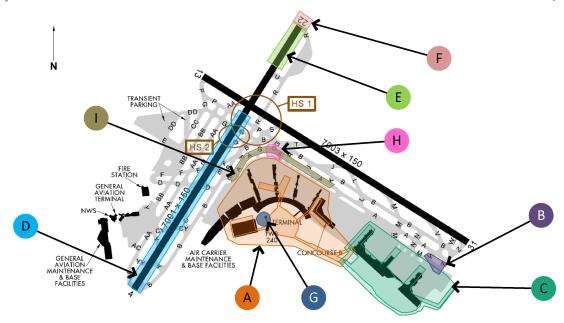
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В	RWY 13L/31R Lighting																																		

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
В	RWY 13L/31R Lighting	Replace RWY 31R Visual Approach Slope Indicator (VASI) lights with Precision Approach Indicator (PAPI) lights. Replace RWY 31R Medium intensity Approach Lighting System (MASLR) and 13L Approach Lighting System (ALSF).  Additional lighting systems upgrade/replacement and airfield signage.	09/09/2019 to 11/15/2019	Upcoming		No outage expected for this project, just cutover.  Planning includes scheduling during RWY 13L/31R construction.
		Replacement of Lead-in Lights (Lefferts) supporting RWY 13L.	07/15/2019 to 09/13/2019	Upcoming	•	Design phase complete.  Outage and replacement planned during shutdown of RWY 13L/31R.
		Replacement of Lead-in Lights (Old Mill) supporting RWY 13L and RWY 13R.	11/29/2019 to 12/24/2019 TBD	Upcoming		Outage being coordinated with N90. May be completed after RWY construction or in spring 2020.



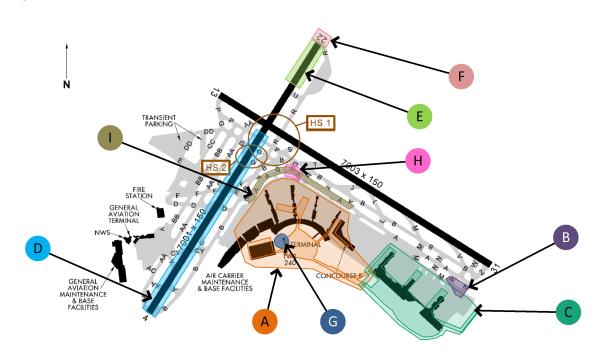
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Α	Terminal B																													
В	TWYs M & Z																													
С	Terminals C & D																													

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	Terminal B	Terminal B redevelopment of the Central Terminal Building (CTB). Construction expected to include the demolition of the existing terminal and associated infrastructure.  Construction is for a new 35 gate terminal.	08/04/2015 to 11/07/2021	In Progress		The ZA ramp area is not available for use during phase 1. ZA is now decommissioned. New deicing areas have been relocated in front of the American hangars.
В	TWYs M & Z	New construction of terminal C. A portion of TWY M will be permanently closed in Sep 2019, the remainder of TWY M will become a non-movement area and renamed Taxilane M.	07/24/2017 to 03/19/2022	In Progress		In support of Terminal C redevelopment.
С	Terminals C & D	Terminals C & D redevelopment. Construction includes demolition of the existing terminals and reconstruction. Construction is for a 37 gate terminal.	08/01/2017 to 01/12/2027	In Progress		Construction includes new main terminal. Terminal C & D is approx. 38% of LGA passenger traffic (275 daily departures). Concourse G is planned to open Sept. 2019.



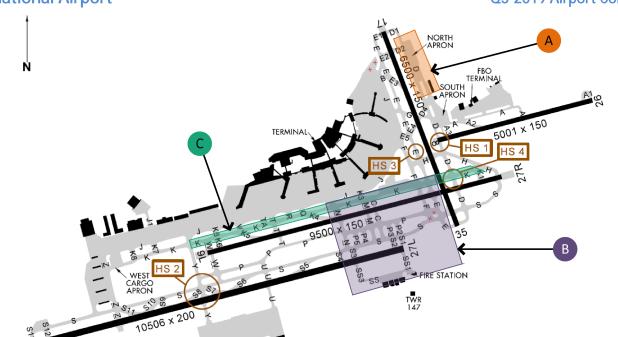
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D	RWY 4/22																																							
Е	RWY 4/22 Deck		I																																					
F	RWY 22 LDA																																							

ľ		Project	Description of Work	Estimated Dates	Status	Impact	Notes
	О	RWY 4/22	RWY 4/22 closed for rehabilitation. Mill and overlay of runway deck wearing course, and concrete panel replacement.  Resurfacing RWY 4/22 from the approach end of RWY 4 to the RWY intersection. Includes all RWY crossings and exits.	04/14/2019 to 09/15/2019	In Progress		Multi-phased project. The majority will be completed during weekend closures. The RWY closures required for this project will be scheduled during nighttime, and during scheduled weekend closures to minimize impacts. Associated TWY work will continue thru November 2020.
	Ш	RWY 4/22 Deck	Runway 4/22 deck rehabilitation.  Continuation of the resurfacing of the NE 1000' of RWY 4/22.	06/14/2019 to 07/06/2019	In Progress		The resurfacing of Runway 4/22 will be completed using night and weekend closures to minimize the effect on capacity.  Weekend work only.
	F	RWY 22 LDA	RWY 22 localizer directional aid (LDA) replacement (new MK20A localizer).  Possible antenna relocation.	07/13/2019 to 08/02/2019	Upcoming		RWY 22 localizer replacement to support a more stable RWY 4 localizer signal.



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C	3	Control Tower ASDE Antenna																																						
ŀ	1	TWY A Drainage																																						
	ı	TWY A																																						

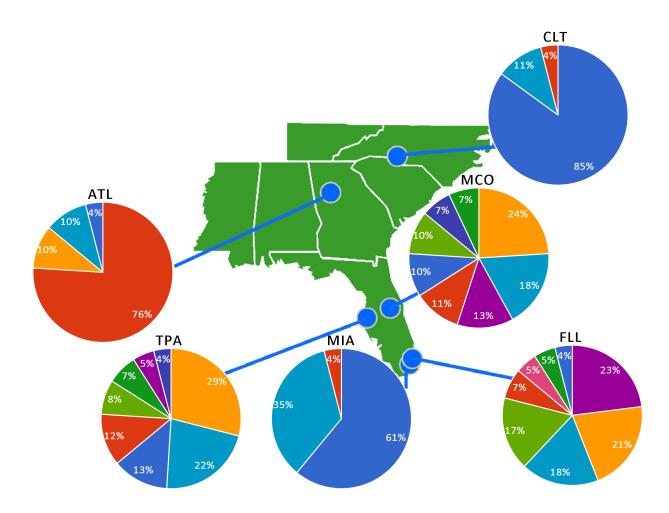
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
G.	Control Tower ASDE Antenna	Remove and replace ASDE antenna on top of tower cab. A crane will be positioned at tower to lift the Antennas	07/31/2019 to 07/31/2019	Upcoming		Expecting to schedule during one weekend to minimize operational impacts.
J		ASDE and RWSL out of service for 1-2 days.	07/01/2017 to 07/01/2017	Opcoming		ATC Specialists may need to evacuate tower cab during lifts on the midnight shifts.
Н		Taxiway A closed for installation of new 72' drain line across TWY A to the Central Terminal Building (CTB) concourse C.	09/16/2019 to November 2019	Upcoming		TWY A closed from TWY G to TWY H, TWY GG closed for same duration. No temporary "bypass" constructed to replace TWY A for any duration of this project.
_	TWY A	TWY A closed for rehabilitation. Resurfacing TWY A between TWY E and TWY K.	03/16/2020 to 09/30/2020	Upcoming		Project expected to bid in Dec 2019 and construction in Spring/Summer 2020.

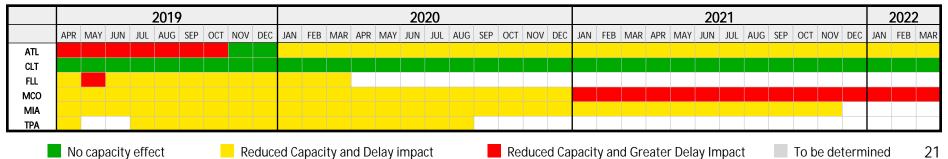


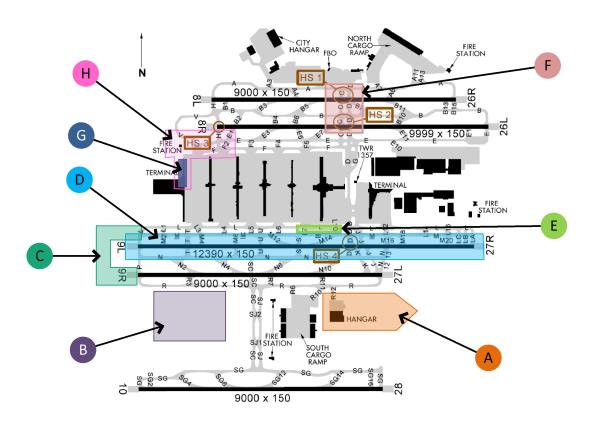
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Α	Airfield North Apron																															
В	TWYs S, E, F, & P																															
С	TWY K																															

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	Airfield North Apron	Reconstruction and rehabilitation of the North Apron and TWY D.	03/05/2019 to 11/15/2019	In Progress		Phased (2) closure on TWY D.
В	TWYs S, E, F, & P	Associated with RWY 27L extension. Includes milling and paving, storm drainage, electrical conduit, centerline lights, elevated runway guard lights (ERGL), and signage. Rehabilitation of TWYS and E. Extension of TWY F to TWY S and extension of TWY P to TWY E. Fulldepth construction in between TWY S/F, and TWY P/E.	04/08/2019 to 12/01/2019	In Progress		Final phase of the RWY 9R/27L extension, package 3 of 3.
С	TWY K	Reconstruction of TWY K. Construction includes demolition, paving, lighting, marking, and grading.	03/15/2020 to 08/31/2024	In Progress		Potential for limited impact to adjacent TWYs.



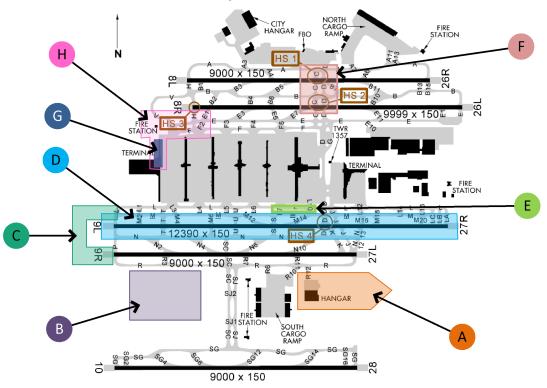






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	Project	APR	MAY	JUN	JUL	AUG	SEP	OCT NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB	MAR	APR MA	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB	MAR
Α	South Cargo Expansion																																		
В	North Cargo Relocation & Expansion																																		

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	South Cargo Expansion	Air cargo facilities (Building E) will be moved to this area of the complex.	06/01/2017 to 2019 TBD	In Progress		Development of Cargo Building E and supporting ramp to provide for additional cargo facility capacity for all-cargo/freighter carriers.
В	North Cargo Relocation & Expansion	Air cargo facilities (Buildings 2A & 2B) will be moved to this area of the complex.	04/01/2018 to Q2 2019	Complete		Cargo Buildings 2A and 2B will be constructed in 3-4 phases. Construction will require relocation of FAA West Remote Transmitter, ASOS, and Low Level Wind Shear System (LLWAS) #7 sensor.



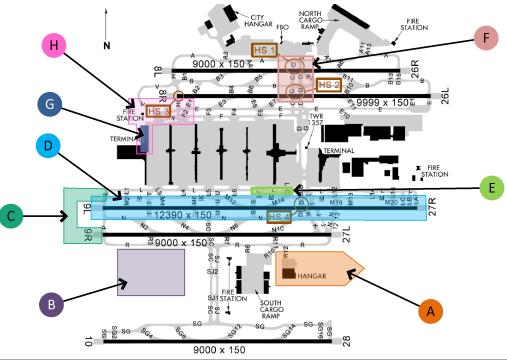
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С	RWY 9L End-Around TWY																																	
D	RWY 9L/27R																																	
Е	TWY L																																	

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
С	RWY 9L End-Around TWY	Construction of an EAT at RWY 9L to provide more efficient capacity and reduce delays.	04/01/2018 to 11/30/2022	In Progress		Multi-phase project. Phase 1 will coincide with runway rehabilitation/reconstruction.
D	RWY 9L/27R	RWY 9L/27R closed for pavement replacement.	09/15/2018 to 10/13/2019	In Progress		During this project, a 3-week, full runway closure along with temporary threshold displacement and Navigational Aid (NAVAID) outages will be necessary. This project will enable RWY 9L End-Around-TWY (EAT).
E	TWY L	Replace TWY L between ramp 5 (South) and ramp 6 (South).	08/16/2019 to 09/07/2019	Upcoming		Will utilize alternate taxi routes during construction.

# ATL (3 of 3)—Hartsfield-Jackson Atlanta International Airport

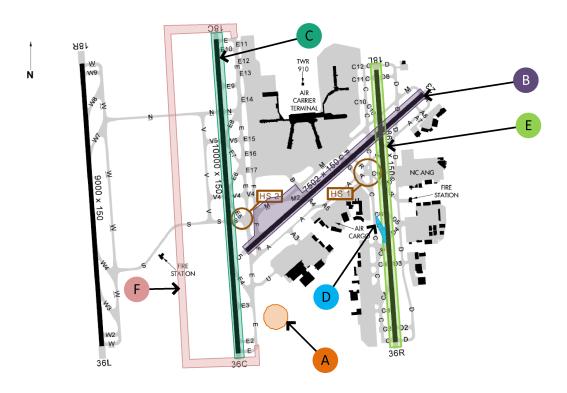
### Q3-2019 Airport Construction Outlook





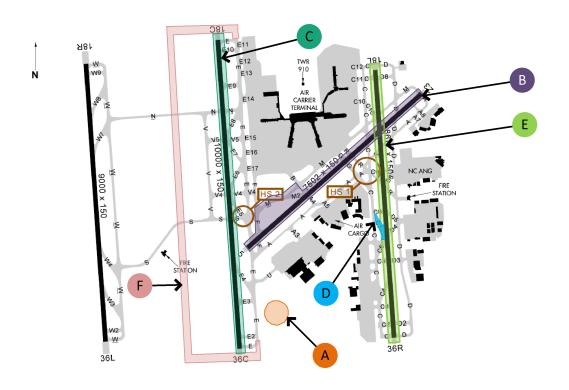
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F	Hot Spot 1 & Hot Spot 2																																		
G	Concourse T																																		
Н	Taxiway V																																		

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
F	Hot Spot 1 & Hot Spot 2	RWY Incursion Mitigation Program: RWY 8L/26R, HS1, TWY C, D, B intersections; RWY 8R/26L, HS2, TWY C, D intersections.	2020 TBD	Upcoming		RWY Incursion Mitigation Program (RIM) of HS1 and HS2. Both are located on the north airfield and require shifting of portions of TWYs C and D that intersect RWYs 8L/26R and 8R/26L at midfield. Phased project planned to minimize costs and airfield impacts.
G	Concourse T	North extension; to modify terminal parking and apron areas and construct 6 new gates to accommodate up to Aircraft Design Group (ADG) III.	09/01/2020 to Winter 2023	Upcoming		Concourse T will be extended. Construction will add 6 new gates.
Н	Taxiway V	TWY V realignment and redesign, for TWYs E, F, H, E1 and F2.	09/01/2020 to 10/31/2020	Upcoming		Preliminary work to support the construction of, and use of Concourse T expansion. 4 Phases to minimize the impact to operations.



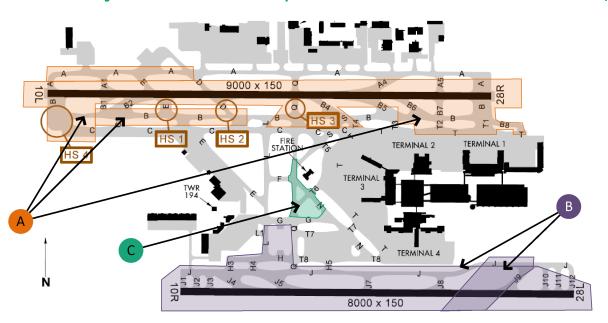
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Α	Control Tower																															
В	RWY 5/23 & TWY's																														$\perp$	$\perp$
С	RWY 18C/36C																															

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	Control Tower	New FAA Control Tower.	06/02/2017 to 2020 TBD	In Progress		Tower should be commissioned and operational in early-2020.
В	RWY 5/23 & TWY's	RWY 5/23 closed to support construction.  TWY F, M, and M2 closed north of runway 5/23 for rehabilitation.	04/12/2019 to 11/22/2019	In Progress		During project, RWY 5/23 will be closed to arriving and departing aircraft.
С	RWY 18C/36C	RWY 18C/36C closed for joint seal replacement.  Nightly closures.	04/19/2019 to 06/19/2019	Complete		Runway will be used for taxiing aircraft.  This project expecting during overnight hours, between 2315-0600L daily.



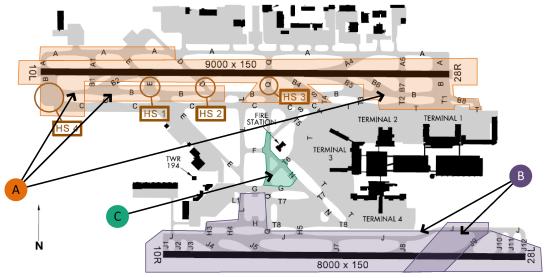
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D	TWY C7																																		
Е	RWY18L/36R																																		
F	New 4th Parallel RWY																																		

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
D	TWY C7	Permanent Demolition of TWY C7.	09/01/2019 to 12/20/2019	Upcoming		No operational impact.
Е	RWY18L/36R	RWY 18L/36R closed for rehabilitation.	05/01/2020 to 10/31/2020	Upcoming		This project takes place over night between 2315L-0715L daily.
F	New 4th Parallel RWY	Build new runway to add capacity, 12,000 ft. x 200 ft., plus end-around TWYs.	07/01/2020 to 09/30/2024	Upcoming		Multi-phased project. Design phase 2018. Possible service interruptions due to infrastructure system tie-ins. Possible arrival/departure impacts due to equipment, and construction cranes.



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	Project	APR	MAY	JUN	JUL	AUG	SEP	OCT NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR AP	R MA	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB	MAR
Α	RWY 10L/28R and TWYs																																		

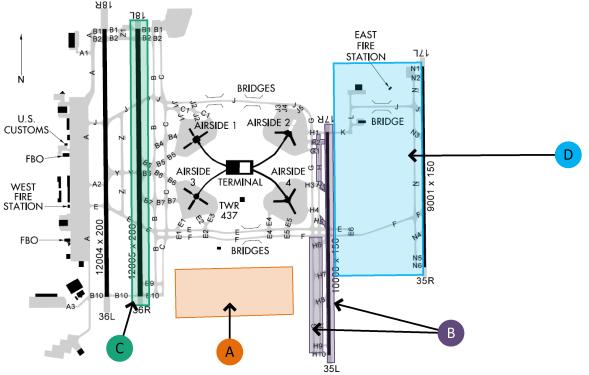
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
		Phase 2 (88 days) - TWY A rehabilitation.	03/25/2019 to 06/02/2019	Complete		Construction in the Northwest cargo ramp area. There will be impact to aircraft taxiing in this area. Additional runway crossings will be needed so departing traffic can access full length.
Α	RWY 10L/28R and TWYs	Phase 3 (120 days) – RWY/EMAS rehabilitation. RWY resurface/EMAS update.	06/03/2019 to 10/03/2019	In Progress		Single runway operation, expect reduced capacity and delays. Main crossing point for aircraft will be TWY Q.  Expecting 28 AAR, available during both East/West operations, and changes for weather or other constraints. Arriving aircraft 16-23 min. delay during peak operations. Surface modeling complete; additional 2 ½ min. taxi-in, 7 min. taxi-out during VMC.
		Phase 4 (159 days) - TWY B rehabilitation, 10/1/19 to 3/8/20.  TWY rehabilitation, includes milling and paving.  New surface markings and signage.	10/01/2019 to 03/08/2020	Upcoming		Runway open.  Expected end of construction: Sat 3/7/2020.



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	Project	APR	MAY	JUN	JUL	AUG	SEP	OCT N	OV DE	CJAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB	MAR A	PR MA	AY JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB N	ЛAR
В	RWY 10R/28L																																		
С	Airfield TWYs (center)																																		

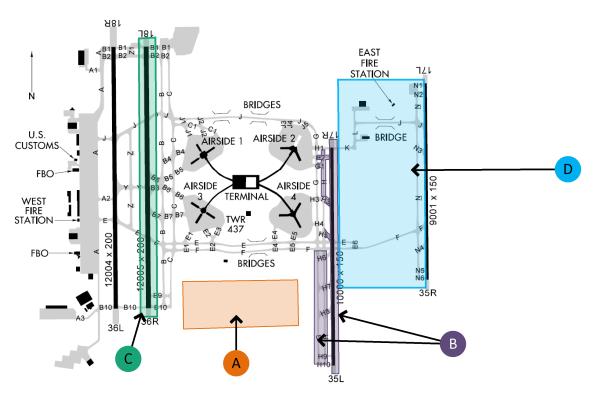
		Project	Description of Work	Estimated Dates	Status	Impact	Notes
			RWY 10R/28L and associated TWYs closed for Rehabilitation. Milling and paving RWY 10R/28L, TWYs J and H, and parts of TWYs L and Q.  Construction will consist of concrete and joint repairs, concrete crack and surface sealing, bridge structure expansion joint replacement, and pavement markings.	03/25/2019 to 04/22/2019	Complete		Phase 1: closed daily from 2200L to 0600L. Duration: 4 weeks. System Impact Report (SIR) complete.  Runway 10R/28L will be cleared and available in 30 minutes for emergency incidents.
I	В	RWY 10R/28L	RWY 10R/28L and TWY J closed for RWY, TWY, and bridge structure repairs. Includes total expansion joint replacements, concrete panels, and bridge header repairs.  RWY 28L: two joint replacements 775' and 790' four header replacements 175', 255', 255', and 135'  TWY J: two joint replacements 365' and 430' three header replacements 15', 105', and 25'	05/21/2019 to 05/23/2019	Complete		Notification by local authorities advised the RWY needs emergency repairs . The construction will occur in the aircraft takeoff and landing zones for RWY 28L.
	С	Airfield TWYs (center)	Surface area closed for rehabilitation and maintenance. Area closed for 4 days, during nights and mornings 9:00PM to 10:00AM local.	April 2019	Complete		

IATA Level 2



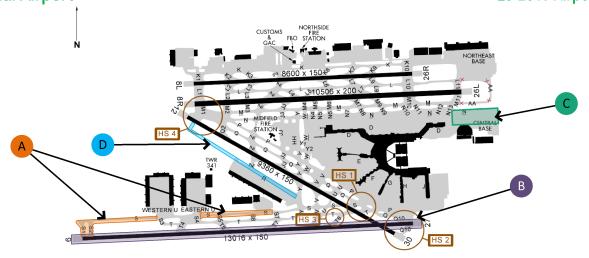
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Α	South Terminal Complex																															
В	RWY 17R/35L & TWYs																															

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
A	South Terminal Complex	Construction of a new South Terminal Complex and associated apron/taxiway. Limited RWY/TWY closures.	11/14/2017 to Dec 2021 TBD	In Progress		Expecting some system impacts when taxiway closures are required. Work on the parking garage and intermodal train station have begun. Construction cranes may affect some arrival minimums. Construction date for beginning the south terminal for aircraft operations is still TBD.
В	RWY 17R/35L & TWYs	RWY 17R/35L and associated TWYs closed for rehabilitation. Improvements to RWY geometry, markings, lighting, and signage.  Phase 1 Taxiway (South) - 2/8/19 to 3/10/19 Phase 2 Runway - 3/10/19 to 8/7/19 (150 days) Phase 2A/2E Taxiway (Middle & North) - 3/10/19 to 8/7/19	03/11/2019 to 08/07/2019	In Progress		There may be some delay impacts due to volume.  Dedicated Departure runway 18L/36R Dedicated Arrival runway 18R/36L Shared runway 17L/35R



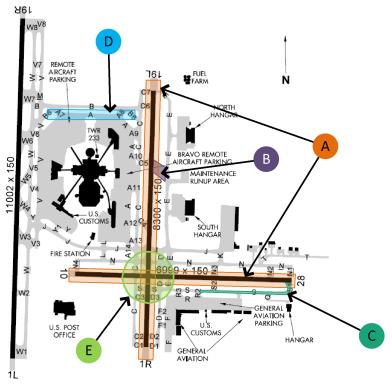
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С	RWY 18L/36R																																			
D	East-side Taxiways																																			

I		Project	Description of Work	Estimated Dates	Status	Impact	Notes
	C		Rehabilitate pavement, includes mill and overlay, joint sealing and other repairs. Improvements for pavement geometry, runway shoulder pavement widening, blast pad enhancements, markings, lighting, and signage.	01/01/2020 to 2020 TBD	Upcoming		Some delay impacts expected. Loss of ILS RWY 36R could result in some delays during weather and require TMU initiatives. Advance coordination will be in place between TMU and users to help mitigate any issues. Funding has not yet been determined. Additional TWY closures expected at various phases.
	D	East-side Taxiways	Rehabilitate pavement, lighting, painting and signage on all taxiways between RWYs 17L and 17R.	2021 TBD to 2022 TBD	Upcoming		Still in the design phase. If long term taxiway closures are encountered capacity could be reduced due to the fact we could not access RWY 17L/35R.



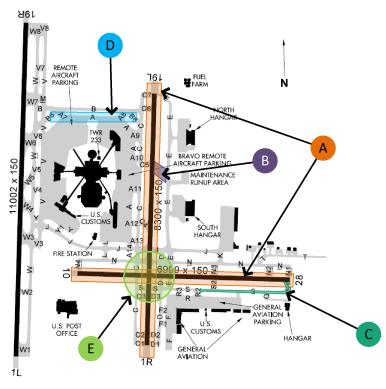
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	Project	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC .	JAN	FEB MAR
Α	TWYs S & T																																			
В	RWY 9/27 Lighting																																			
С	Central Base Ramp																																			
D	RWY 12/30 & TWY R																																			

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
		Rehabilitation: mill and overlay, lighting upgrades, and pavement markings.  TWY S from TWY T3 and TWY S1 closed.	02/12/2018 to 03/25/2019	Complete		TWYs will be closed in segments to minimize potential impacts.
Α	TWYs S & T	Rehabilitation: mill and overlay, lighting upgrades, and pavement markings.  TWY S from Western U ramp and approach end of RWY 09 closed.	03/22/2019 to 04/29/2019	Complete		TWYs will be closed in segments to minimize potential impacts.
В	RWY 9/27 Lighting	Work needs to be completed on a number of runway light fixtures.	04/01/2019 to 04/11/2019	Complete		Runway 9/27 is scheduled to be closed 4/1/19 – 4/4/19 from 0100Z – 1400Z then the same time frame again the following week plus an additional day if needed the week of 4/15/19 TBD.
С	Central Base Ramp	Central Base (East side) ramp expansion and taxiway tie-in.	04/15/2019 to 11/01/2021	In Progress		Project will impact operations during taxiway tie-in work at the N-13 intersection.
D	RWY 12/30 & TWY R	Relocation and westward extension of TWY R, upgrading utilities and lighting.  RWY 12/30 full closure.	06/14/2019 to 07/12/2021	In Progress		Expecting increased taxi times due to closures. Multi-phased plan will have taxiway closed in segments to minimize impacts. Expecting major construction work during mid-shift hours.



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Α	RWY 19L/1R AND RWY 10/28 and TWYs																																			
В	TWY U																																			
С	TWY S Reconstruction																																			

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	RWY 19L/1R AND RWY 10/28 and TWYs	Renaming of feeder taxiways associated with RWY 19L/1R and RWY 10/28. This will require intermittent daily closures to replace signage.	01/07/2019 to 04/15/2019	Complete		Possible airborne holding, expanded miles-in-trail, ground stop, or ground delay program.
В	TWY U	TWY U closed between RWY 01R/19L and TWY E.	02/07/2019 to 04/30/2019	Complete		TWY U will be closed permanently until such a time it can be reconstructed to meet new FAA runway configuration standards.
С	TWY S Reconstruction	TWY S closed for reconstruction from TWY R2 to approach end RWY 28.  Reconstructing asphalt sections.	03/11/2019 to 04/15/2019	Complete		Reconstruction project will require intermittent closures of RWY 10/28.

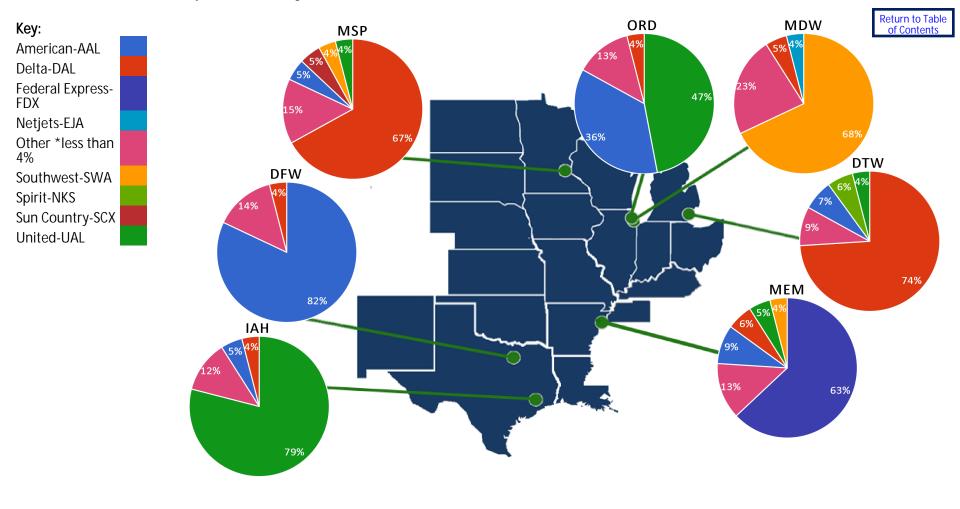


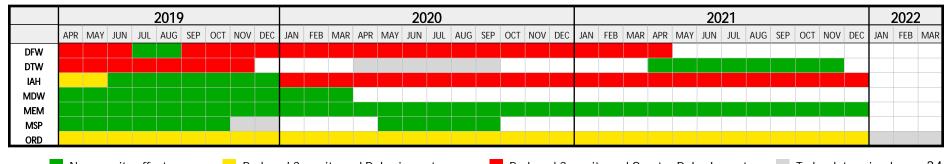
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D	TWY A																																	
Not Depicted	Airfield Runway Threshold Lighting																																	
Е	RWY 1R/19L Lights																																	

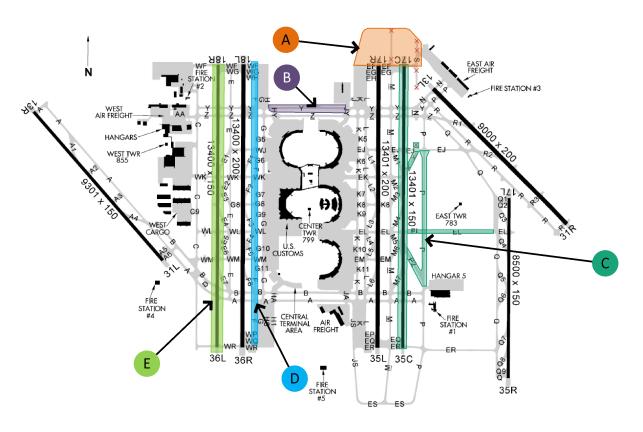
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
D	TWY A	TWY A bridge closed for construction.	July 2019 to August 2020	Upcoming		Intermittent impacts to aircraft using TWYs V and C.
Not epicted	Airfield Runway Threshold Lighting	Runway threshold lighting on all runways will be upgraded to meet FAA standards	August 2019 to March 2020	Upcoming		This will require single day closures of each runway to complete this work. Possible airborne holding, expanded miles-in-trail, ground stop, or ground delay program.
E	RWY 1R/19L Lights	Installation of runway guard lights (RGLs) on the taxiways around the intersection of RWY 10-28 and RWY 1R/19L.	August 2019 to March 2020	Upcoming		Project expected to close associated TWYs which impact aircraft entering/exiting RWYs.

# Central Service Area, Impact Summary, Carrier Distribution

#### Q3-2019 Airport Construction Outlook

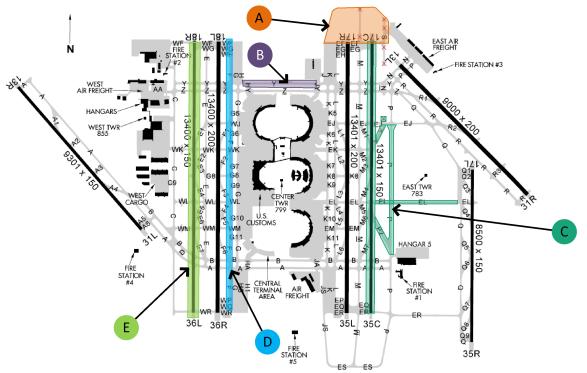






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Α	RWY 17C & 17R North Section																																	

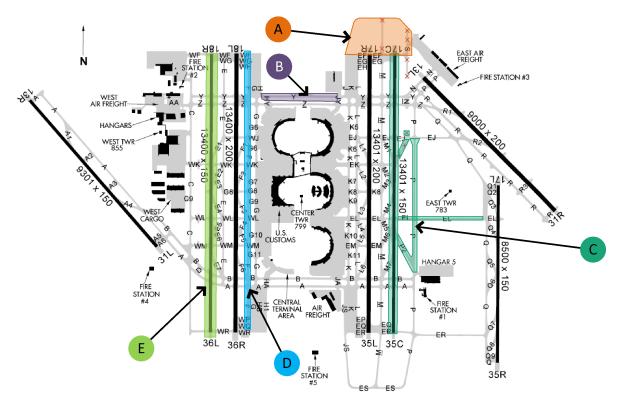
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
		Northeast End-Around Taxiway (NEAT).	05/24/2018 to 06/30/2020	In Progress		Project supports taxiway tie-ins for NEAT.
		Phase 1: TWY P realignment will need non- simultaneous closures of TWYS Y/N and Z/P.	03/24/2010 to 00/30/2020	iiii rogress		Troject supports taxiway tie-ins for NEAT.
Α		Phase 2: Includes construction of TWY N from the N1 high speed and connection to TWY M.	2020 TBD	Upcoming		Project supports taxiway tie-ins for NEAT.
		Phase 3: Glycol facilities relocation near the approach end of RWY 17R and the construction from TWY K to TWY M.	06/30/2019 to 09/23/2020	In Progress		Project supports relocation of deicing fluid facilities.



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	Project	APR N	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR N	/IAY JU	JN J	UL A	UG S	SEP	ОСТ	NOV	DEC	JAN	FEB	MAR
В	TWY Y																											П									
С	RWY 17C/35C & TWYs																																				

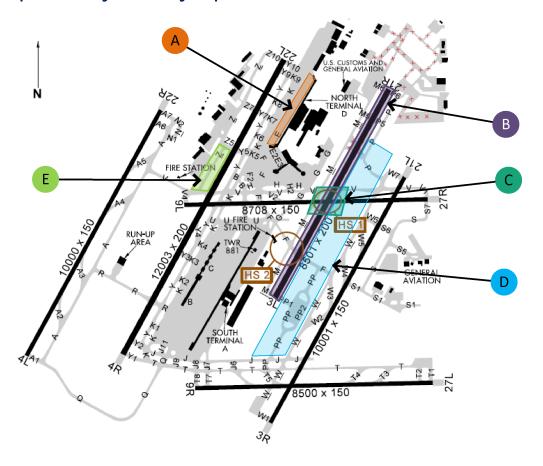
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
В	TWY Y	TWY Y closed between taxiways HY and JY for bridge reinforcement.  Nightly: 2300L-0600L as needed.	02/24/2019 to 06/15/2019	Complete		TWY Y closure is not concurrent with any other east/west airfield connector TWY. Some aircraft that normally use the north bridge taxiways will be rerouted to use the south bridges (A&B) which will increase taxi times and congestion. Taxi in/out times will increase during this long term closure. MIT or metering for arrivals. Departure delays of 15-29 minutes possible.
С	RWY 17C/35C & TWYs	RWY 17C/35C and associated TWYs closed nightly for final rehabilitation activities (11pm-6am). TWY P2 closed between RWY 17C and TWY P. TWY EL closed between RWY 17C and TWY Q. TWY P closed between TWY EJ and maintenance hangar.	03/10/2019 to 06/15/2019	Complete		Multi-phased project.





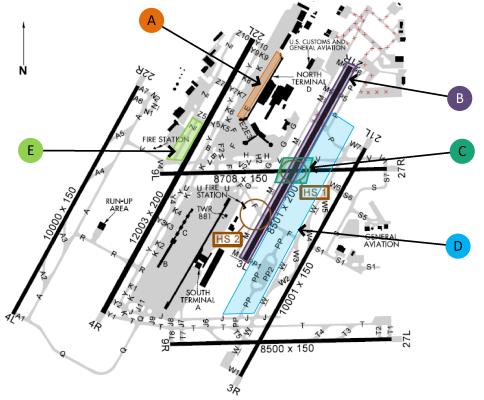
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D	TWY F																																	
E	RWY 18R/36L																																	

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
D	TWY F	TWY F closure. Replace and expand asphalt shoulders, replace concrete panels, expand pavement at key intersections.	09/01/2019 to 09/30/2020	Upcoming		
F	RWY 18R/36L	RWY 18R/36L limited closures for upcoming rehabilitation.  Closed nightly.	03/01/2020 TBD to 08/01/2020	Upcoming		Preparation for full closure.
		RWY 18R/36L closed for rehabilitation. Full closure.	08/01/2020 TBD to 04/30/2021	Upcoming		



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Α	North Terminal Expansion																																										
В	RWY 3L/21R and TWY M																																										

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	North Terminal Expansion	North Terminal gate expansion (3 gates), Apron rehabilitation, and return overnight (RON) parking.	07/01/2018 to 11/15/2019 TBD	In Progress		Project is in non-movement area. Minimal impact to aircraft ground movement is expected.
В		RWY 3L/21R and parallel TWY M closed for rehabilitation.	04/01/2019 to 11/15/2019	In Progress		Runway 3L/21R is a primary departure runway. During peak arrival demand possible departure delays due to single runway departure operation.



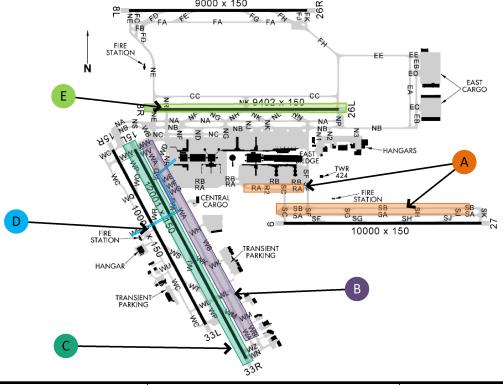
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С	RWY 9L/27R																																
D	TWY P & PP																																
Е	TWY Z																																

ľ		Project	Description of Work	Estimated Dates	Status	Impact	Notes
	С		RWY 9L/27R closed for rehabilitation of intersection with RWY 3L/21R.	07/01/2019 to 09/14/2019	Upcoming		Runway 9L-27R is primary departure runway during crosswind conditions (<3% of the time). Phasing has been scheduled outside of the crosswind season to minimize potential for use.
	D	TWY P & PP	TWYs will be closed for Taxiway PP and P rehabilitation. Taxiway P extension construction.	04/01/2020 to 09/16/2020	Upcoming		Multi-phased project to allow for crossings to be maintained and facilitate ground movement of aircraft from Runway 3R-21L and tenant locations.
	E	TWY Z	TWY Z relocation between TWY V and TWY Z5.	04/01/2021 to 11/15/2021	Upcoming		

## IAH (1 of 2)—George Bush Intercontinental/Houston Airport

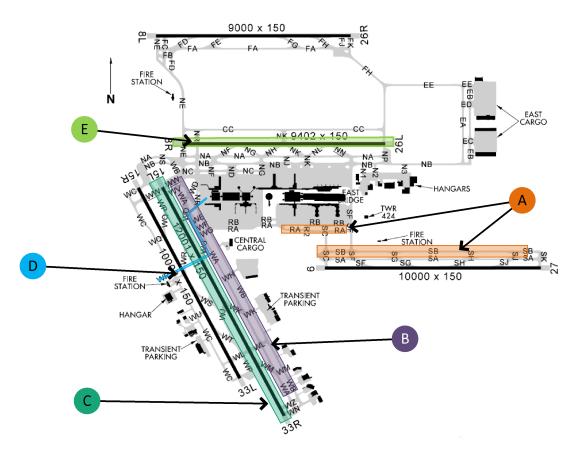
#### Q3-2019 Airport Construction Outlook





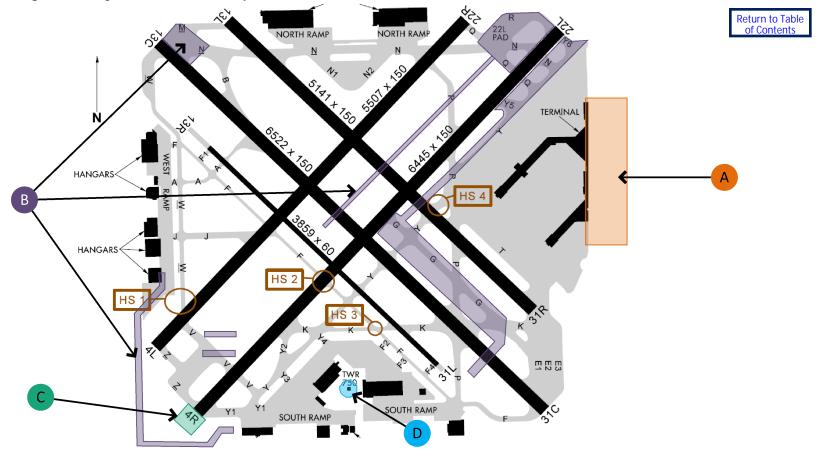
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Α	TWY RA, SA, SB		L																													
В	TWYs WA and WB																															
С	RWY 15L/33R																														$\Box$	

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	TWY RA, SA, SB	TWYs RA, SA, and SB (South Area) reconstruction.	03/01/2018 to Q2 2019	Complete		UAL Ramp control may incur internal delays getting to transfer of control point (CP).
	TIAN/a 14/A and 114/D	Complete reconstruction of Taxiway WA to make ADG VI compliant.	Fall 2018 to Fall 2019	In Progress		Should be completed late September 2019.
В	TWYs WA and WB	Complete reconstruction of Taxiway WB.	Fall 2019 to Fall 2021	Upcoming		Will begin phasing closures a few weeks after TWY WA opens.
С	RWY 15L/33R	RWY 15L/33R closed to tie in adjacent taxiways and related construction projects. Runway closed continuous and not recallable.	01/13/2019 to 04/02/2019	Complete		12,000 ft. departure RWY is not available during this period to heavy cargo and foreign carriers. Possible airborne delays 15-45 minutes, due to airport capacity.



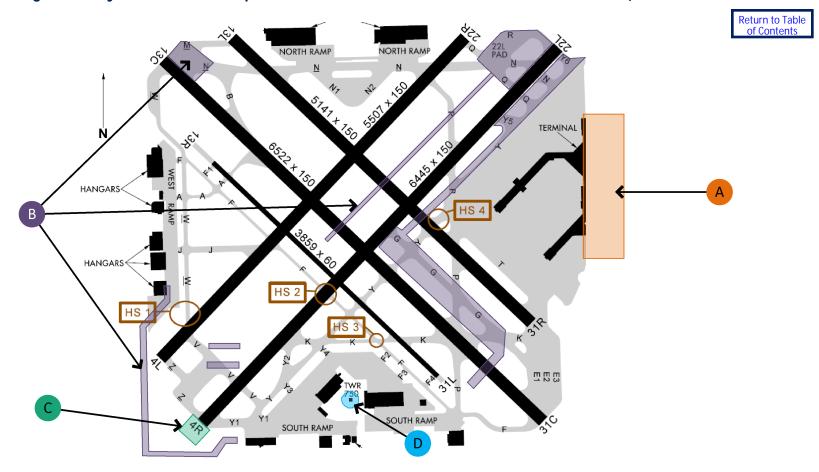
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D	Airport Sanitary Sewer Mains																																			
Е	RWY 8R/26L																																			

ſ		Project	Description of Work	Estimated Dates	Status	Impact	Notes
	D	Airport Sanitary Sewer Mains	Rehabilitation of sewer line from Terminal A Southbound, then West of TWY WC.	Fall 2019 TBD to Spring 2021 TBD	Upcoming		Project delayed, estimated project duration 419 days.
	E	I RWY 8R/70I	RWY 8R/26L closed for resurfacing, and electrical upgrades.	2020 TBD to 2021 TBD	Upcoming		Unknown start date.



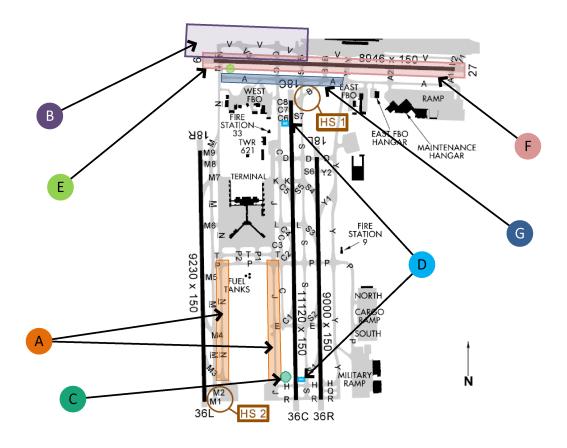
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Α	Terminal Parking Garage																																	
В	Airfield Lighting																																	

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	Terminal Parking Garage	Expansion of the existing terminal parking structure.	01/01/2018 to 03/25/2020 TBD	In Progress		This project should be minimal impact. During occasional weather periods the RNAV 22L approach may have increased minimums.
В	Airfield Lighting	Airfield lighting improvements. Construction of electrical duct banks and manhole system near the approach end of RWY 22L.	04/01/2018 to 11/30/2019	In Progress		Primarily nighttime work near the approach end of RWY 22L that may require associated TWY closures.



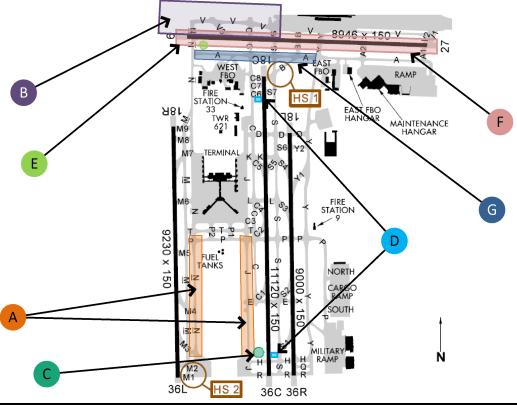
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С	RWY 4R/22L EMAS																																
D	ATCT																																

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
С		Repair/replace Engineered Material Arresting System (EMAS) at Southwest end of RWY 4R/22L.	Fall 2018 to 06/30/2019	In Progress		Project will require runway closure but will be based on availability of alternate runways.
D		Replacement/upgrade of ATCT emergency battery power supply (UPS).	08/01/2019 to 08/31/2019	Upcoming		ORM meetings in progress, plans for temporary tower during weekend overnight power loss.



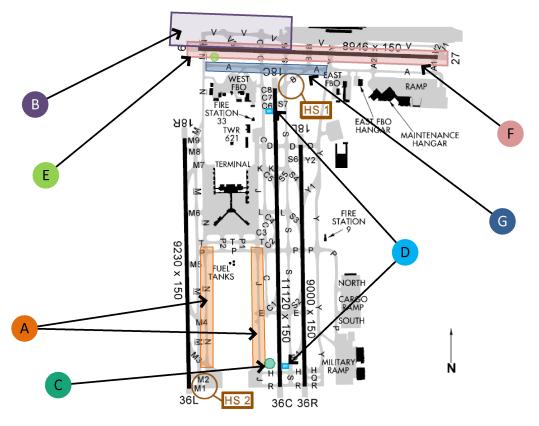
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Α	TWYs N & J Deicing Pad																																		
В	Ramp Area																																		

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	TWYs N & J Deicing Pad	TWYs N & J, deicing (glycol collection) pad between RWY 36L and 36C.	09/01/2017 to 2021 TBD	In Progress		Area affects approaches during CAT 2/3 conditions. Airport will lower crane(s) when anticipating CAT 2/3 conditions to mitigate impact. However, some CAT 2/3 conditions may still add impact.
В	Ramp Area	Fed Ex ramp western area expansion.	02/04/2019 to 09/30/2019	In Progress		Sub projects associated with this operation expected to fluidly affect taxi operations. Crane operations planned.



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С	RWY 36C Glideslope Bldg.																														
D	RWY 18C/36C Lighting																														
Е	RWY 9 Lighting																														

I		Project	Description of Work	Estimated Dates	Status	Impact	Notes
	С	RWY 36C Glideslope Bldg.	RWY 36C glideslope shelter replacement	06/20/2019 to 07/10/2019	In Progress		Possible daytime and short term closures. Some concrete work may involve close in obstacles that require Obstacle Evaluation.
	D		RWY 18C/36C Precision Approach Path Indicator (PAPI) installation.	07/01/2019 to 08/05/2019	Upcoming		Daytime closure required – scheduling hours of work to be accomplished during time periods that minimize impact on air traffic operations.
	E	RWY 9 Lighting	RWY 9 ILS/LOC system and shelter replacement.	08/05/2019 to 10/07/2019	Upcoming		Runway 09/27 daily closure with delays. Impact has been discussed. Daytime Hours: 0630-1430L. May include weekend work.

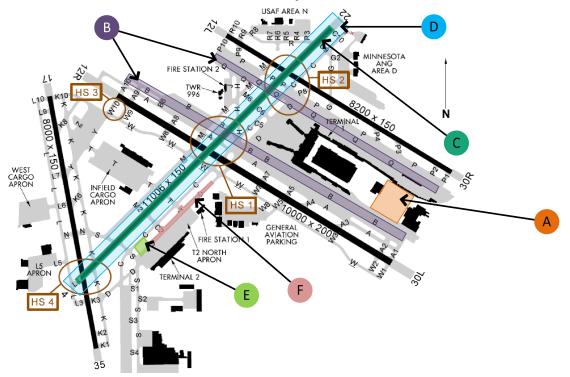


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F	RWY 9/27 Status Lights																																		
G	TWY A																																		

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
F		RWY 9/27 runway status lights (RWSL) system will be installed.	2021 TBD	Upcoming		Construction dates are TBD. Impact level will be changed if there is any effect on capacity or delays.
G	TWY A	TWY A (West) full-depth reconstruction of approx. 4,125 ft. Includes demolition, grading, drainage, airfield signage, markings, and electrical lighting.  Duration 4 months	Summer 2022	Upcoming		Preconstruction meeting with airport authorities and discussion included construction dates and potential impacts. Construction will be done in sections. Impact level will be changed if there is any effect on capacity or delays.

# MSP (1 of 2)—Minneapolis-St. Paul International/Wold-Chamberlain Airport

### Q3-2019 Airport Construction Outlook

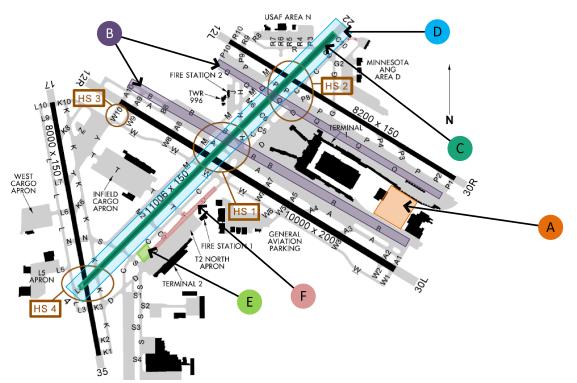


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Α	Parking Ramp Construction																																				
В	TWYs B & Q																																				
С	RWY 4/22 as TWY																																				

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	Parking Ramp Construction	Large cranes (4) will be erected to support Terminal 1 parking ramp construction. RWYs 12R and 12L have Cat II available to RWY threshold. Beyond RWY threshold, the localizer is unusable.	03/02/2018 to 08/31/2019	In Progress		Cranes impact the localizers on RWYs 12R, 12L, and 30L. This will reduce RWY 30L to a Cat I ILS only. There are no Cat III approaches available to RWY 12L or 12R. Will not reduce the arrival rate, but will impact what aircraft/airlines are able to conduct an approach. TMIs will be utilized during active weather conditions.
В	TWYs B & Q	Adding Centerline Lighting for Taxiways B & Q.	05/06/2019 to 08/30/2019	In Progress		Work to be completed on overnights.
С	RWY 4/22 as TWY	Install RWY 4/22 guard and TWY edge lights.	05/27/2019 to Fall 2019	In Progress		These lights will be turned on when RWY 4/22 is used as a taxiway.

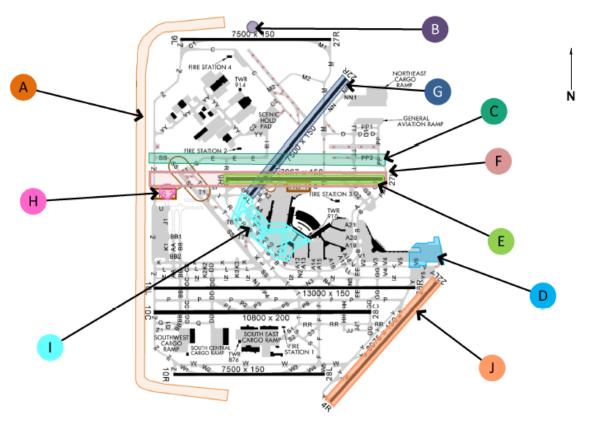
### Q3-2019 Airport Construction Outlook



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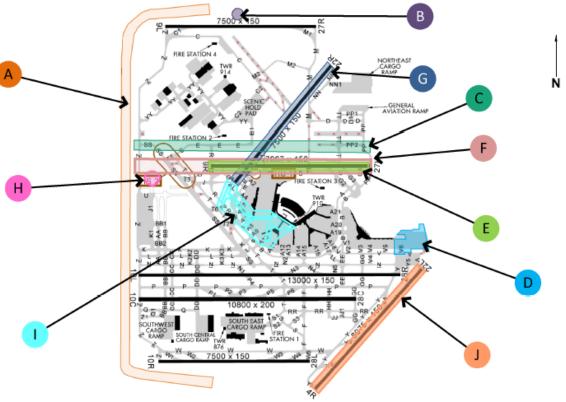
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D	RWY 4/22 Grading																														
E	TWY C1																														
F	TWY D																														

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
D	RWY 4/22 Grading	RWY 4/22 Safety Area grading.	06/01/2019 to 09/30/2019	In Progress		Limited impact to RWY operations.
E		Construction of new TWY C1. Phase 1 - 7/15/19-8/30/19 Phase 2 - 9/02/19-10/18/19	07/15/2019 to 10/18/2019	Upcoming		Limited taxi restrictions on ADG V & IV aircraft.  Alternate taxi routes will be available.
F	TWY D	TWY D closed for reconstruction.	May 2020 to September 2020	Upcoming		Multi-phased project. Limited taxi restrictions on ADG III and IV aircraft.



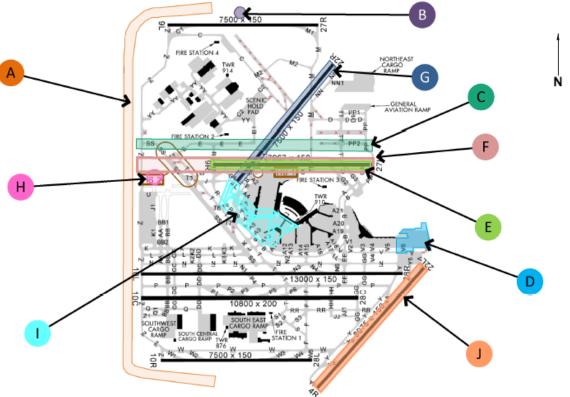
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Α	Western toll-way bypass																																			
В	North ASDE																																			

		Project	Description of Work	Estimated Dates	Status	Impact	Notes
	Α	Western toll-way bypass	Toll-way construction along the western airport boundary from intersection of Business Road and S.R.83 westbound to Interstate 355.	03/01/2017 to 12/31/2021	In Progress		During construction, Construction cranes will impact approach minimums by increasing decision height (DH). NOTAMS in effect.
L	В	North ASDE	Construction of a new North ASDE SMR (airport surface detection radar antenna) site.	06/18/2018 to 10/31/2019 TBD	In Progress		Construction completion and commissioning dates are currently on hold.



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С	RWY 9C/27C																																	

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
С		New center runway construction (11,245 ft. long x 200 ft. wide).	05/01/2017 to 11/05/2020 TBD	In Progress		Dates fluctuate due to construction complexities. The scheduled commissioning date is 11/5/2020.  RWY 9R ILS currently in-service for Cat I approaches, further outage requests likely. Impact level may change during project due to weather changes.  Delays during IMC conditions are expected which is approx. 4% of the year. If weather is below 500-1/2 (LOCALIZER minimums); GDPs, MIT, airborne holding, and arrival delays of up to 60 minutes possible. The loss of 9R/27L glideslope during IMC conditions lowers airport to a 76 AAR.

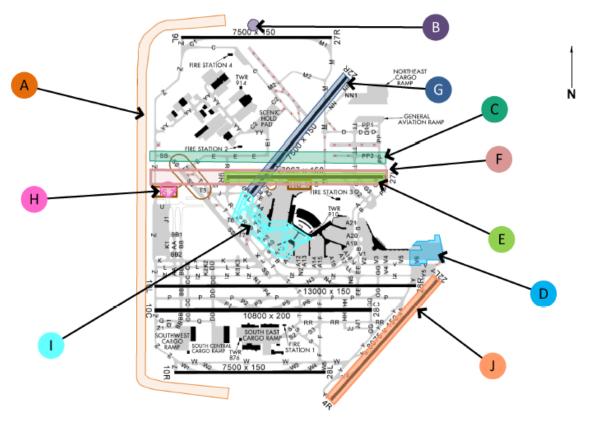


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D	Terminal 5 M Extension																																	
Е	RWY 9R/27L RWSL																																	

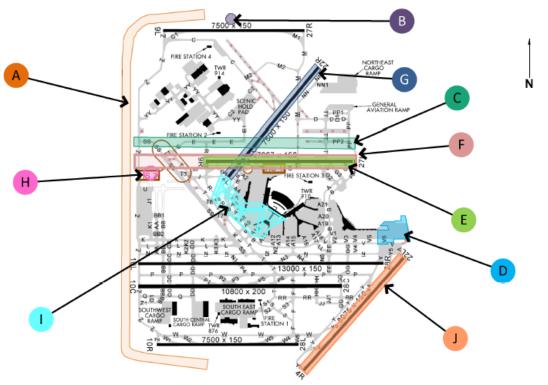
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
D	Terminal 5 M Extension	Terminal 5 - M extension. Site/civil package includes demolition of existing airside and landside facilities and construction of new airside apron and taxiway pavement servicing the Terminal 5 Extension. Includes associated landside improvements.	January 2019 to April 2020	In Progress		Expecting RWY and TWY closures including RWY 4R/22L, 10L/28R, and 10C/28C.
E	RWY 9R/27L RWSL	RWY 9R/27L installation of Runway Status Lights (RWSL).	02/01/2019 to 06/18/2019	Complete		Nighttime closures only. The RWSLs will not be turned on until an optimization period, which will begin after installation is complete.





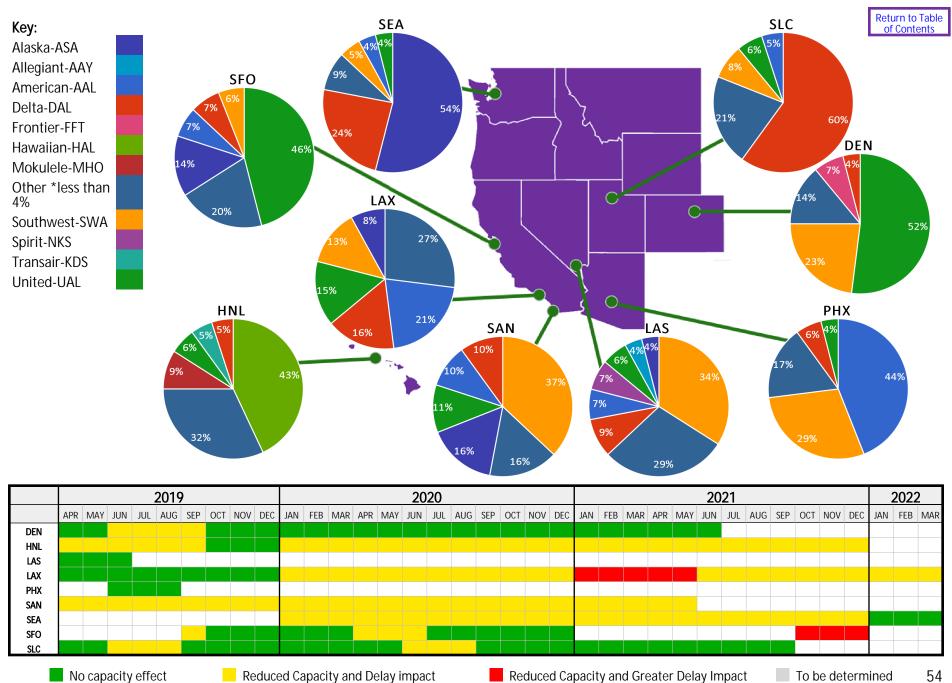
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F	RWY 9R/27L																															
G	RWY 4L/22R																															

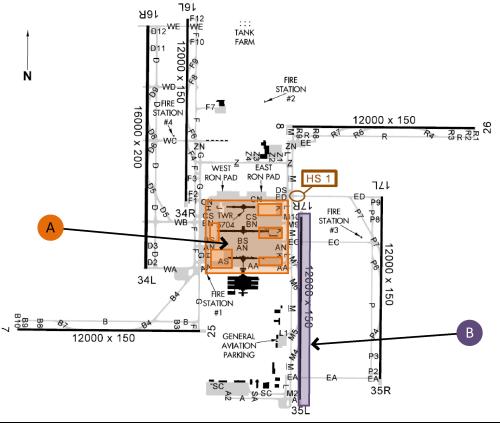
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
F	D\\/\ \OD /27	Runway 9R will be extended approximately 3,000 feet to the west. Runway 27L will be shortened approximately 300 feet to the west.	03/01/2019 to 12/02/2021	In Progress		Multi-phased construction during 3 seasons (2019, 2020, & 2021). After commissioning back into the NAS at its proposed new length, the runway will only be available for departures and RNAV approaches. CAT I is anticipated in 2022. CAT II/III is anticipated in 2023.
G	RWY 4L/22R	RWY 4L/22R closed for full length rehabilitation, lighting upgrades and surface markings.	03/15/2019 to 10/31/2019	In Progress		RWY 4L-22R will be closed continuously until the end of the project. Strong SSW winds prohibiting a West Flow will cause a delay impact.



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Н	Relocation of the west ASR-9																																		
1	New Terminal Areas Plan (TAP)																																		
J	RWY 4R/22L																																		

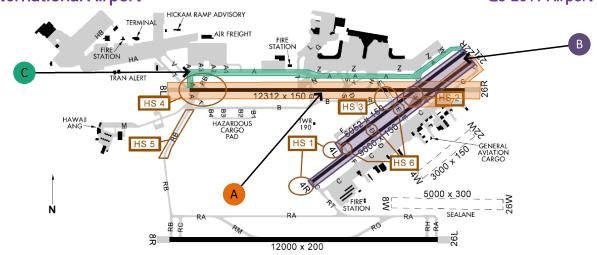
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Н	Relocation of the west ASR-9	The ASR will be relocated to the south airfield to support new RWY 9C-27C.	05/01/2019 to 07/01/2019	In Progress		South ASR-9 will be in service May 1, 2019 and the west ASR-9 (or mid-airfield) demolition June 1, 2019.
I	Now Torminal Areas Dian	Terminal areas redevelopment and construction.	2020 TBD to 2028 TBD	Upcoming		Multi-year phased projects. Taxiway closures may change taxi routes and increase taxi in/out times during construction. Some of the significant areas are depicted.
J	RWY 4R/22L	RWY 4R/22L closed for rehabilitation.	05/15/2020 to 09/15/2020	Upcoming		RWY will be closed continuously.





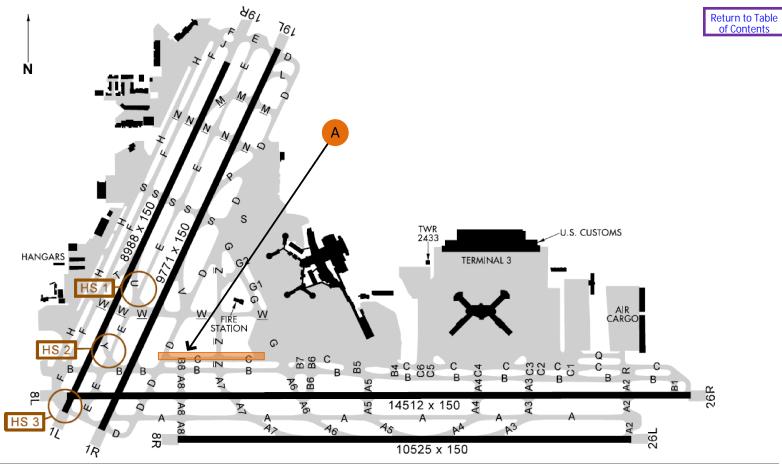
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	Project	APR M	AY JL	JN	JUL AUG	G SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB MAR
Α	Terminals A, B, & C																																		
В	RWY 17R/35L																																		

		Project	Description of Work	Estimated Dates	Status	Impact	Notes
	Δ	Terminals A, B, & C	Terminals A, B, and C expansion and redevelopment: Concourse A - 12 new gates	05/29/2018 to Spring 2021	In Progress		Expecting increased taxi times.
	,,	Torrimais N, B, a o	Concourse B - 11 new gates Concourse C - 16 new gates	00/2//2010 to opring 2021	iii i ogi oss		Airport gate capacity increase of 30%.
I	В		RWY 17R/35L closed for pavement rehabilitation and lighting upgrades.	06/03/2019 to 09/13/2019	In Progress		Limited impact. Miles in trail, Time Based Flow Management, fix balancing, ground stop, GDP, and AAR adjustments will be used to accommodate traffic demand.
L							Expected RWY return September 2019.



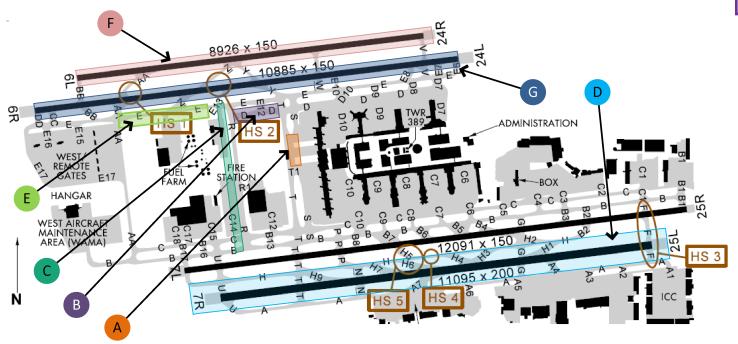
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Α	RWY 8L/26R																											
В	RWY 4L/22R & 4R/22L																											
С	TWY A																											

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
A	RWY 8L/26R	RWY 8L/26R widening project from 150 to 200 feet.  RWY 26R shortened 3200' for east-end work, 9,100ft remaining.  Phase 1 (stages 1-2) completion by Sep. 2019  Stage 1 (east) = 79 days Stage 2 (center) = 193 days, full closure	03/19/2019 to September 2019	In Progress		9 Stage project. West and center stages RWY 8L requires full closures resulting in lower AARs. TMIs will be in place for arrivals during peak periods (0900-1500 HST), miles in trail (MIT), and/or call for release may be implemented.  Expecting arrival/departure delays 15 minutes. Expect delays for RWY 8R. Possible delays RWY 22/26 for RWY 22L departures due to RWY 26L arrivals. Increased taxi times for aircraft requesting RWY 26L departure.
		Phase 2 (stages 3-9) of 8L/26R should start January 2020 and should be completed by 2021. Design is being finalized.  Stages 3-9 = full closures	January 2020 to 2021 TBD	Upcoming		Expect TMIs for arrivals during peak periods.  Expect airborne and departure delays.
В	RWY 4L/22R & 4R/22L	Install runway Guard Lights for Runway Incursion Mitigation program (RIM).	Summer 2019 to Winter 2020	Upcoming		
С	TWY A	TWY A realignment. Estimated start construction near end of year 2021.	2021 TBD to Fall 2021 TBD	Upcoming		Taxiway reconfigurations based on HNL geometry study completed May 2018.



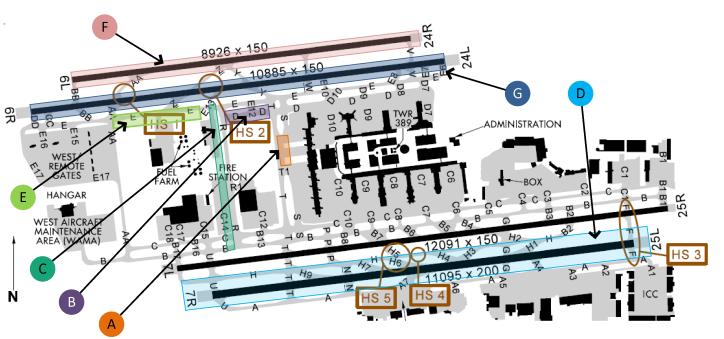
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Α	TWY C Extension																																	

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
A		Extension of TWY C between TWYs D and G. Area approximately 2,600 ft. x 75 ft.	11/26/2018 to 06/17/2019	Complete	•	Equipment potentially impacted by the extension are VOR (operational limitations), TACAN/DME, receivers, Surface Weather System (SWS), and fiber optic and power cable runs.  Some delays are expected based upon airport configuration. Officials have agreed to several work moratoriums during some of the high volume Las Vegas events.



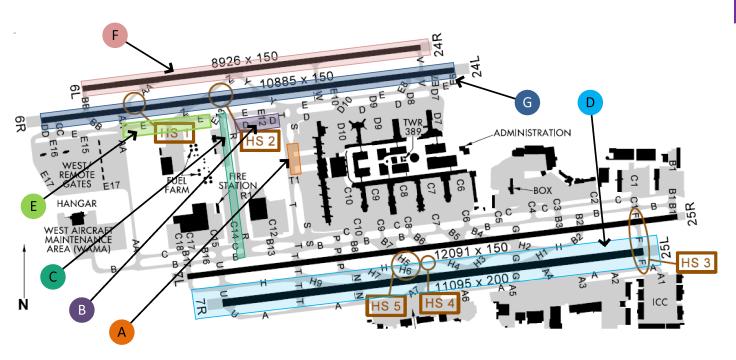
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Not Depicted	Midfield Satellite Concourse (MSC)																																			
Α	TWY S																																			
В	TWY D (Center)																																			

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Not Depicted	Midfield Satellite Concourse (MSC)	Opening of new Terminal Gates and new TWY M.	08/01/2016 to 06/01/2020	In Progress		LAWA will assume control of TWYs S and T when TWY C14 (TWY P) has been completed.
Α	TWY S	TWY S closed for construction, between TWY T1 and TWY T2.	06/06/2018 to 01/16/2020 TBD	In Progress		
В	TWY D (Center)	TWY D closed for construction, between TWY R and T.	09/17/2018 to 06/20/2019	Complete		Limited impact for taxiing aircraft.  Increased surface congestion during periods of peak demand.



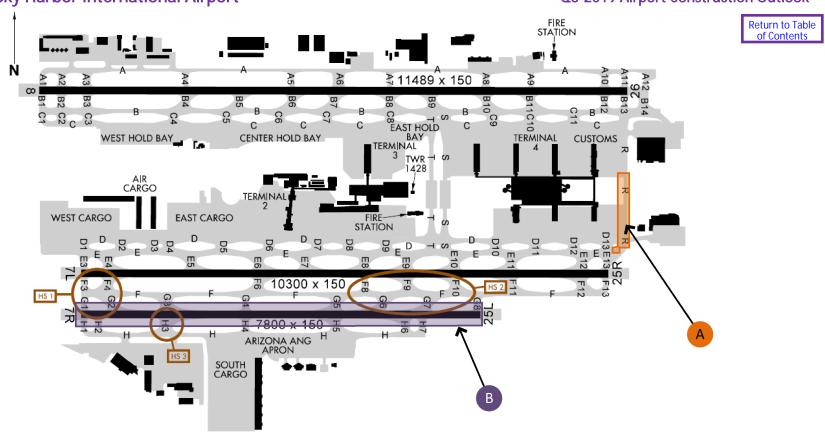
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Not Depicted	Taxiway Re-Designation Project																																	
С	TWY C14																																	
D	RWY 7R/25L,TWY H																																	

		Project	Description of Work	Estimated Dates	Status	Impact	Notes
	Not epicted	Taxiway Re-Designation Project	Airfield wide project to re-designate LAX TWYs.	02/28/2019 to 2022 TBD	In Progress		Multi-phased project to rename airport taxiways.  Renaming the South airfield first will enable the
L							Renaming the South airfield first will enable the North airfield to utilized single letter TWYs.
	С	TWY C14	New TWY C14 between TWY E and TWY C and parallel to TWY R.	2020 TBD	Upcoming		New taxiway construction. Capacity will be reduced with limited impact.
			TWY C14 renamed TWY P.				'
							Runway closure will occur in two phases.
	D	RWY 7R/25L,TWY H	Runway and taxiway closure for reconstruction.	01/15/2021 to 05/31/2021	Upcoming		Runway closure will occur during Super Bowl in Los Angeles on 2/7/2021.



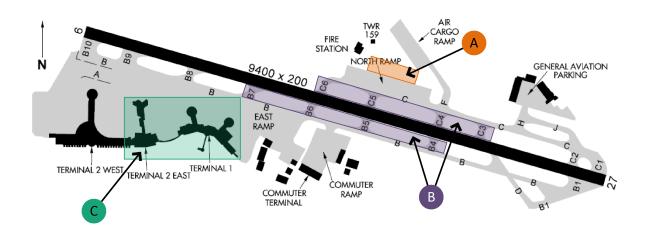
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Е	TWY D Extension																																			
F	RWY 6L/24R																																			
G	RWY 6R/24L																																			

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
		TWY D, closed area for surface construction from				New taxiway construction.
Е	TWY D Extension	TWY C14 (TWY P) to TWY AA.	Winter 2021 TBD to Winter 2022 TBD	Upcoming		Capacity will be reduced with limited impact.
		TWY AA closure to tie-in the New TWY D.				Expected start date: Q1-2021.
F	RWY 6L/24R	RWY 6L/24R restrictions due to construction of new exit TWYs.	2022 TBD	Upcoming		During construction periods, the RWY capacity will be reduced to CAT II & III operations.
G		RWY 6R/24L restrictions due to construction of new exit TWYs and tie-in to TWY E.	2022 TBD	Upcoming		Expecting reduced TWY routes for RWY 24L departures and ADG-VI operational impacts.



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Α	TWYs R & E																																	
В	RWY 7R/25L																																	

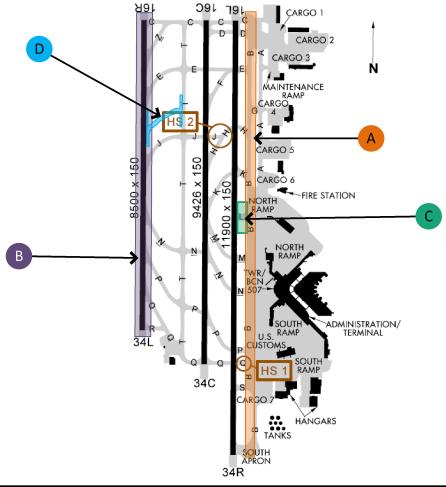
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	TWYs R & E	TWY R & E extended restriction/closure for construction.	06/17/2019 to 08/29/2019	In Progress		Project is for expansion of the SWA maintenance hangar. TWY D and R intersection will be restricted to ADG III and below. TWY R south of TWY D will be closed.  Expecting TWY congestion, but, Impact will be minimal.
В	RWY 7R/25L	RWY 7R/25L closed for repairs and maintenance.	06/20/2019 to 06/21/2019	Complete		Weekend maintenance for RWY7R/25L. Minor impact to the operation.



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A	New Cargo Facility																																			
В	RWY 9/27 & TWYs																																			
С	Terminal Replacement																																			
Not Depicted	Electrical Vault Relocation																																			

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	New Cargo Facility	Planned cargo facility at current transient aircraft parking location.	01/01/2018 to 04/30/2019	Complete		Weather sensors require relocation, weather systems will provide seamless relocation with no WX data/TAF degradation.
В	RWY 9/27 & TWYs	RWY 9/27 closed nightly to support TWYs B4, B5, B6, B7, C3, C4 and C6 rehabilitation project.  Nightly RWY complex closed: Mon-Sat 0700Z-1200Z (5 hrs.)	10/10/2018 to 05/31/2019	Complete		After PST on 11/5/18, closed 0800Z-1300Z (5 hrs.)
С	Terminal Replacement	Airport will replace passenger terminals.	01/01/2019 to 01/01/2021	In Progress		Aircraft gates added sequentially before legacy gates demolished.
Not Depicted	Electrical Vault Relocation	Electrical vault moved approximately 150 feet SE to allow for TWY expansion.	08/01/2020 to 05/01/2021	Upcoming		Phased to avoid reduction in services/capabilities. Airport will also relocate security fence to keep equipment shelters in the Air Operations Area (AOA).

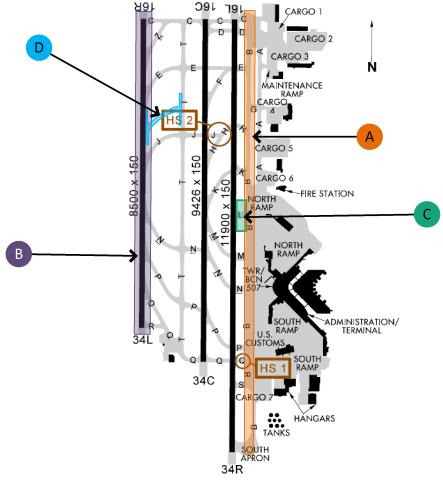
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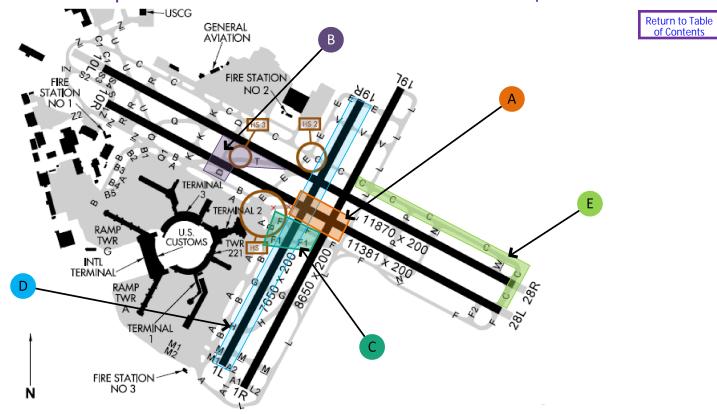
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	TWY B	TWY B closed for reconstruction.	2020 TBD	Upcoming		TWY B 500 ft. separation and runway incursion mitigation (RIM).
В	RWY 16R/34L & TWYs	RWY 16R/34L and associated TWYs closed for rehabilitation	2021 TBD	Upcoming		

Project TWY B RWY 16R/34L & TWYs



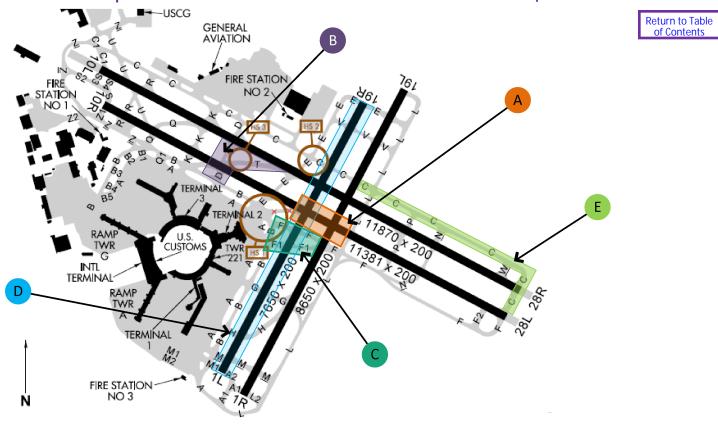
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С	TWY L																																				
D	RWY 34L High-speed TWY																																				

I		Project	Description of Work	Estimated Dates	Status	Impact	Notes
	С	TWY L	TWY L closed for relocation and reconstruction.	2022 TBD	Upcoming		
	D	RWY 34L High-speed TWY	RWY 34L construction of high-speed exit.	2022 TBD	Upcoming		



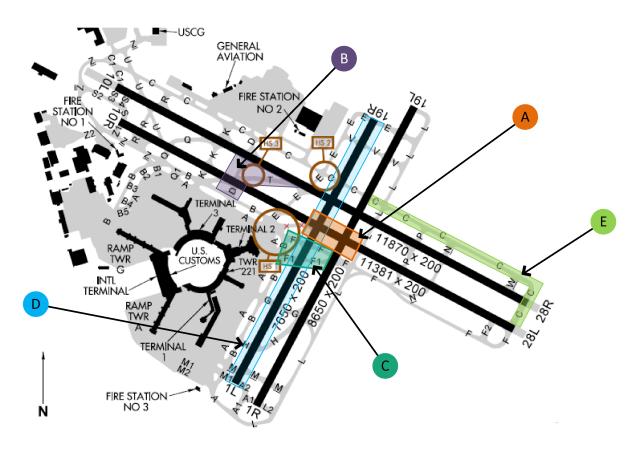
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Α	RWY 28L Intersections																																		
Not Depicted	Airfield Lighting																																		

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	RWY 28L Intersections	RWY 28L closed for full depth reconstruction of the middle section of the runway. Includes reconstruction of RWY intersections at RWY 1L and RWY 1R. RWY foundations, drainage system replacement, and electrical duct banks installation.	09/07/2019 to 09/27/2019	Upcoming		20-day closure: RWY 28L/1R closure for 10 days RWY 28L/1L closures for 10 days Expect limited night time RWY closures, before and after full time 20 day closure.
Not	Airei ald Linhain a	Airfield Lighting, Bldg. 1 electrical system upgrade	11/01/2019 to 2020	Upcoming		Estado mario de casa de de de casa de la cas
Not Depicted		Airfield lighting, 5kV cable replacement	Fall 2019 to Winter 2020	Upcoming		Future project, exact dates unknown.



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	Project	APR I	MAY	JUN	JUL /	AUG	SEP (	OCT N	OV DE	CJAN	I FEE	MAF	R APF	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB I	MAR	APR M	AY JUI	N JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB N	1AR
В	TWYs D & T																																		
С	TWYs F and F1																																		

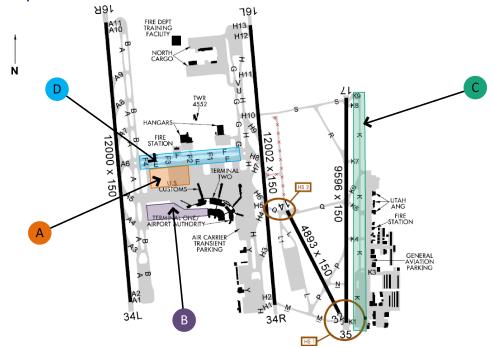
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
В	TWYs D & T	Realignment of TWYs D and T for Runway Incursion Mitigation (RIM) Program. Phase A - nighttime 28L Closures - weeks Phase B - weekend runway 28R closure Phase C - full week runway 28L closure Phase D - nighttime 28L closures - 3 weeks Phase E - nighttime 28L closures - 3 weeks	Spring 2020	Upcoming		Multi-phased project to realign TWYs in order to rectify deficiencies with the existing geometry. It will enable aircraft entering RWY 10R to utilize the full length of the runway.  Expect increased surface congestion on TWY E.
С	TWYs F and F1	Realignment of TWYs for Runway Incursion Mitigation (RIM) Program.	Fall 2021	Upcoming		Project to realign TWYs in order to rectify deficiencies. Impact will be when the new TWYs are constructed to touch the RWYs.



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D	RWY 1L/19R																																													
Е	TWY C (East Area)																		Ī																											

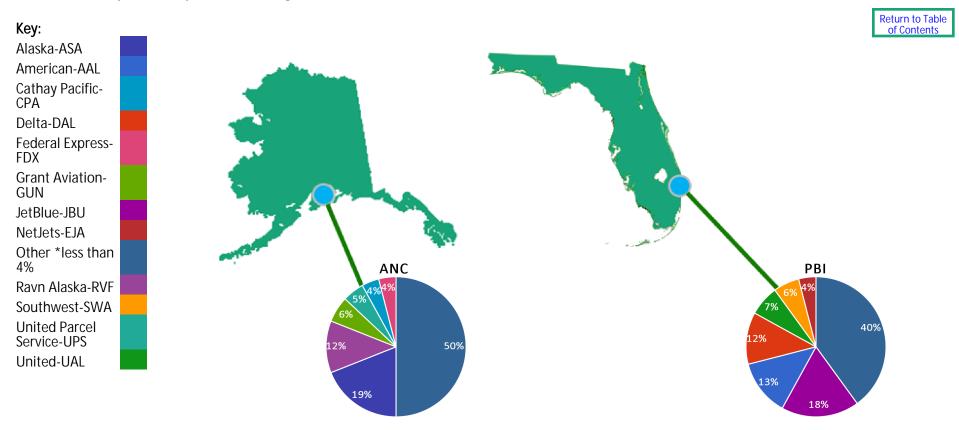
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
[	RWY 1L/19R	RWY 1L/19R closed for rehabilitation.	Fall 2021 TBD	Upcoming		Repaving RWY.
E	TWY C (East Area)	TWY C reconstruction on the East-side of the airfield.	Spring 2022	Upcoming		Future project, exact dates unknown.



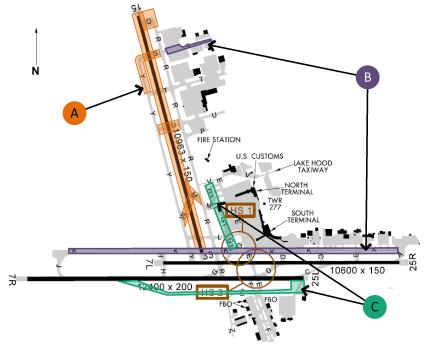


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	Project	APR M	AY JUN	N JUL	AUG	SEP	OCT N	OV DE	C JAN	I FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB N	AP	RMAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB N	ЛAR
Α	North Terminal																																	
В	South Terminal																																	
С	TWY K																																	
D	TWYs E & F																																	

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	North Terminal	North terminal concourse and apron redevelopment.	06/01/2017 to 09/30/2021	In Progress		Terminal redevelopment program.
В	South Terminal	South terminal concourse and apron redevelopment.	06/01/2017 to 09/30/2021	In Progress		Terminal redevelopment program.
С	TWY K	TWY K closed for rehabilitation (full length). RWY 17/35 closed nighttime during TWY lighting system upgrades.	Q3 2019	Upcoming		Multiphase project to minimize impact to traffic flow in and around GA apron.  All TWY work will be outside RWY 17/35 Safety Area, except for lighting system upgrades.
D	TWYs E & F	TWYs E and F closed for rehabilitation between TWYs B and G.	06/01/2020 to 08/31/2020	Upcoming		Project will be phased to minimize operational impact.

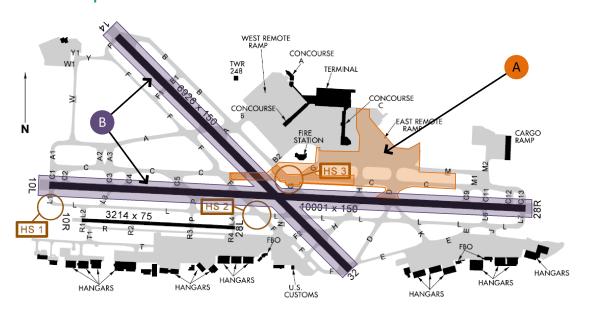






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	Project	APR	MAY	JUN	JUL A	AUG SEP	ОСТ	NOV	DEC	JAN	FEB I	MAR	APR I	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB	MAR	APR N	1AY JI	UN JU	L AUG	SEP	OCT	NOV	DEC	JAN	FEB MAR
Α	RWY 15/33 & TWYs																																	
В	TWYs S & K																																	
С	TWYs G1 & Z																																	

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α		Runway 15/33 reconstruction. TWY Q will be reconstructed and relocated North of its present position. TWY F Reconstruction.	05/01/2019 to 09/30/2019	In Progress		TWYs K, L, and S will remain open and available to cross at he North end and South end of the runway. TWY F will remain open with half-width operations in 6 phases. Miles in-trail and speed restrictions expected at arrival gates into ANC. May require call for release of aircraft departing from Alaska.  Expected RWY return September 2019.
В	TWYs S & K	TWYS S and TWY K reconstruction. TWY K will be reconstructed and relocated to the North.	2020 TBD	Upcoming		
С	TWYs G1 & Z	TWY G1/Z East/West extension reconstruction.	2021 TBD	Upcoming		



I							2019									20	20											2021							2022	
		Project	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV D	EC JA	AN FE	MAF	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB I	MAR	APR N	лау .	JUN JU	JL AU	G SEP	ОСТ	NOV	DEC	JAN	FEB	MAR
	Α	Northeast Airfield & TWY C																																		
	В	RWYs 14/32 and 10L/28R																																		

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	Northeast Airfield & TWY C	Stage 1, TWY C closed for rehabilitation from TWY H to TWY F and TWY G. Stage 1 - 7/8/19 to 9/20/19; Stage 2 - 9/21/19 to 10/5/19 Stage 3 - 10/6/19 to 11/4/19; Stage 4 - 11/5/19 to 12/12/19 Stage 5 - 12/13/19 to 1/12/20; Stage 6 - 1/30/20 to 4/1/20 Stage 7 - 4/2/20 to 5/16/20; Stage 8 - 5/17/20 to 5/30/20 Stage 9 - 5/31/20 to 6/5/20; Stage 10 - 6/6/20 to 6/15/20 Stage 11 - 6/16/20 to 6/25/20; Stage 12 - 6/26/20 to 10/23/20 Stage 13 - 10/24/20 to 2/23/21; Stage 14 - 2/24/21 to 5/4/21	07/08/2019 to 05/04/2021	Upcoming	•	No delays expected.
В	RWYs 14/32 and 10L/28R	RWY 14/32 + 10L/28R closed for repair and maintenance.	Summer 2019	Upcoming		RWY 10L/28R limited nighttime closures from 1030L to 0530L. RWY 14/32 single nighttime closure approx. 2 hours.