Q1-2019 Airport Construction Report

U.S. Core 30+ Airports3-Year Construction Outlook

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

January 1, 2019 Compiled by: AJR-G5

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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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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

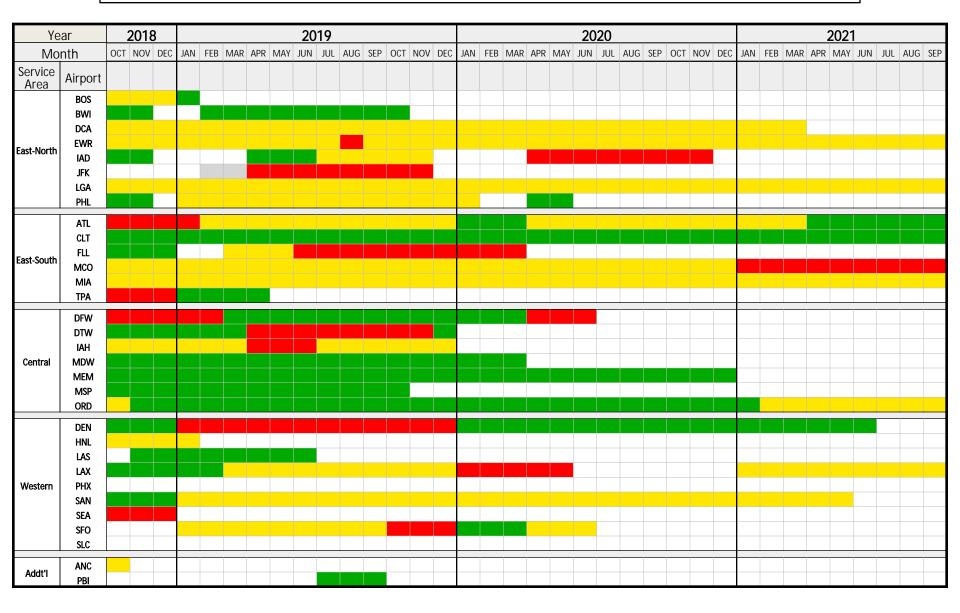
International Air Transport Association (IATA) Airport-Level Designations

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

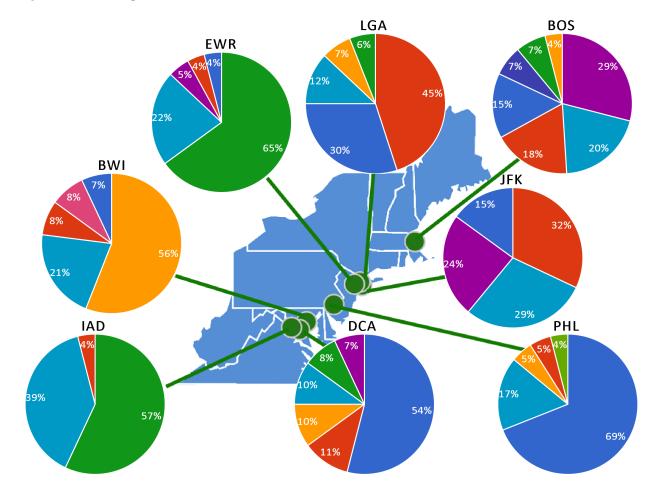
Level 2 – Airports where potential for congestion exists during some periods that can be resolved by schedule adjustments mutually agreed between the airlines and facilitator

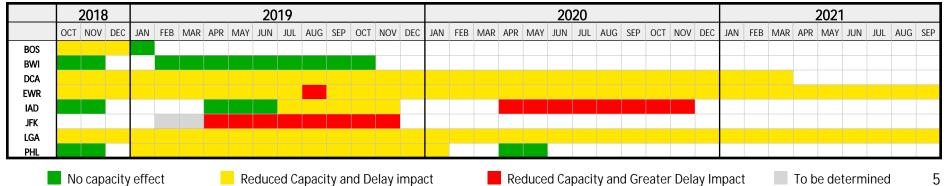
Level 3 – Airports with full slot controls where demand for airport infrastructure significantly exceeds the capacity during certain periods and expansion of infrastructure to meet demand is not possible in the short term

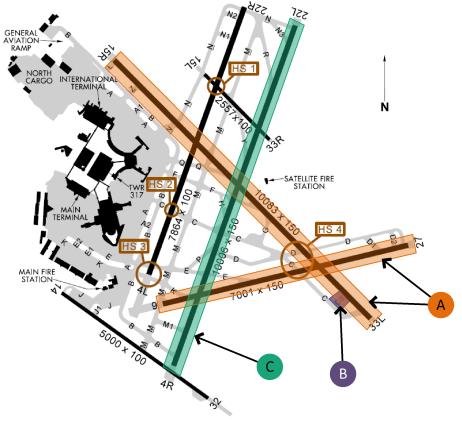
The below figure provides a broad overview of all construction with the potential to impact the NAS at the Core 30 Airports. Expanded details for each of the specific airports can be found on the following pages.





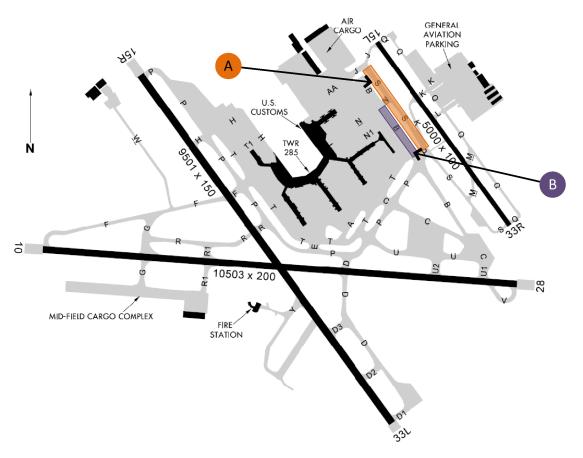






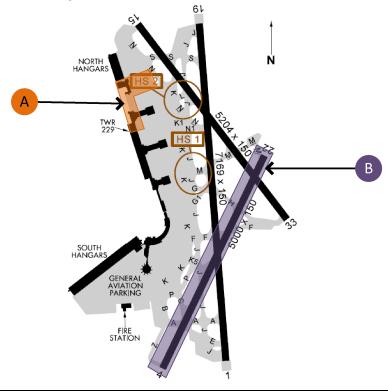
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Α	RWY 27 & 33L RWSL																																
В	TWY C Bypass																																
С	RWY 4R Lighting																																

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	RWY 27 & 33L RWSL	RWY 27 & RWY 33L Runway Status Lights (RWSL) installation. Includes pavement construction, lights, and duct bank installation. Phase II.	05/01/2018 to 12/31/2018	Complete		Impact is weather configuration dependent. RWSL system embedded in the pavement of the runways and TWYs.
В	TWY C Bypass	Construction of a stub/bypass taxiway near the approach end of RWY 33L.	06/01/2018 to 01/08/2019	In Progress		To provide an additional access between RWY 15R/33L and TWY C.
С	RWY 4R Lighting	Replacing all of the risers on the lights on the RWY.	08/01/2018 to 12/31/2018	Complete		Work to be completed on the overnights, so no anticipated impact to RWY availability.



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Α	TWY S																																							
В	TWY B																																							

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	TWY S	TWY S requires resurfacing between TWYs P & J.	08/06/2018 to 11/02/2018	Complete		TWY S is currently closed between TWYs P & J. No impact at this time.
В	TWY B	TWY B requires resurfacing between TWYs P & N.	02/01/2019 to 10/31/2019	Upcoming		TWY B will be closed between TWYs P & N. At this time, no impact is expected. In early phase of talks with the airport authorities regarding dates and longevity.



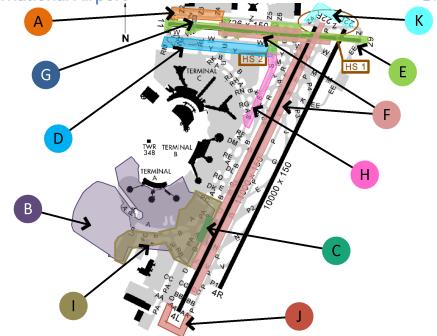
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Α	North Concourse																																
В	RWY 4/22 and TWYs																																

		Project	Description of Work	Estimated Dates	Status	Impact	Notes
	Α	North 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.
			gates.				Construction for 14 large Regional Jets (RJ) gates with jet bridges.
ı							Multi-phased project to minimize impact. Mostly night and weekend closures.
ı	В	RWY 4/22 and TWYs	RWY 4/22 and associated TWYs closed for rehabilitation and realignment.	09/05/2017 to 09/21/2018	Complete		Dynamic coordination to reduce unnecessary in-trail spacing and to mitigate AAR reductions
							RWY 4/22 high-speed TWY complete. No further SIRs for TWY anticipated.

EWR (1 of 4)—Newark Liberty International Airport

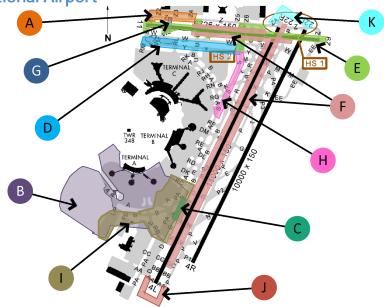
On 2019 Airport Construction Outlook

IATA Level 2



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Α	TWY Z																																			
В	Terminal One																																			
С	TWY D																																			

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	TWY Z	TWY Z closed for rehabilitation. Milling and paving asphalt between approach end RWY 11 and TWY UA.	12/12/2017 to 10/31/2018	Complete		Project work includes updating of taxiway lighting as necessary to meet current FAA standards.
В	Terminal One	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. Partial Terminal Opening, Q3-2021 (21 Gates) Full Terminal Opening, Q3-2022 (33 Gates)	01/01/2018 to 06/20/2022 TBD	In Progress		Multi-phased project. Expect taxiing delays in/out due to ramp congestion.
С	TWY D	TWY D closed for rehabilitation. Milling and overlay asphalt between TWY N and TWY B.	01/01/2019 to 03/01/2019	Upcoming		Project work includes replacement of the three-inch asphalt overlay and associated electrical lighting and signage work to ensure compliance with FAA standards.



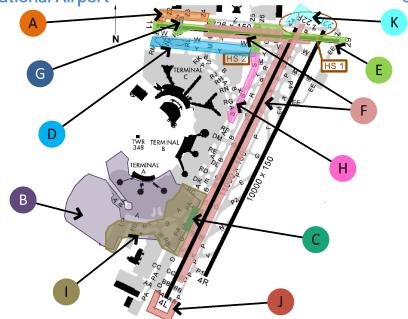
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D	TWY Y																																				
E	RWY 11/29 & TWYs																																				

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
D	TWY Y	TWY Y closed for rehabilitation. Milling and overlay asphalt between TWY RM and TWY S.	02/01/2018 to 06/20/2019	In Progress		Project work includes updating of taxiway lighting as necessary to meet current FAA standards.
E	RWY 11/29 & TWYs	RWY 11/29 rehabilitation. Crossing TWYs rehabilitation. TWY S rehabilitation between RWY and TWY Y. Electrical systems replacement of RWY status, centerline, edge, threshold, and touchdown zone lights. TWY lead-off and guard lights. Airfield signage and pavement surface sensors.	03/01/2019 to 10/23/2019	Upcoming	_	Multi-staged project, with nighttime and morning hours. 3/1-5/31, RWY closed 23:00L-11:00L (12 hrs.) 6/3-6/28, RWY closed 23:00L-11:00L (12 hrs.) 7/1-7/22, RWY closed 23:00L-11:00L (12 hrs.) 7/23-7/29, RWY open, TWY S closed between RWY 11/29 & TWY Y. 7/30-8/5, RWY open, TWY S closed between TWY W & M. 8/28-10/23, RWY closed 19:00L-11:00L (16 hrs.) Expecting RWY full return to service 10/24/2019.
		Runway closed for milling and paving. Runway 22R/4L shortened during 4 extended weekends.	08/15/2019 to 08/27/2019	Upcoming		8/15-8/27, RWY full closure. Dates TBD: Additional RWY full closure 1: 2 weekends, Friday 11pm – Sunday 1pm (38 hrs.) Dates TBD: Additional RWY full closure 2: 2 weekends, Friday 11pm – Sunday 1pm (38 hrs.)

EWR (3 of 4)—Newark Liberty International Airport

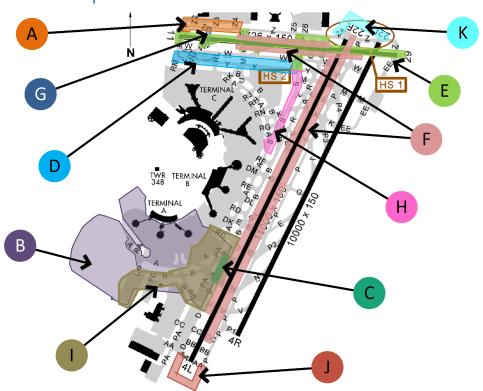
Q1 2019 Airport Construction Outlook

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F	RWY Status Lights																																		
G	RWY 11 Lighting																																		
Н	TWY S																																		
I	South TWYs & Ramp Area										٨	ЛAR																							

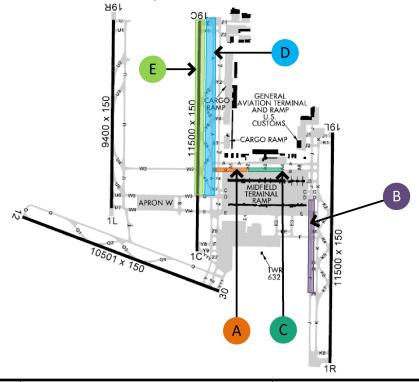
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
F	RWY Status Lights	Install Runway Status Lights (RWSL) at RWY entrances for RWY 11/29 and RWY 4L/22R.	2019 TBD	Upcoming		
G	RWY 11 Lighting	Replace RWY 11 Visual Approach Slope Indicator (VASI) lights with Precision Path Approach Indicator (PAPI) lights.	Spring 2019 to Fall 2019	Upcoming		No capacity effect. Construction rescheduled to be completed with the EWR 11/29 Runway project. No outage expected for this project, just cutover.
Н	TWY S	TWY S closed for rehabilitation. Mill and overlay top 3 inches of pavement. Includes new TWY centerline lights, and signage.	Summer 2019 TBD	Upcoming		Expecting ramp and taxiway congestion.
1	South TWYs & Ramp Area	Rehabilitation of South TWYs and ramp areas.	Summer 2019 TBD	Upcoming		Expecting ramp and taxiway congestion.



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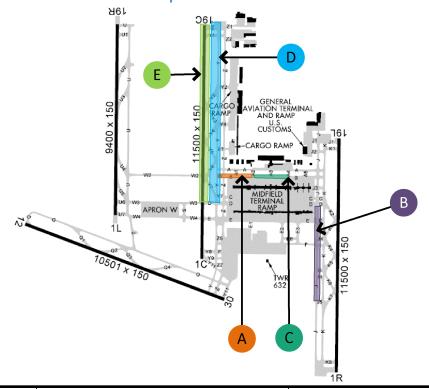
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J	RWY 4L, End-Around TWY (South End)																																		
K	RWY 22R, End-around TWY (North End)																																		

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
J	RWY 4L, End-Around TWY (South End)	Construction of a new end-around taxiway (EAT).	2020 TBD	Upcoming		Project is not in the Capital Plan. 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.
K		Construction of a new end-around taxiway and 470' runway extension.	2020 TBD	Upcoming		Project is not in the Capital Plan. EAT would begin near TWY Z. The runway will be extended 470' and the EAT will extend 1,500' northeast. The EAT will loop around and follow Brewster Road until meeting TWY Z, connecting it to RWY 22L.



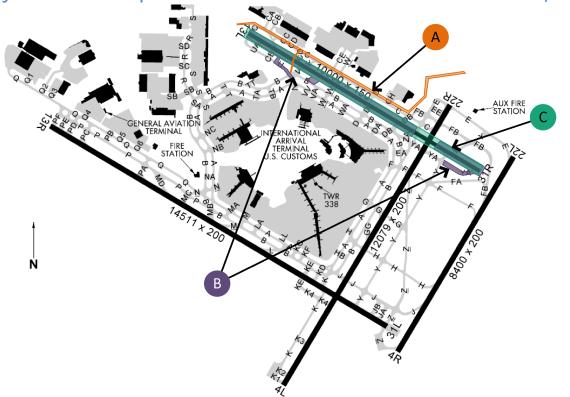
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Α	Taxilane B (West)																															
В	TWY J																															

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α		Reconstruction and widening between Taxilane A2 and TWY Y.	06/04/2018 to 11/23/2018	Complete	•	Impacts due to Taxiway Z (parallel taxiway for RWY 1C/19C) closed between TWY Y7 & TWY A. Requiring Group IV and larger aircraft to exit and enter the apron on the opposite side (east) of the airport, increasing taxi distance/time. During arrival modes possible back-ups entering the ramp, requiring no reduced spacing (2.5 nm) when landing on RWY 19C.
В	IVVYI	Reconstruction between TWY D and J5. Four (4) phases.	08/13/2018 to 11/16/2018	Complete		One-way traffic between Taxiway D and J5 is required. On the phase that contains TWY F, Group IV and larger aircraft will need to use congested Taxilanes C and D to cross over to the other side of the airport. Longer taxi times possible.



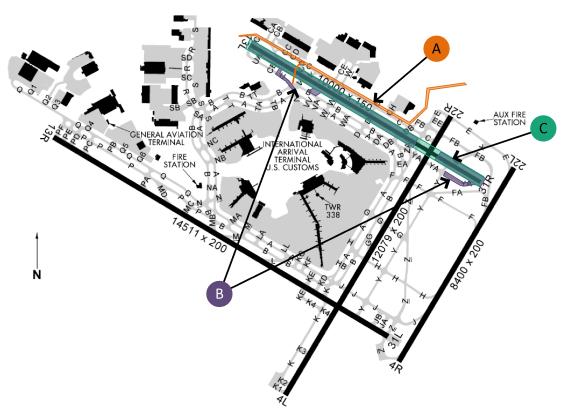
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С	Taxilane B (East)																																		
D	TWYs Y/Y2/Y3/Y4/Y5																																		
Е	RWY 1C/19C																																		

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
С	Taxilane B (East)	Reconstruction and widening between Taxilane A2 and A4.	04/01/2019 to 11/22/2019	Upcoming		Requiring Group IV and larger aircraft to exit and enter the apron on the side of the construction that they park on, increasing taxi distance/time.
D	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.	07/20/2019 to 11/27/2019	Upcoming		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 Runway 1C. Greater in-trail spacing will be required due to the increased runway occupancy time.
Е	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).	04/06/2020 to 11/20/2020	Upcoming		Crossing TWYs W2, W3 and W4 will remain open for aircraft arriving or departing RWY 1L/19R.



			2018	3					20	19											20	20								2	2021			
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Α	Electrical Duct Bank																																	
В	RWY 13L/31R & TWYs																																	

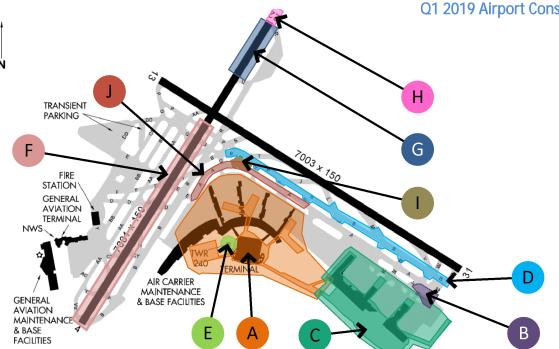
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	Electrical Duct Bank	Fiber Optic Telecommunication System - FOTS. Laying approximately 8000' of conduit alongside and under RWY 13L/31R using underground boring. Plus laying 1000' of conduit using surface trenching.	February 2019 to April 2019	Upcoming		Agreed with Air Traffic to start at RWY 13L approach end and work towards RWY 22R approach end.
В	RWY 13L/31R & TWYs	RWY 13L/31R closed for rehabilitation. Milling and overlay runway surface in concrete. Widening of RWY 13L/31R to 200-ft width. Includes realignment of TWY U. Includes a new high-speed Taxiway. Includes rehabilitation of Taxiway YA.	04/01/2019 to 11/15/2019	Upcoming		Multi-phased project. Rehabilitation and realignment of TWY U and TWYs U/V/B will meet standards for Group VI aircraft (A380) operations. During construction RWY 22R departures will be via RWY crossings at TWYs E/D/Y and either TWY D and E, or TWY V and D.



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С	RWY 13L/31R Lighting																																	

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
С	RWY 13L/31R Lighting	Replace RWY 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). Electrical systems replacement of RWY edge, threshold, centerline, and touchdown zone lights. TWY lead-off and guard bar lights. Includes airfield signage.	09/09/2019 to 11/15/2019	Upcoming		No capacity effect. No outage expected for this project, just cutover. Planning includes scheduling during RWY 13L/31R construction.



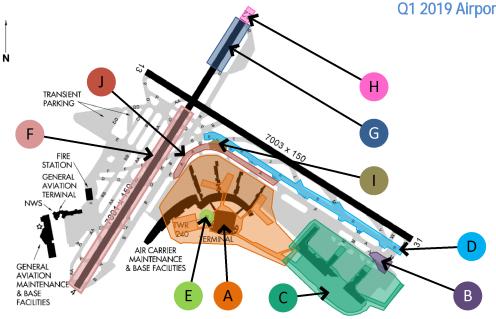


		2018	2019	2020	2021
	Project	OCT NOV DEC	JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC	JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC	JAN FEB MAR APR MAY JUN JUL AUG SEP
Α	Terminal B				
В	TWYs M & Z				
С	Terminals C & D				

	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, which is about 2 years long and began late in 2016. ZA is now decommissioned. New deicing areas have been relocated in front of the American hangars. Scheduled to open 11 of 18 gates by October, 2018.
В	TWYs M & Z	Portions of TWYs M and Z will be taken to support new construction of terminal C.	07/24/2017 to 03/19/2022	In Progress		In support of Terminal C redevelopment. TWY M closed to wingspan over 118ft, until Jan 2020.
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).

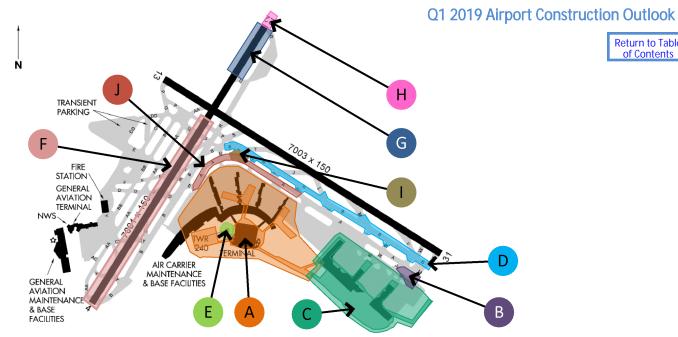






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D	TWY B																																				
Е	Control Tower ASDE Antenna																																				
F	RWY 4/22																																				

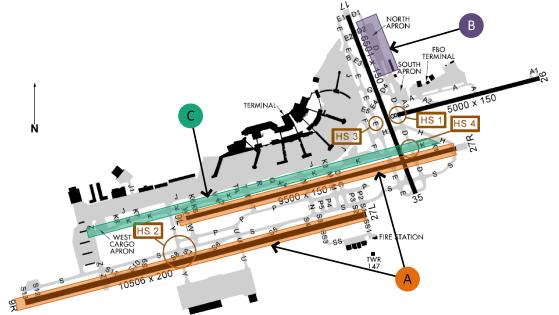
		Project	Description of Work	Estimated Dates	Status	Impact	Notes
	D	IVVYB	TWY B closed for rehabilitation. Milling and paving in sections. Includes new LED lighting upgrades.	04/06/2018 to 12/31/2018	Complete		Construction will be completed in sections over 14 weekends. Each section requires 2 weekend closures for 36 hours.
H			0 0 10				Resurfacing completed, lighting installation remains.
	E	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.	January 2019	Upcoming		Expecting to schedule during one weekend to minimize operational impacts.
l			ASDE and RWSL out of service for 1-2 days.				ATCS may need to evacuate tower cab during lifts on midnight shifts.
I	F	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	04/01/2019 to 04/01/2021	Upcoming		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.
L			crossings and exits.				Tentative start date: April 2019.



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	Project	ОСТ	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 D	EC JAN	FEI	B MAF	APR	MAY	JUN .	IUL	AUG	SEP
G	RWY 4/22 Deck																																			
Н	RWY 22 North End																																			
1	TWY A Drainage																																			
J	TWY A																																			

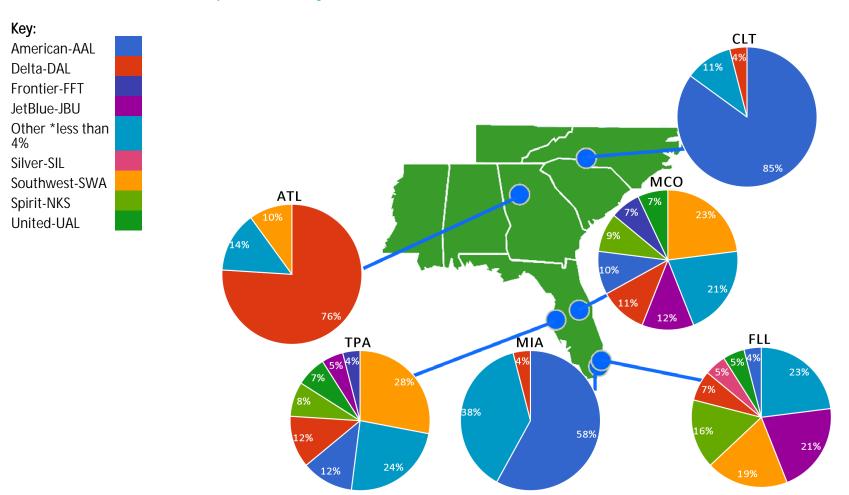
		Project	Description of Work	Estimated Dates	Status	Impact	Notes
	G	RWY 4/22 Deck	Runway 4/22 deck rehabilitation.	June 2019 to September 2019	Upcoming		The resurfacing of Runway 4/22 will be completed using night and weekend closures to minimize the effect on capacity.
							Tentative start date: June 2019.
	н	RWY 22 North End	RWY 22 Deck extension.	June 2019 to August 2019	Upcoming		RWY 22 Deck extension to support a more stable RWY 4 localizer signal.
L							Tentative start date: June 2019
	1	TWY A Drainage	Taxiway A closed for installation of new 72' drain line across TWY A to the Central Terminal Building (CTB) concourse C.	Summer 2019 to Fall 2019	Upcoming		TWY A closed from TWY J to TWY G, Also TWYs GG and H closed between TWYs A and B, for up to 8 weeks.
	J	TWY A	TWY A closed for rehabilitation. Resurfacing TWY A between TWY E and TWY K.	April 2020 to July 2020	Upcoming		Tentative start date: April 2020

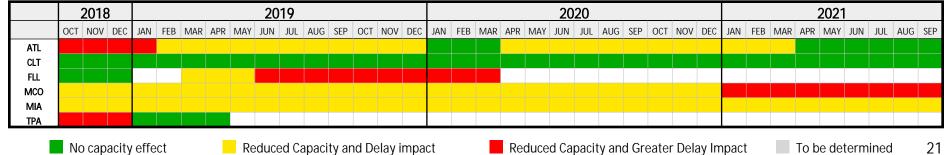




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_	RWY 9R/27L																																	
Α	RWY 9L/27R																																	_
В	Airfield North Apron																																	
С	TWY K																																	

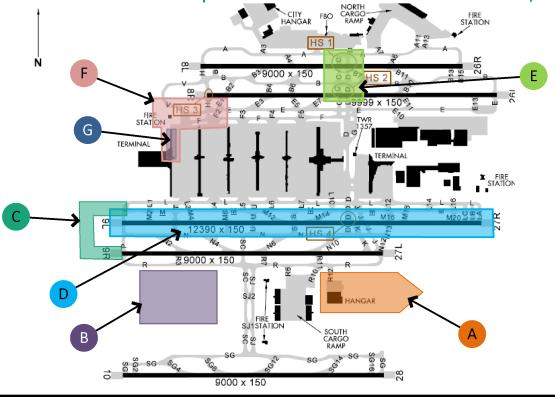
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	RWY 9R/27L RWY 9L/27R	Alternating runway, nighttime closures. RWY 9R/27L closed daily 0200Z-1000Z for airfield improvements. RWY9L/27R closed daily 0200Z-1000Z for for airfield improvements.	08/27/2017 to 11/01/2018	Complete	•	Nighttime closures with minimal impact.
В	Airfield North Apron	Reconstruction and rehabilitation of the North Apron and TWY D.	01/01/2019 to 01/01/2020	Upcoming		Phased closure on TWY D.
С	TWY K	Reconstruction of TWY K.	Apr 2020 TBD to May 2020 TBD	Upcoming		Project delayed until further notice. Includes demolition, paving, lighting, and painting. Potential for limited impact to adjacent TWYs.





ATL (1 of 3)—Hartsfield-Jackson Atlanta International Airport

Q1 2019 Airport Construction Outlook



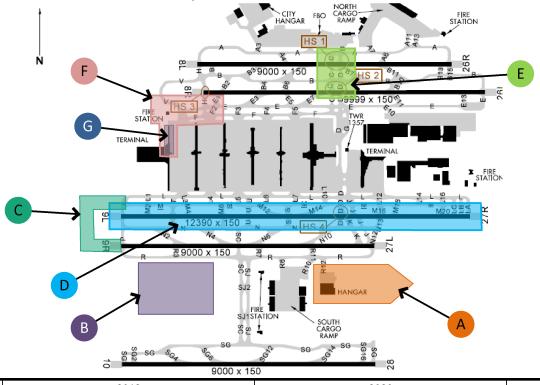
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Α	South Cargo Expansion																																				
В	North Cargo Relocation & Expansion																																				
С	RWY 9L End-Around TWY																																				

	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 2020 TBD	In Progress		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.
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 11/30/2021	In Progress		Multi-phase project. Phase 1 will coincide with runway rehabilitation/reconstruction.

ATL (2 of 3)—Hartsfield-Jackson Atlanta International Airport

Q1 2019 Airport Construction Outlook

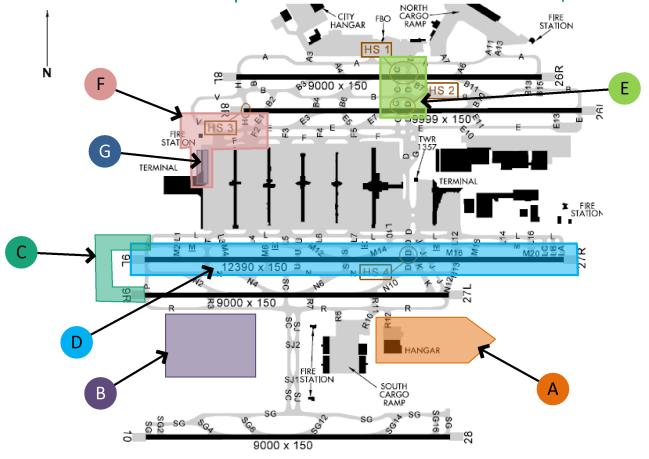




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D	RWY 9L/27R and Adjacent TWYs																																			
Е	Hot Spot 1 & Hot Spot 2																																			

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
D		Phase 3 Construction, TWY closures for pavement rehabilitation and runway safety area (RSA) improvements. RWY 9L PAPI OTS, 9L/27R Localizer and Glide Slope OTS, 9R Glide Slope OTS, Taxiway closure: TWY P and TWY N between P and N2. Approach end 9L.	09/24/2018 to 01/13/2019	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	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.	2019 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.

Q1 2019 Airport Construction Outlook



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F	Taxiway V																																	
G	Concourse T																																	

I		Project	Description of Work	Estimated Dates	Status	Impact	Notes
	F	Taxiway V	TWY V realignment and redesign, for TWYs E, F, H, E1 and F2.	Spring 2019 to 08/01/2019	Upcoming		Preliminary work to support the construction of, and use of Concourse T expansion. 4 Phases to minimize the impact to operations.
	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.	Spring 2020 to Winter 2021	Upcoming		Concourse T will be extended. Construction will add 6 new gates.



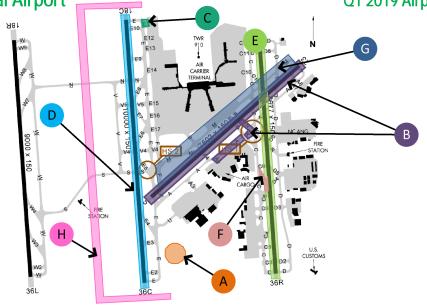
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Α	Control Tower																																			
В	RWY 5/23, TWYs A, and R																																			
С	TWY E11																																			

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
A	Control Tower	New FAA Control Tower.	06/02/2017 to 2020 TBD	In Progress		Construction is expected to be completed in 2018, and the tower should be commissioned and operational in late-2019 or early-2020.
В	RWY 5/23, TWYs A, and R	RWY 05/23 closed, excluding taxi. TWY A closed between TWY A5 and TWY G, 8/9/18-10/10/18. TWY R closed between RWY 5/23 and TWY C, 8/13/18-10/10/18. TWY A closed between TWY G and TWY R, 8/13/18-10/12/18.	04/09/2018 to 11/01/2018	Complete	•	RWY 5/23 unusable for departure or landing operations for the length of the project, so it can be used for taxiing aircraft. Total project duration will be 210 days (6 phases).
C	TWY E11	Permanent Demolition of TWY E11. Duration: 45 days	January 2019 to February 2019	Upcoming		Removal of the old Taxiway E11 to avoid a taxiway out of the ramp that has straight access to a runway.

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Q1 2019 Airport Construction Outlook

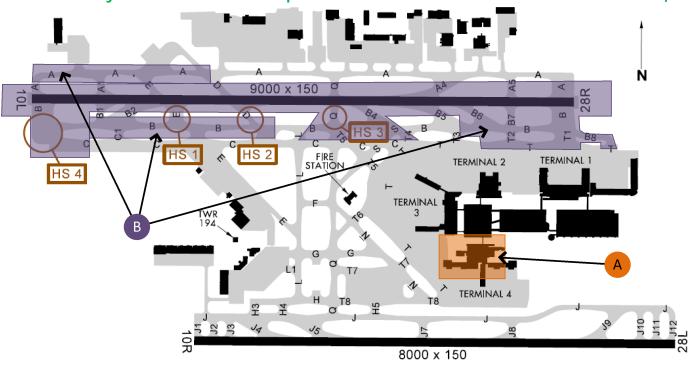


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D	RWY 18C/36C																																			
E	RWY18L/36R																																			
F	TWY C7																																			
G	TWY M																																			
Н	New 4th Parallel RWY																																			

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
D	RWY 18C/36C	RWY 18C/36C closed for joint seal replacement.	Summer 2019	Upcoming		This project expecting during overnight hours, between 2315-0600L daily.
E	RWY18L/36R	RWY 18L/36R closed for rehabilitation.	Summer 2019	Upcoming		This project takes place over night between 2315-0715L daily.
F	TWY C7	Permanent Demolition of TWY C7.	Summer 2019	Upcoming		
G	TWY M	TWY M and F closed north of runway 5/23 for rehabilitation.	Summer 2019	Upcoming		During project, RWY 5/23 will be closed to arriving and departing aircraft. It will be used for taxiing aircraft.
Н	New 4th Parallel RWY	Build new runway to add capacity, 12,000 ft. x 200 ft., plus end-around TWYs.	Summer 2020 to Fall 2022	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.

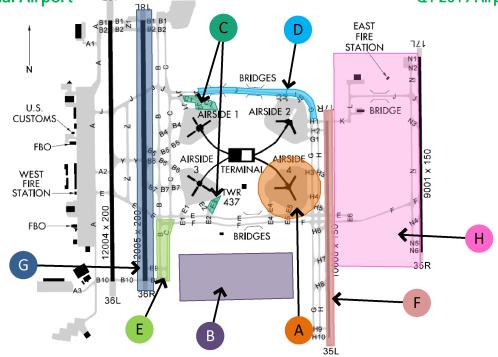
FLL—Fort Lauderdale/Hollywood International Airport

Q1 2019 Airport Construction Outlook



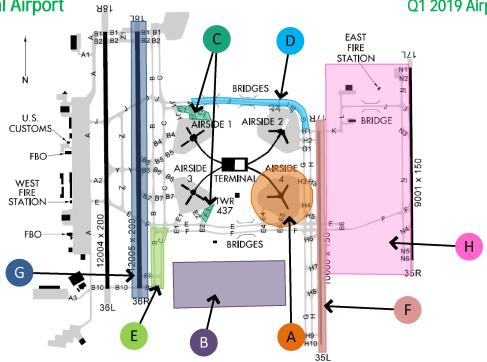
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Α	Terminal 4																																		
В	RWY 10L/28R and TWYs																																		

Project	Description of Work	Estimated Dates	Status	Impact	Notes
Terminal 4	Terminal building and apron expansion.	10/01/2013 to 12/31/2018	Complete		There will be no more than 3 gates at a time closed during the course of this multi-year project.
	Phase 2 (88 days) - TWY A rehabilitation.	03/06/2019 to 06/02/2019	Upcoming		Construction in the Northwest cargo ramp area. There will be impact to aircraft taxiing in this area.
RWY 10I /28R and TWYs	RWY 10L/28R and associated TWYs closed for rehabilitation. Includes engineered material arresting systems (EMAS).				Expecting 28 AAR, available during both East/West operations. There may be rate changes for weather or other constraints.
TOLYZON UNG TWYS	6/3/19 - Full RWY closure 120 days.	06/03/2019 to 03/08/2020	Upcoming		Expected end of construction: Sat 3/7/20.
	Phase 3 (149 days) - RWY rehabilitation, 6/3/19 to 10/30/19. Phase 4 (159 days) - TWY B rehabilitation, 10/1/19				
		Terminal 4 Terminal building and apron expansion. Phase 2 (88 days) - TWY A rehabilitation. RWY 10L/28R and associated TWYs closed for rehabilitation. Includes engineered material arresting systems (EMAS). 6/3/19 - Full RWY closure 120 days. Phase 3 (149 days) - RWY rehabilitation, 6/3/19 to 10/30/19.	Terminal 4 Terminal building and apron expansion. Phase 2 (88 days) - TWY A rehabilitation. RWY 10L/28R and associated TWYs closed for rehabilitation. Includes engineered material arresting systems (EMAS). 6/3/19 - Full RWY closure 120 days. Phase 3 (149 days) - RWY rehabilitation, 6/3/19 to 10/30/19. Phase 4 (159 days) - TWY B rehabilitation, 10/1/19	Terminal 4 Terminal building and apron expansion. 10/01/2013 to 12/31/2018 Complete Phase 2 (88 days) - TWY A rehabilitation. 03/06/2019 to 06/02/2019 Upcoming RWY 10L/28R and associated TWYs closed for rehabilitation. Includes engineered material arresting systems (EMAS). 6/3/19 - Full RWY closure 120 days. 06/03/2019 to 03/08/2020 Upcoming Phase 3 (149 days) - RWY rehabilitation, 6/3/19 to 10/30/19. Phase 4 (159 days) - TWY B rehabilitation, 10/1/19	Terminal 4 Terminal building and apron expansion. 10/01/2013 to 12/31/2018 Complete Phase 2 (88 days) - TWY A rehabilitation. 03/06/2019 to 06/02/2019 Upcoming RWY 10L/28R and associated TWYs closed for rehabilitation. Includes engineered material arresting systems (EMAS). 6/3/19 - Full RWY closure 120 days. Phase 3 (149 days) - RWY rehabilitation, 6/3/19 to 10/30/19. Phase 4 (159 days) - TWY B rehabilitation, 10/1/19



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	Project	ОСТ	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC .	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
Α	Airside 4 FIS/CBP																																				
В	South Terminal Complex																																				

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	Airside 4 FIS/CBP	Expansion of the Federal Inspection Services (FIS) and Customs and Border Protection (CBP) area. Conversion of gates 90, 92, 94, and 96 to jumbo wide body international gates, replacement of the central 400 Hz power system, point of use systems for each gate, as well as underground utility improvements.	08/01/2016 to 11/08/2018	Complete		Work is continuing with this project, final completion date TBD. No impacts to ATC at this time.
В	South Terminal Complex	Construction of a new South Terminal Complex and associated apron/taxiway. Limited RWY/TWY closures.	11/14/2017 to 2020 TBD	In Progress		When work begins there may be some taxiway closures to tie into the new apron area. Additional runway closures may occur if crane activity is required in the runway safety area. System impact when taxiway closures are required. Work on the parking garage and intermodal train station have begun with no impacts. Construction date for beginning the south terminal for aircraft operations is still TBD.



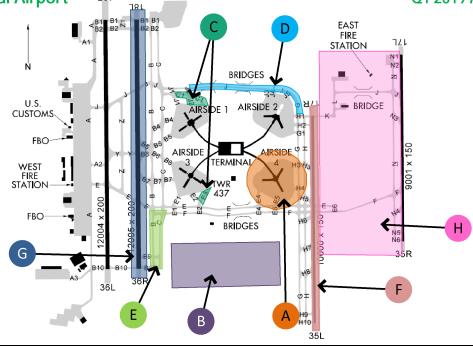
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С	Airside Ramps 1 & 3																																		
D	TWYs J and G																																		
Е	TWY B, C, F																																		

		Project	Description of Work	Estimated Dates	Status	Impact	Notes
	С	Airside Ramps 1 & 3	Rehabilitate pavement, update lighting, and painting on the ramp. Project duration 120 days.	06/01/2018 to 12/22/2018	Complete		No capacity impact for arrival or departure traffic. Airport surface (ramp) capacity will be impacted.
I	,	TIAN/a Land C	Rehabilitate pavement for TWY J between TWYs J2 and J4.	08/28/2018 to 09/30/2018	Complete		
	D	TWYs J and G	Rehabilitate pavement for TWYs J and G between TWYs J4 and H1.	09/25/2018 to 10/17/2018	Complete		
	E	TWY B, C, F	Rehabilitate south end of TWYs B, C, and F. Includes mill and overlay, pavement geometry, markings, lighting, and signage.	12/11/2018 to 12/19/2018	Complete		Potential taxi time increase due to more limited surface movement. Will also include phased closures of TWY B south of TWY F as well as F between TWY B and E2, and TWY C. Project is nearing end phase with final corrections and painting remaining.

MCO (3 of 3)—Orlando International Airport

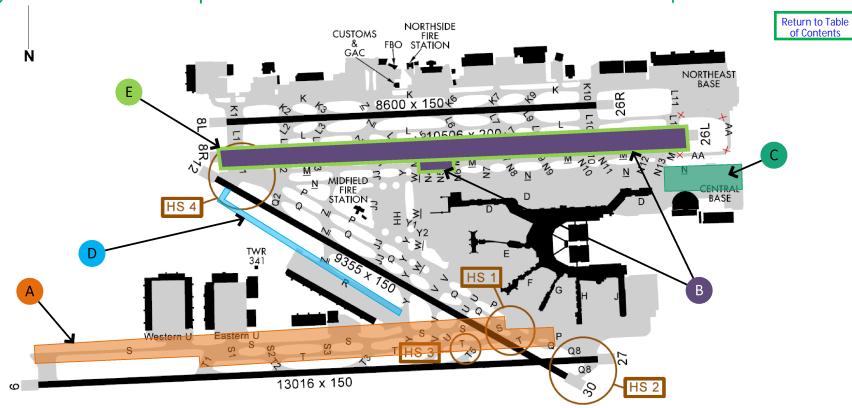
IATA Level 2

Q1 2019 Airport Construction Outlook



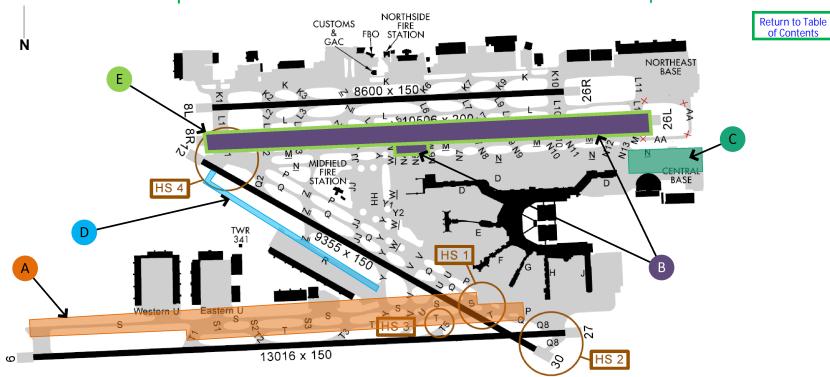
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F	RWY 17R/35L																																				
G	RWY 18L/36R																																				
Н	East-side Taxiways																																				

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
F	RWY 17R/35L	Rehabilitate pavement for the RWY and entrance and exit TWYs. Improvements to RWY geometry, markings, lighting, and signage.	01/01/2019 to 08/01/2019	Upcoming		No delay impact is based on present traffic volumes. All forecasts are for continued growth at MCO which could result in delays when the project begins. Coordination with TMU and users will be started prior to the start date to help mitigate any issues.
G	RWY 18L/36R	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. Some additional taxiway closures will be expected at various phases of the project.	01/01/2020 to 2020 TBD	Upcoming		Based on present traffic volumes; no delay impacts are expected. Loss of the ILS RWY 36R could lead into some delays during weather situations and cause additional flow into MCO. Coordination will begin well in advance with TMU and users to help mitigate any issues. Funding has not yet been determined.
Н	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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Α	TWYs S & T																																		
В	RWY 8R/26L and TWY M5																																		

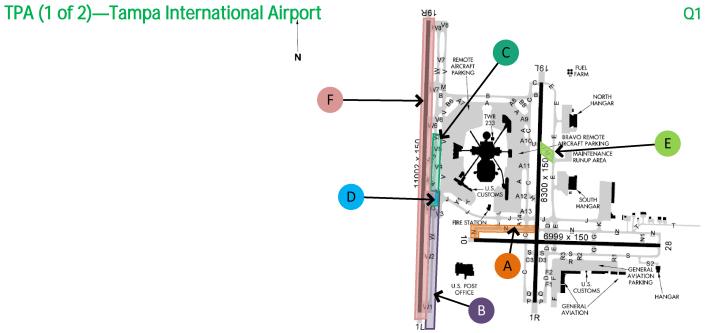
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
A		Rehabilitation: mill and overlay, lighting upgrades, and pavement markings.	03/05/2018 to 01/22/2019	In Progress		TWYs will be closed in segments to minimize potential impacts.
В		RWY 8R/26L and TWY M closed for Runway Incursion Mitigation program (RIM) to narrow the M5 intersection. Full closure of Runway 8R/26L from 9/26/18 until 10/10/18.	09/26/2018 to 10/10/2018	Complete		Phase 1A - Complete. Phase 1B – September 26, through October 10, 2018 - 14 days (Runway 8R-26L closure and taxiway M closure at M-5).



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	Project	ОСТ	NOV	DEC	JAN	FEB	MAR A	APR N	/IAY JI	UN JI	UL A	UG SEI	P OCT	NOV	/ DEC	JAN	FEB	MAF	R APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC .	JAN I	FEB M	AR AP	R MA	Y JUN	JUL	AUG S	EP
С	Central Base Ramp																																		
D	RWY 12/30 & TWY R																																		
Е	RWY 8R/26L																																		

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
С	Central Base Ramp	Central Base (East side) ramp expansion and taxiway tie-in.	01/02/2019 to 11/01/2021	Upcoming		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. Full closure of RWY 12/30 from 4/28/19 to 6/26/19.	01/07/2019 to 06/10/2020	Upcoming		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. RWY closure impact TBD.
Е	RWY 8R/26L	A camera based foreign object detection system will be installed.	2019 TBD	Upcoming		Project delayed indefinitely. This project may be canceled.

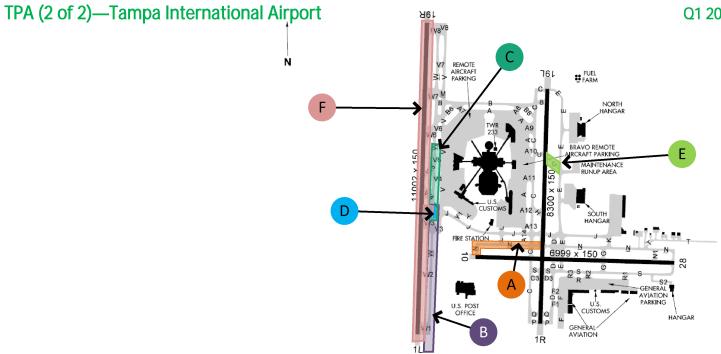




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Α	TWY N Reconstruction																																		
В	TWY W (South end)																																		
С	TWY W3 (center)																																		

ı		Project	Description of Work	Estimated Dates	Status	Impact	Notes
	Α	TWY N Reconstruction	Reconstructing asphalt sections of TWY N from TWY C to the approach end of RWY 10.	01/16/2018 to 04/06/2019	In Progress		Reconstruction project will require intermittent closures of RWY 10/28.
	В	TWY W (South end)	TWY W closed for reconstruction between TWY W4 and approach end RWY 1L. Complete slab replacement and repainting. Project duration 165 days.	04/12/2018 to 12/18/2018	Complete		TWY W closure limits taxi routes to RWY 1L and from departure end RWY 19R. Expect longer than normal taxi times and possible back taxis to depart RWY 1L or arrive RWY 19R. Possible airborne holding, expanded miles-in-trail, ground stop, or ground delay program.
	С	TWY W3 (center)	TWY W closed from TWY W3 through TWY W5. Complete slab replacement and repainting. This will require additional daily closure of TWY V3 for construction access.	09/17/2018 to 12/18/2018	Complete		TWY W closure limits taxi routes to RWY 1L and from departure end RWY 19R. Expect longer than normal taxi times and possible back taxis to depart RWY 1L or arrive RWY 19R. Possible airborne holding, expanded miles-in-trail, ground stop, or ground delay program.



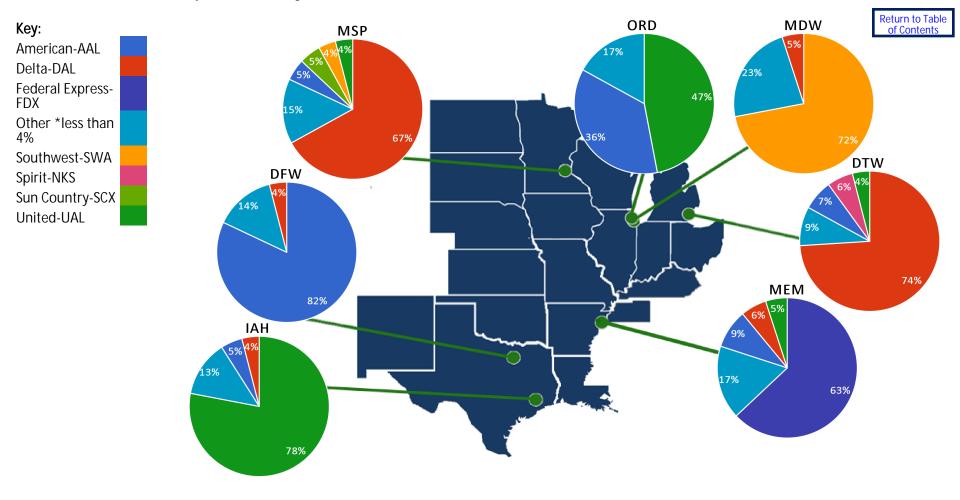


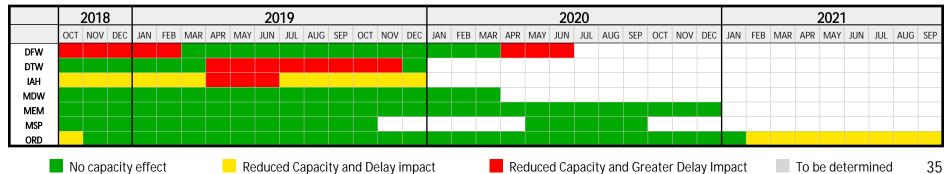
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D	TWY J																																			
E	TWY U					L																														
F	RWY 1L/19R																																			

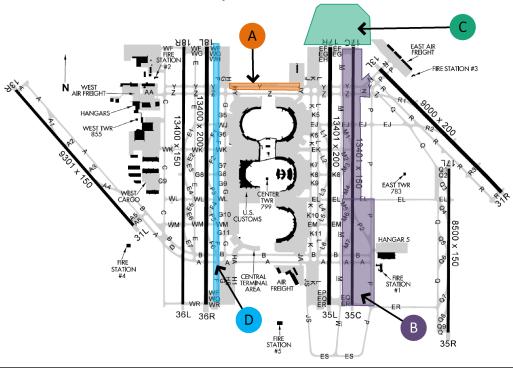
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
D	TWY J	The portion of TWY J between TWY W and RWY 1L/19R will be permanently close to conform to new FAA design standards.	09/19/2018 to 10/26/2018	Complete		This will require the closure of RWY 1L/19R for approximately 14 days (9/19/18-10/03/18). Possible airborne holding, expanded miles-in-trail, ground stop, or ground delay program.
E	TWY U	TWY U closed for reconstruction between RWY 01R/19L and TWY E.	09/28/2018 TBD to 01/31/2019 TBD	In Progress		
F	RWY 1L/19R	RWY 1L/19R closed for removal of Taxiway J connector.	10/08/2018 to 10/26/2018	Complete		TPA will have only one primary runway available. May experience arrival and departure delays due to the reduction in capacity (from 65 to 35) and may be subject to holding and/or diverting. TWY J between Runway 1L-19R and TWY W does not have sufficient pavement to have the required taxiway edge safety margin when aircraft make certain turning movements.

Central Service Area, Impact Summary, Carrier Distribution

Q1 2019 Airport Construction Outlook

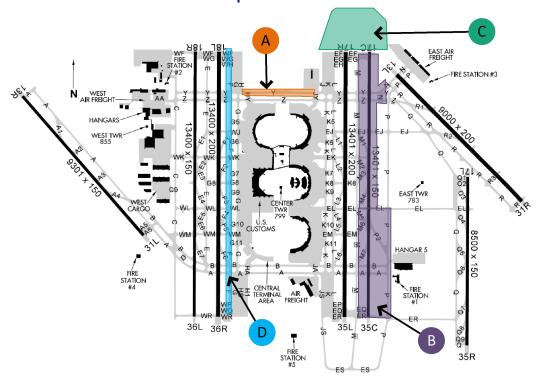






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Α	TWY Y																																		
В	RWY 17C/35C																																		

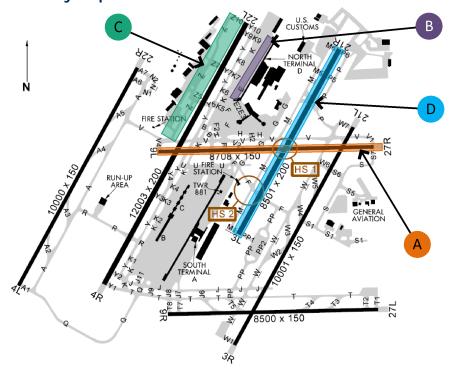
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	TWY Y	TWY Y closed between taxiways HY and JY for structural improvements. Duration 7 months.	06/25/2018 to 02/11/2019	In Progress	•	TWY Y closure will not be concurrent with any other east/west airfield connector TWY. Some aircraft that normally use the north bridge taxiways will be rerouted to use the south bridges (A&B) which will increase taxi times and congestion. Overall, taxi in and out times will increase during this long term closure. MIT or metering for arrivals. Departure delays of 15-29 minutes possible.
В	RWY 17C/35C	RWY 17C/35C closed for rehabilitation of keel section. Replacement of the center third of the runway, about 6,000 feet. Asphalt resurfacing of the entire runway length. Complete electrical system replacement; and East Airfield Runway Status Lights (RWSL, and taxiway geometry improvements).	08/04/2018 to Feb 2019 TBD	In Progress		Multi-phased project. Airport throughput decreases for all configurations, because RWY 17R/35L will be closed. During this period the runway will not be available and aircraft operations will be shifted to other runways.



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	Project	OC.	ΓNC	V DE	C J	AN FE	ВМ	1AR APF	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	TOO	IOV DE	C JAN	I FEE	В МА	R APR	MAY	JUN	JUL	AUG	SEP
С	RWYs 17C-17R End-Around TWY North Section																																			
D	TWY F																																			

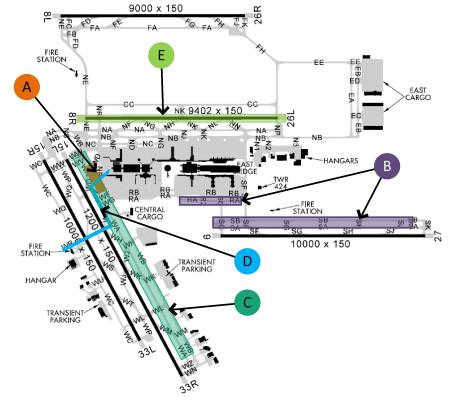
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
O	RWYs 17C-17R	Northeast End-Around Taxiway (NEAT) Package II: TWY P realignment will necessitate non-simultaneous closures of TWYS Y/N and Z/P. Northeast End-Around Taxiway (NEAT) Package III: Glycol facilities relocation near the approach end of RWY 17R.	03/01/2019 to 03/01/2020	Upcoming		Project supports taxiway tie-ins for NEAT. Project supports relocation of deicing fluid.
D		TWY F closure. Replace and expand asphalt shoulders, replace concrete panels, expand pavement at key intersections.	Spring 2020 TBD	Upcoming		Project delayed until further notice.





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Α	RWY 9L/27R																																				
В	North Terminal Expansion																																				
С	TWY Z																																				
D	RWY 3L/21R and TWY M																																				

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	RWY 9L/27R	RWY 9L/27R closed for runway repairs. Excluding taxi between RWY 04R/22L and TWY G.	03/01/2018 to 10/31/2018	Complete		
В	North Terminal Expansion	North Terminal gate expansion and return overnight (RON) parking.	07/01/2018 to 2019 TBD	In Progress		
С	TWY Z	TWY Z relocation	10/01/2018 to 11/01/2018	Complete		
D	RWY 3L/21R and TWY M	RWY 3L/21R and TWY M closed for maintenance and repairs.	04/01/2019 to 11/15/2019	Upcoming		Runway 3L/21R is a primary departure runway. During peak arrival demand possible departure delays due to single runway departure operation.

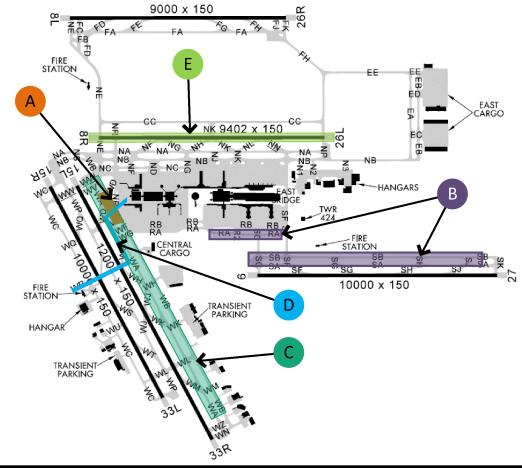


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Α	TWY Rehabilitation																															
В	TWY RA, SA, SB																															
С	TWYs WA and WB																															

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	TWY Rehabilitation	TWY pavement repairs south of Terminal A. (Houston airport system 460C).	09/01/2017 to December 2018	Complete		
В	TWY RA, SA, SB	TWYs RA, SA, and SB (South Area) reconstruction.	03/01/2018 to 2019 TBD	In Progress		UAL Ramp control may incur internal delays getting to transfer of control point (CP).
С	TWYs WA and WB	Reconstruction (full-depth replacement) of TWYs WA, WB, and associated cross TWYs, existing TWY/taxilane shoulder pavement areas, updating edge/centerline lights, signage, conduit and cabling, and drainage system.	09/01/2018 to 11/01/2018	Complete		Reconstruction will remove one or more high speed exits and to provide additional shoulder width to support Aircraft Design Group VI aircraft on TWY WA/WB. Tentative RWY 15L/33R closure after Labor Day 2018 for 73 days.

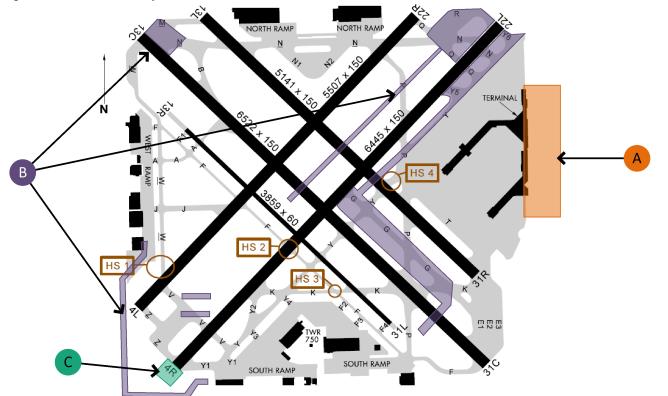
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D	Airport Sanitary Sewer Mains																																			
Е	RWY 8R/26L																																			

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
D	Airport Sanitary Sewer Mains	Rehabilitation of sanitary sewer line extending from Terminal A, South, and then West to a location West of TWY WC.	2019 TBD	Upcoming		Project delayed, estimated project duration 419 days.
E	RWY 8R/26L	RWY 8R/26L closed for resurfacing, and electrical upgrades.	Spring 2019 TBD	Upcoming		Expected start date: Q2-2019.



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Terminal Parking Garage																												
Airfield Lighting																												
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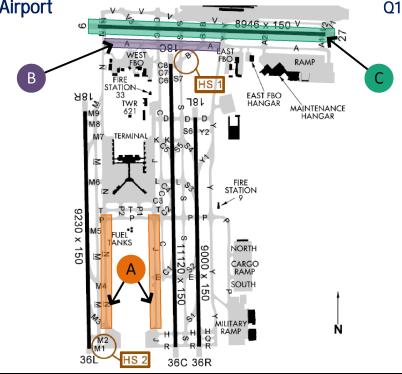
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	Terminal Parking Garage	Expansion of the existing terminal parking structure.	01/01/2018 to 03/25/2020 TBD	In Progress		This project should be minimal impact, During occasional weather periods the RNAV 22L approach may have increased minimums.
В	Airfield Lighting	Airfield lighting infrastructure improvements. Includes installation of several new electrical duct banks and a manhole system near the approach end of RWY 22L.	04/01/2018 to 10/31/2019	In Progress		Primarily nighttime work near the approach end of RWY 22L that may require associated TWY closures.
С	RWY 4R/22L EMAS	Repair/replace Engineered Material Arresting System (EMAS) at Southwest end of RWY 4R/22L.	Spring 2019 to 06/30/2019	Upcoming		Project will require runway closure but will be based on availability of alternate runways.

RWY 4R/22L EMAS

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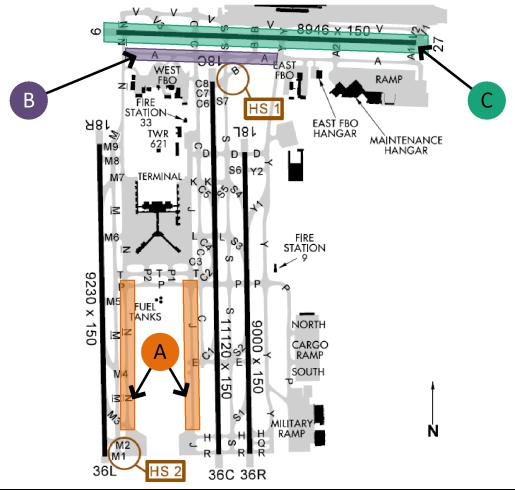
MEM (1 of 2)—Memphis International Airport

Q1 2019 Airport Construction Outlook



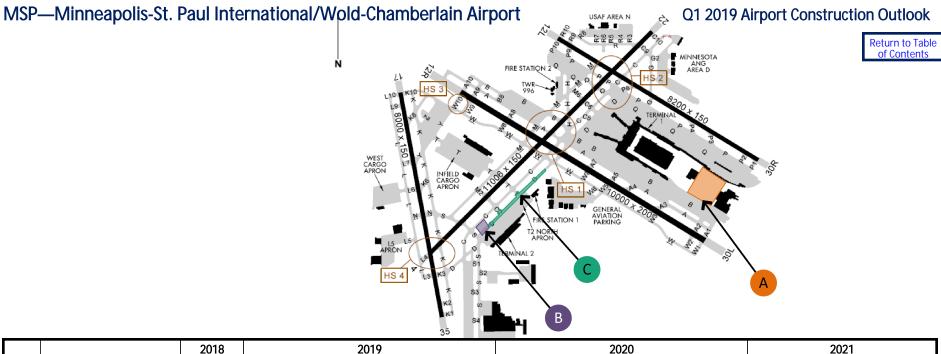
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Α	TWYs N & J deicing pad																																		
В	TWY A																																		

	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 2020 TBD	In Progress		Collection area affects approaches during CAT 2/3 conditions. The airport plans to lower a construction crane when anticipating CAT 2/3 conditions which will eliminate impact. However unanticipated CAT 2/3 conditions will still have impact.
В	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	Spring 2019	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.



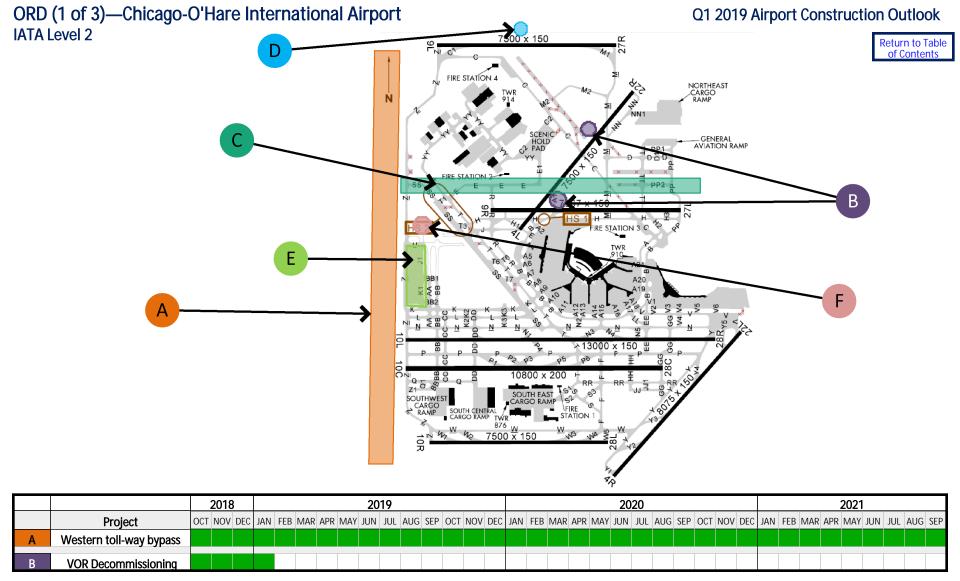
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С	RWY 9/27 Status Lights																																			

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
С		RWY 9/27 runway status lights (RWSL) system will be installed.	2020 TBD	Upcoming		A construction meeting with airport authorities was already held. Discussion included construction dates and potential impacts. Impact level will be changed if there is any effect on capacity or delays.

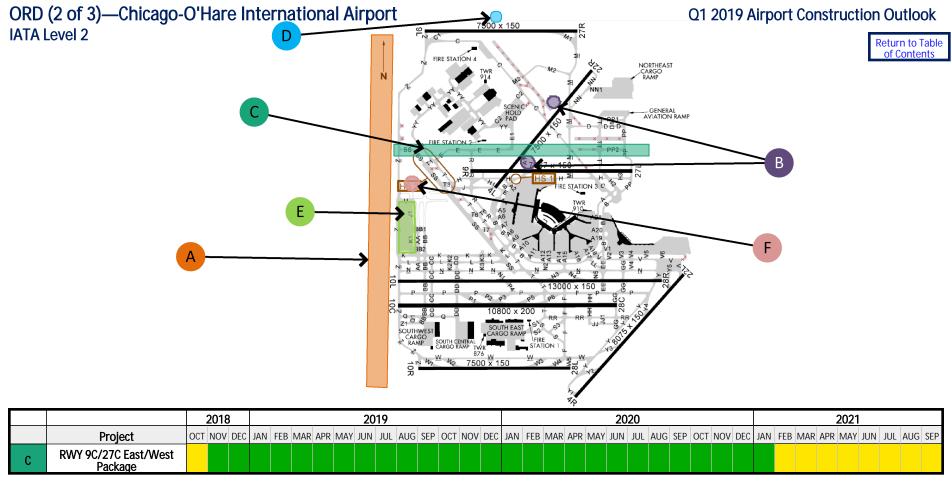


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Α	Parking Ramp Construction																																
В	TWY C1																																
С	TWY D																																

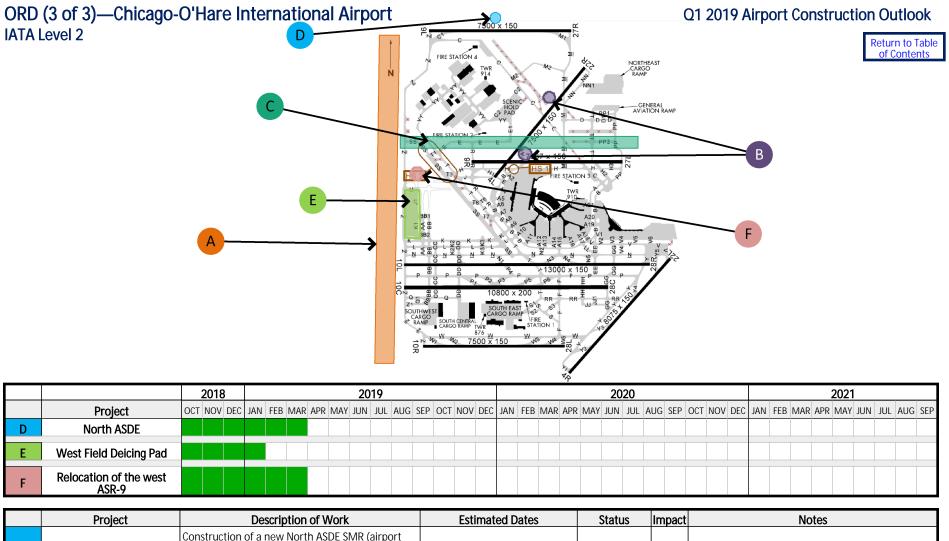
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	Parking Ramp Construction	Large cranes (4) will be erected to support Terminal 1 parking ramp construction.	03/02/2018 to 08/31/2019	In Progress	•	Cranes impact the localizers on RWYs 12R, 12L, and 30L. This will reduce RWY 30L to a Cat I ILS only. RWYs 12R and 12L have Cat II available to RWY threshold. Beyond RWY threshold, the localizer is unusable. 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		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.
С	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.



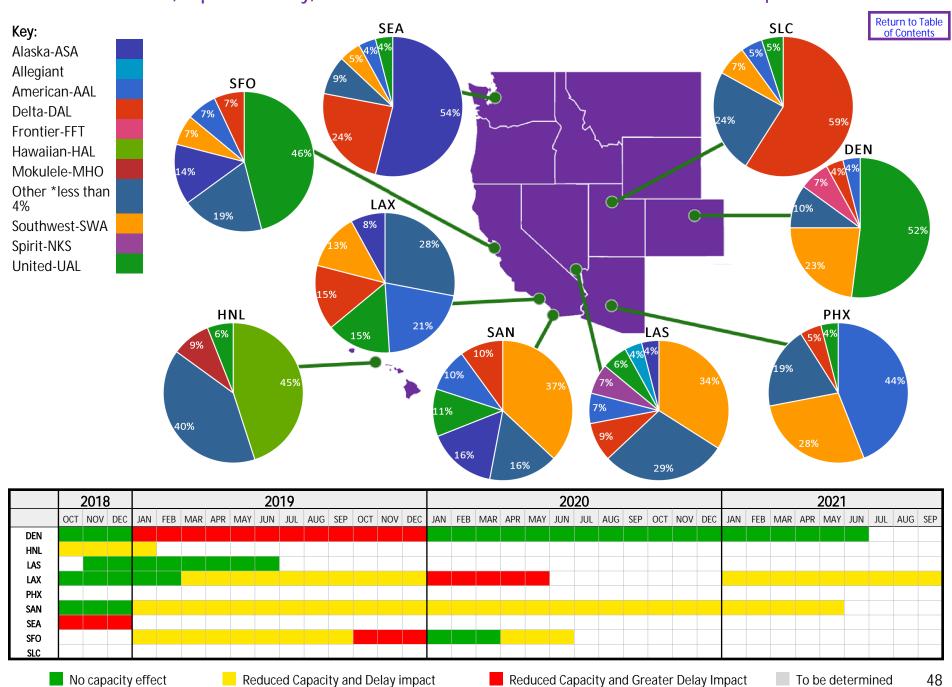
	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	Western toll-way bypass	Toll-way construction along the western airport boundary from intersection of Business Road and S.R.83 westbound to Interstate 355.	03/01/2017 to 12/31/2021	In Progress		During construction, Construction cranes will impact approach minimums by increasing decision height (DH). NOTAMS in effect.
В		Will be replaced with a stand-alone DME northeast of the current VOR/DME as part of the RWY 9C-27C project.	03/01/2017 to 01/03/2019	In Progress		Commissioning checks are on track, flight checks completed.

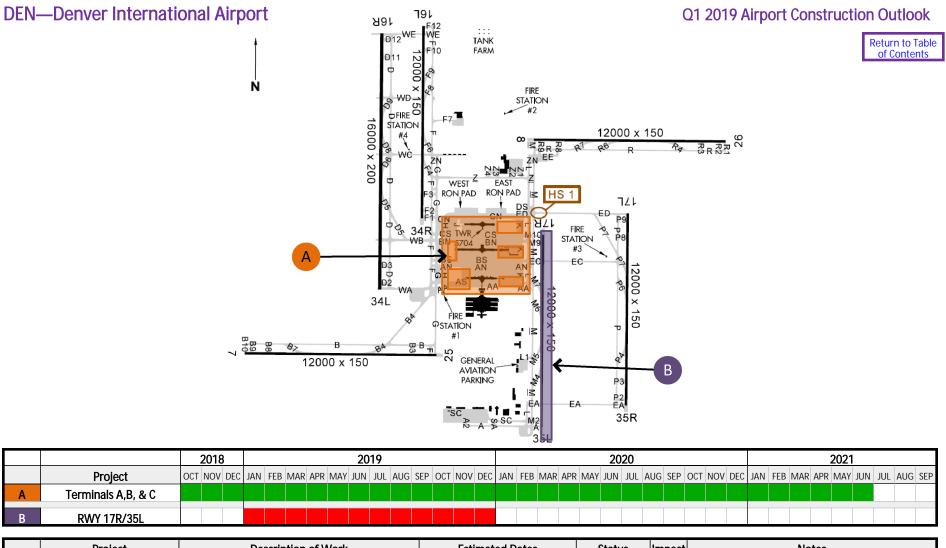


	Project	Description of Work	Estimated Dates	Status	Impact	Notes
		New center runway construction (11,245 ft. long x 200 ft. wide).	05/01/2017 to 10/31/2018	Complete		
		New center runway construction (11,245 ft. long x 200 ft. wide).				Delays during IMC conditions are expected which is approx. 4% of the year. If weather is below 500-1/2 (LOCALIZER minimums); GDPs, MIT, airborne
С	RWY 9C/27C East/West Package	RWY 9R ILS currently in-service Cat I, further outage requests likely. Impact level may change during project due to weather.	11/01/2018 to 01/31/2021	In Progress		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.
		New center runway construction (11,245 ft. long x 200 ft. wide). RWY 9R ILS currently in-service Cat I, further outage requests likely. Impact level may change during project due to weather.	02/01/2021 to 11/30/2021 TBD	Upcoming		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.

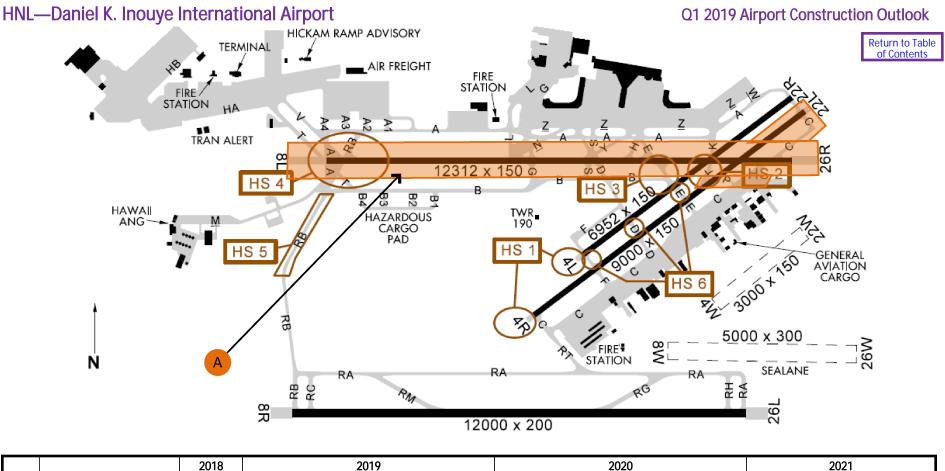


	Project	Description of Work	Estimated Dates	Status	Impact	Notes
D	North ASDE	Construction of a new North ASDE SMR (airport surface detection radar antenna) site. Construction of 77 ft. tall tower (seven sections).	06/18/2018 to 03/29/2019	In Progress	•	
E	West Field Deicing Pad	Construction of a new deicing pad.	Summer 2018 to Jan 2019 TBD	In Progress		Slight impact to taxi flows. The deicing pads will be constructed away from the gates, so planes no longer have to remain at and tie up gates while being deiced. Limited taxiways available winter 2018-19.
F	Relocation of the west ASR-9	The ASR will be relocated to the south airfield to support new RWY 9C-27C.	08/01/2018 to 03/26/2019	In Progress		Commissioning flight check may impact flows into and out of ORD.



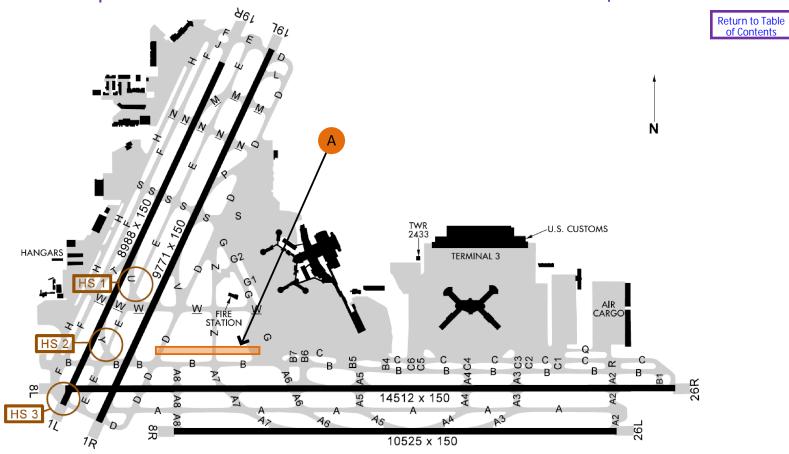


	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	Terminals A,B, & C	Terminals A, B, and C gate expansion. Construction will add 39 new gates. Concourse A - 12 new gates Concourse B - 11 new gates Concourse C - 16 new gates	05/29/2018 to Spring 2021	In Progress		Expecting increased taxi times. Airport gate capacity increase of 30%.
В	RWY 17R/35L	RWY 17R/35L closed for pavement rehabilitation and lighting upgrades.	01/02/2019 to 12/31/2019	Upcoming		Miles in trail, Time Based Flow Management, fix balancing, ground stop, GDP, and AAR adjustments will be used to accommodate traffic demand.



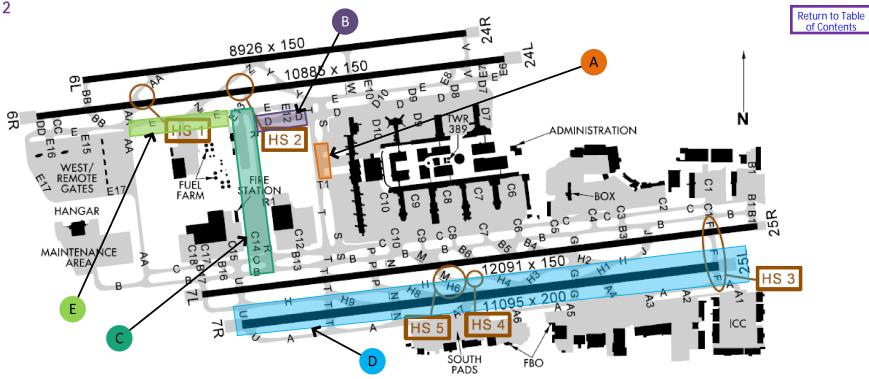
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Α	RWY 8L/26R																																		

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	RWY 8L/26R	RWY 8L/26R widening project from 150 to 200 feet. RYW 8L/26R shortened for east-end work, 9,100ft remaining. Stage 1 (east) = 79 days Stage 2 (center) = 193 days Stages 3-9 (west) = TBD	08/06/2018 to 01/07/2019	In Progress	-	There are a total of 9 Stages. The west and center stages for RWY 8L will require full closures. Lower AARs associated with full closures. 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. Airborne and departure delay expecting 15 minutes. RWY 4/8, expect delays for RWY 8R, RWY 22/26 expect possible delays for RWY 2L departures due to ADW for RWY 26L arrivals. Increased taxi times for aircraft requesting RWY 26L departure.



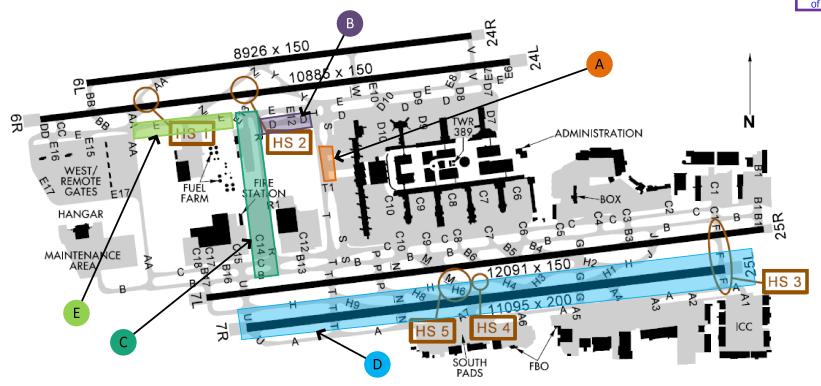
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Α	TWY C Extension																																		

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α		Extension of TWY C between TWYs D and G. Area approximately 2,600 ft. x 75 ft.	11/26/2018 to 06/17/2019	In Progress		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.



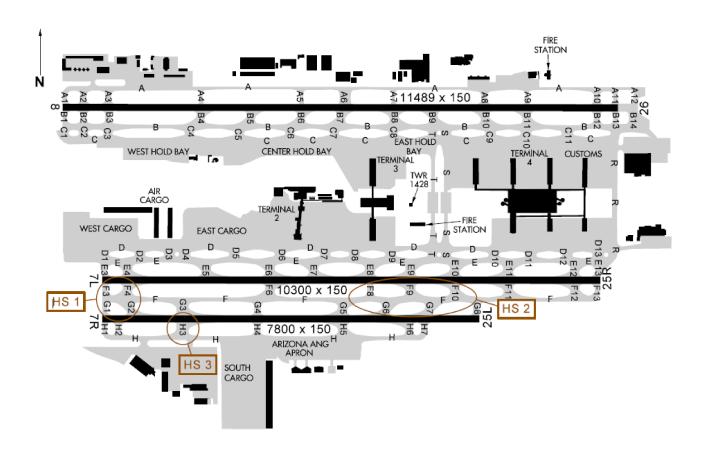
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Α	TWY S																																
В	TWY D (Center)																															\perp	
С	TWY C14																																

		Project	Description of Work	Estimated Dates	Status	Impact	Notes
,	Ą	TWY S	TWY S closed for construction, between TWY T1 and TWY T2.	06/06/2018 to 01/16/2020 TBD	In Progress		
F	В	TWY D (Center)	TWY D closed for construction, between TWY R and T.	09/17/2018 to Mar 2019 TBD	In Progress		Limited impact for taxiing aircraft. Increased surface congestion during periods of peak demand.
(С		New TWY C14 between TWY E and TWY C and parallel to TWY R.	March 2019 to March 2020	Upcoming		New taxiway construction. Capacity will be reduced with limited impact.



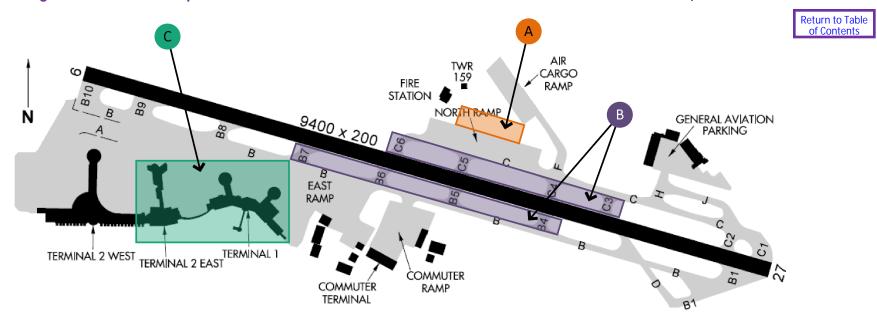
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D	RWY 7R/25L,TWY H																																	
Ε	TWY D (West)																																	

I		Project	Description of Work	Estimated Dates	Status	Impact	Notes
	D	RWY 7R/25L,TWY H	Runway and taxiway closure for reconstruction.	01/15/2020 to 05/15/2020	Upcoming		Runway closure will occur in two phases.
	E		New TWY D, closed area for surface construction from TWY C14 to TWY AA.	Winter 2021 to Winter 2022	Upcoming		New taxiway construction. Capacity will be reduced with limited impact. Expected start date: Q1-2021.



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Project	Description of Work	Estimated Dates	Status	Impact	Notes
No projects at this time					

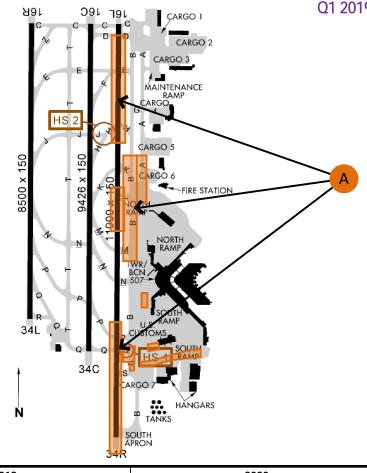


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	Project	OCT NO	V DEC	JAN	FEB I	MAR A	PR MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP (OCT N	IOV DE	JAN	FEB	MAR	APR N	MAY .	JUN JI	UL A	AUG	SEP
Α	New Cargo Facility																																	
В	RWY 9/27 Taxiways																																	
С	Terminal Replacement																																	
D	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 01/01/2019	In Progress		Weather sensors require relocation, weather systems will provide seamless relocation with no WX data/TAF degradation.
В	RWY 9/27 Taxiways	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	In Progress		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	Upcoming		Aircraft gates added sequentially before legacy gates demolished.
D	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).

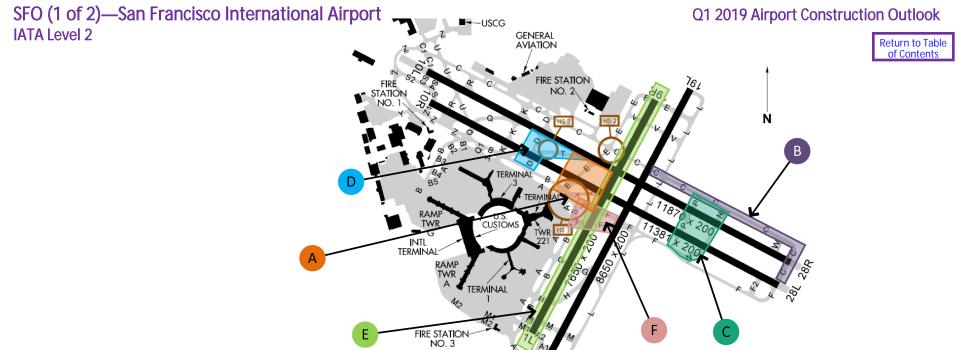
SEA—Seattle-Tacoma International Airport IATA Level 2





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	Project	ОСТ	NOV	DEC	JAN	FEB	MAR	APR N	IAY J	JUN J	UL A	UG S	EP (ОСТ	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP (OCT NO	DEC DEC	JAN	FEB	MAR	APR	MAY	JUN .	JUL	AUG S	EP
Α	RWY 16L/34R and TWYs																																			

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
		RWY 16L/34R closed for RWY construction/repair and TWY improvements/relocation. TWYs A and B closed at various ramp areas for construction. Phase 1 & 2 = 57 days (4/4/18 to 5/31/18) Phase 3 = (6/1/18 to 8/25/18)	04/04/2018 to 08/25/2018	Complete		Multi phase project. Minimal overall impact for phases 1, 2, and 3. Impact to aircraft crossing RWY 16L/34R at TWY Q. Aircraft north of North Satellite will use TWY B.
А		North half of RWY 16L/34R and TWY B closed for construction/repair and TWY improvements/relocation. TWY construction projects to bring into compliance with current FAA design standards and safety mitigation.	09/10/2018 to 12/10/2018	Complete		RWY 16R/34L will be used for arrivals only. RWY 16C/34C will be the only departure runway and will occasionally be shared with arrivals during periods of high arrival demand. During IFR expect delays.



			2018	8						201	19											20	20									- 2	2021				
	Project	ОСТ	NOV	DEC	JAN	FEB	MAR	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	MAY	JUN	JUL	AUG	SEP
Α	TWYs E and J																																				
В	TWY C (East Area)																																				
С	TWYs N and P																																				
Not Depicted	Airfield Lighting																																				

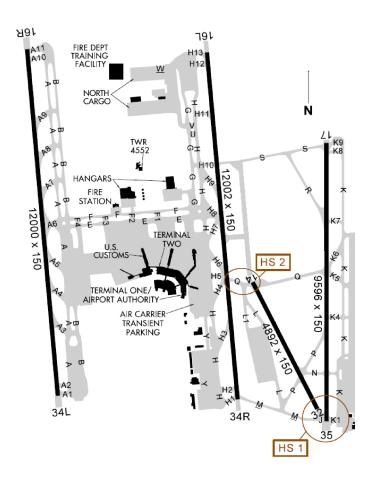
		Project	Description of Work	Estimated Dates	Status	Impact	Notes
	Α	TWYs E and J	TWYs E and J reconstruction.	2019 TBD	Upcoming		Future project, exact dates unknown.
	В	TWY C (East Area)	TWY C reconstruction on the East-side of the airfield.	2019 TBD	Upcoming		Future project, exact dates unknown.
	С	TWYs N and P	TWYs N and P reconstruction.	2019 TBD	Upcoming		Future project, exact dates unknown.
	Not	A. Caldeland	Airfield Lighting, Bldg. 1 electrical system upgrade	Spring 2019	Upcoming		
1	Not epicted	Airfield Lighting	Airfield lighting, 5kV cable replacement	Fall 2019 to Winter 2020	Upcoming		Future project, exact dates unknown.



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	Project	ОСТ	NO	V DE	C J	AN	FEB	MAF	R APF	MA'	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEE	з МА	AR AI	PR N	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB	MAR	APR I	MAY	JUN .	JUL	AUG	SEP
D	TWYs D & T																																						
E	RWY 1L/19R																																						
F	TWYs F and F1																																						

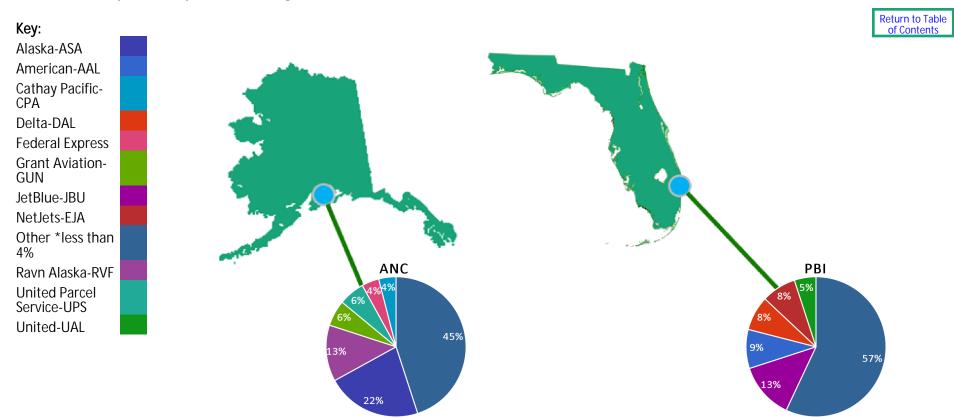
FIRE STATION NO. 3

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
D	TWYs D & T	Realignment of TWYs 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 2019	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.
E	RWY 1L/19R	RWY 1L/19R rehabilitation.	Fall 2019	Upcoming		Repaving RWY.
F	TWYs F and F1	Realignment of TWYs for Runway Incursion Mitigation (RIM) Program.	Spring 2020	Upcoming		Project to realign TWYs in order to rectify deficiencies. Impact will be when the new TWYs are constructed to touch the RWYs.

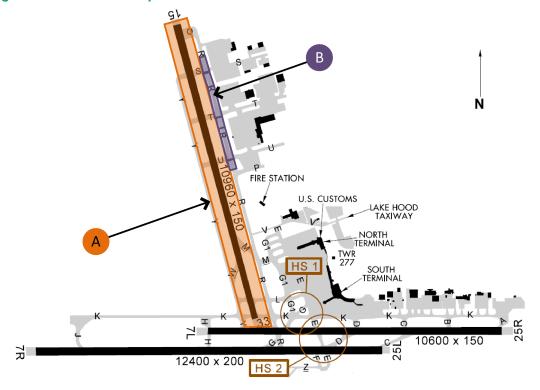


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Project	Description of Work	Estimated Dates	Status	Impact	Notes
No projects at this time					

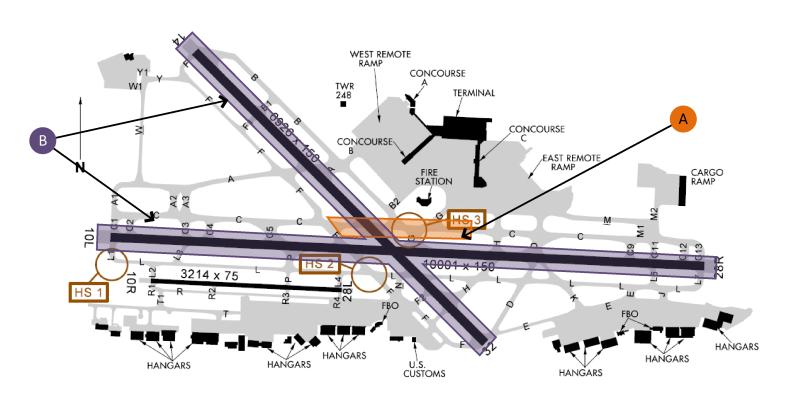


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	Project	ОСТ	NOV	/ DEC	JA	N FE	ВМ	AR API	RMAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC J	JAN F	EB MAR	APR	MAY	JUN	JUL	AUG	SEP
Α	RWY15/33																																			
В	TWY R North																																			

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Α	RWY15/33	RWY 15/33 closed for rehabilitation. RWY widening from 150 ft. to 200 ft. Rehabilitate intersecting TWYs. Relocate RWY 33 and RWY 15 displaced thresholds to the north. Relocate NAVAIDS and install new RWY and TWY lighting. Phase 1 = (5/30-8/5) 67 days Phase 2 = (8/6-9/28) 55 days	05/30/2018 to 10/05/2018	Complete		Multi-phase project. 8/26/18-10/5/18: RWY 15/33 SE 559 ft. closed 8/27/18-10/5/18: RWY 33 available for departures, exc. full closure 09/27/18-09/30/18: RWY 15/33 closed full length Arrival and departure delays of up to 20 minutes may be expected at various stages of construction.
В	TWY R North	TWY R North rehabilitation and associated TWYs. Phase 1/1A/1B = 43 days Phase 2 = 27 days Phase 3 = 36 days Phase 4 = 27 days	05/30/2018 to 10/17/2018	Complete		Multi-phase project and cross taxiways. Phase 1 includes TWY U Phase 1/1A/1B = TWY R Phase 2 includes TWY R Phase 3 includes TWY S Phase 4 includes TWY T



			201	8	I					201	19											20:	20									2021			
	Project	OCT	L NO.	V DEC	C J/	AN FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV D	DEC .	JAN F	EB MAR	APR	MAY	JUN	JUL	AUG SEP
Α	TWY C																																		
В	RWYs 14/32 and 10L/28R																																		

	Project	Description of Work	Estimated Dates	Status	Impact	Notes
Δ	TWY C	TWY closed for rehabilitation. TWY C closed from	Summer 2019	Upcoming		No Taxi delays expected.
,		TWY H to TWY F and TWY G.	Garrinion 2017	Operimig		Project will be planned for off peak season.
В		RWY 14/32 + 10L/28R closed for repair and maintenance.	Summer 2019	Upcoming		RWY 10L/28R limited nighttime closures from 1030L to 0530L.
		muliteriaries.				RWY 14/32 single nighttime closure approx. 2 hours.