

SILICON VALLEY'S AIRPORT



City of San Jose Construction Crane Height Guidance Study

City Council – Item 5.1

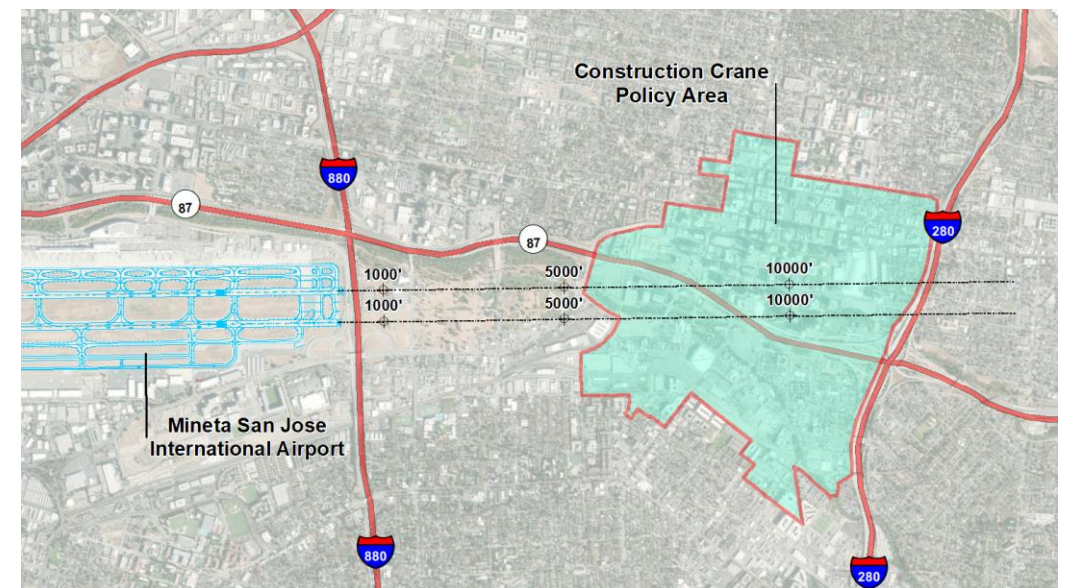
March 9, 2021

John Aitken, Director of Aviation & Judy Ross, Assistant Director

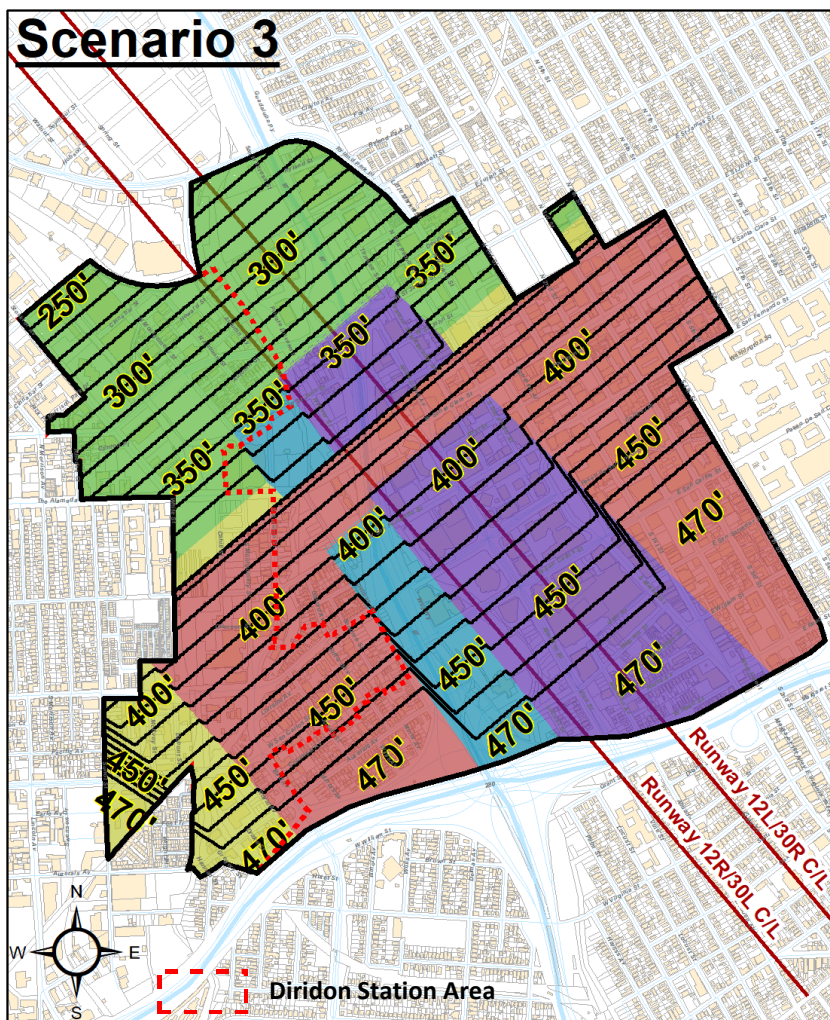
CONSTRUCTION CRANE HEIGHT GUIDANCE STUDY



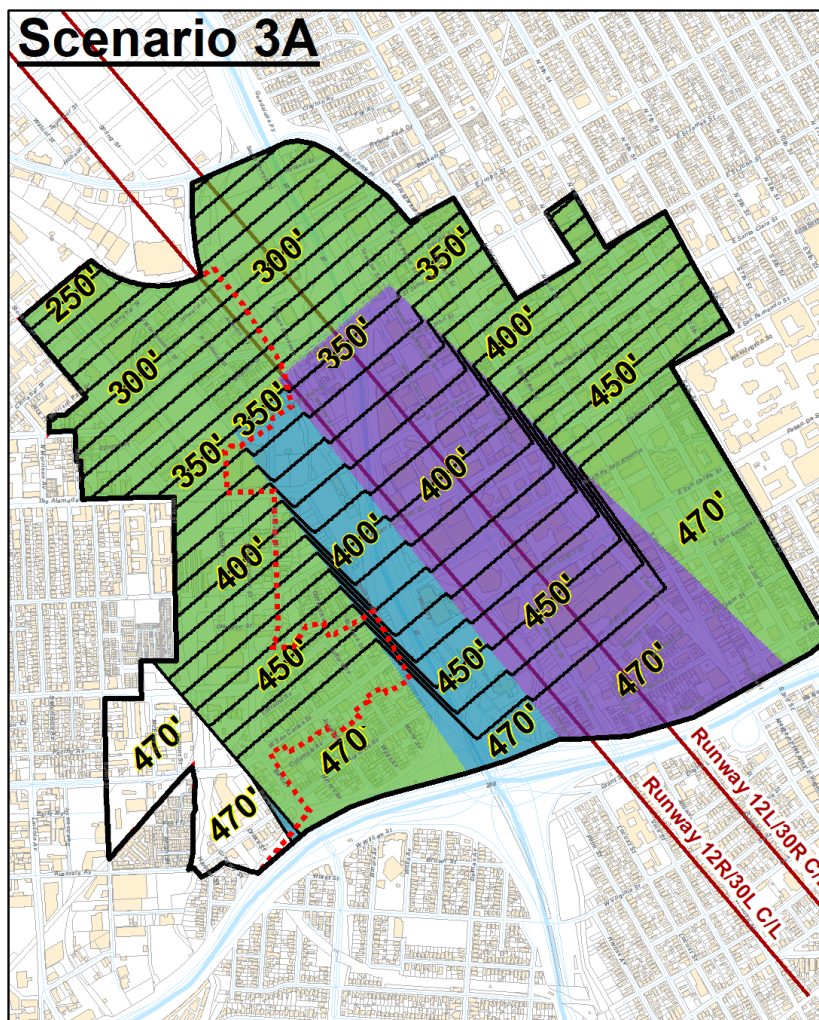
- **Downtown Airspace and Development Capacity (DADCS)**
 - Adopted new Building Height Limits
 - Develop Construction Crane Guidelines
- **FAA Airspace Protection**
 - Temporary Cranes regulated by FAA through Part 77 / TERPS Review Process
 - Temporary cranes impact SJC's approach/departure procedures
 - FAA does not protect for One Engine Inoperative (OEI)



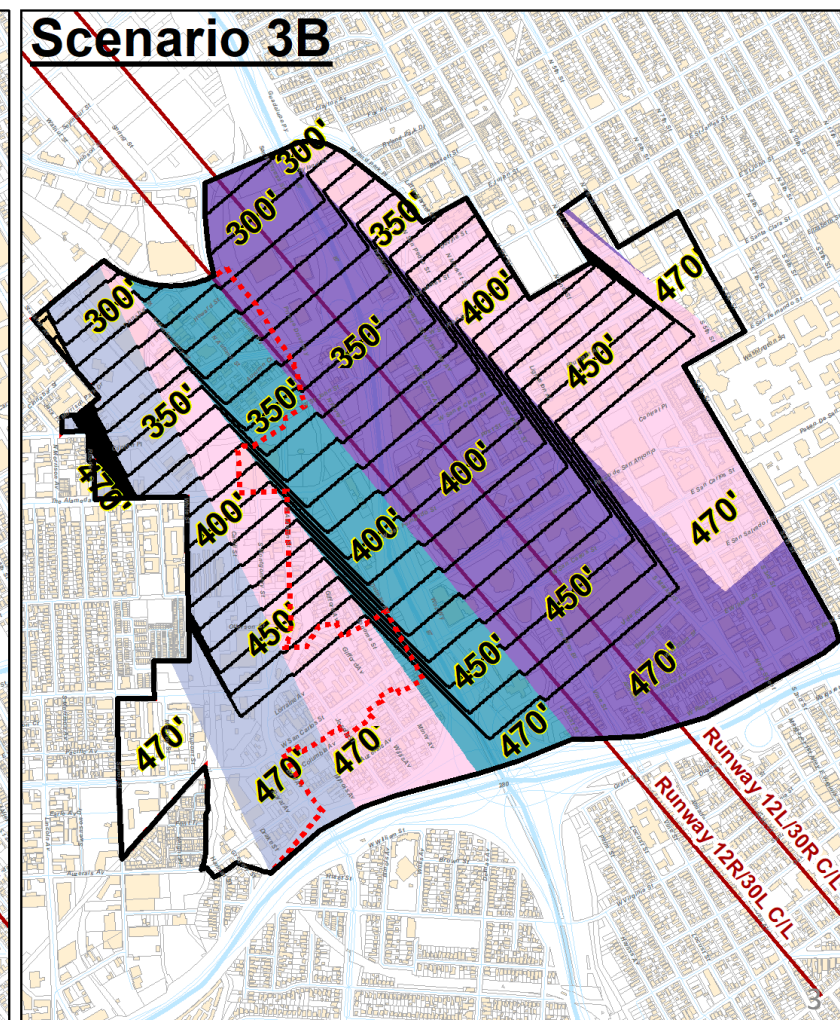
SCENARIOS 3-3A-3B CRANE PROTECTION HEIGHTS (SIDE-BY-SIDE COMPARISON)



TERPS ILS CAT I - Runway 30L	TERPS LNAV-VNAV - Runway 30L
TERPS LPV - Runway 30R	TERPS LNAV-VNAV - Runway 30R
TERPS RNP 0.30 - Runway 30R	

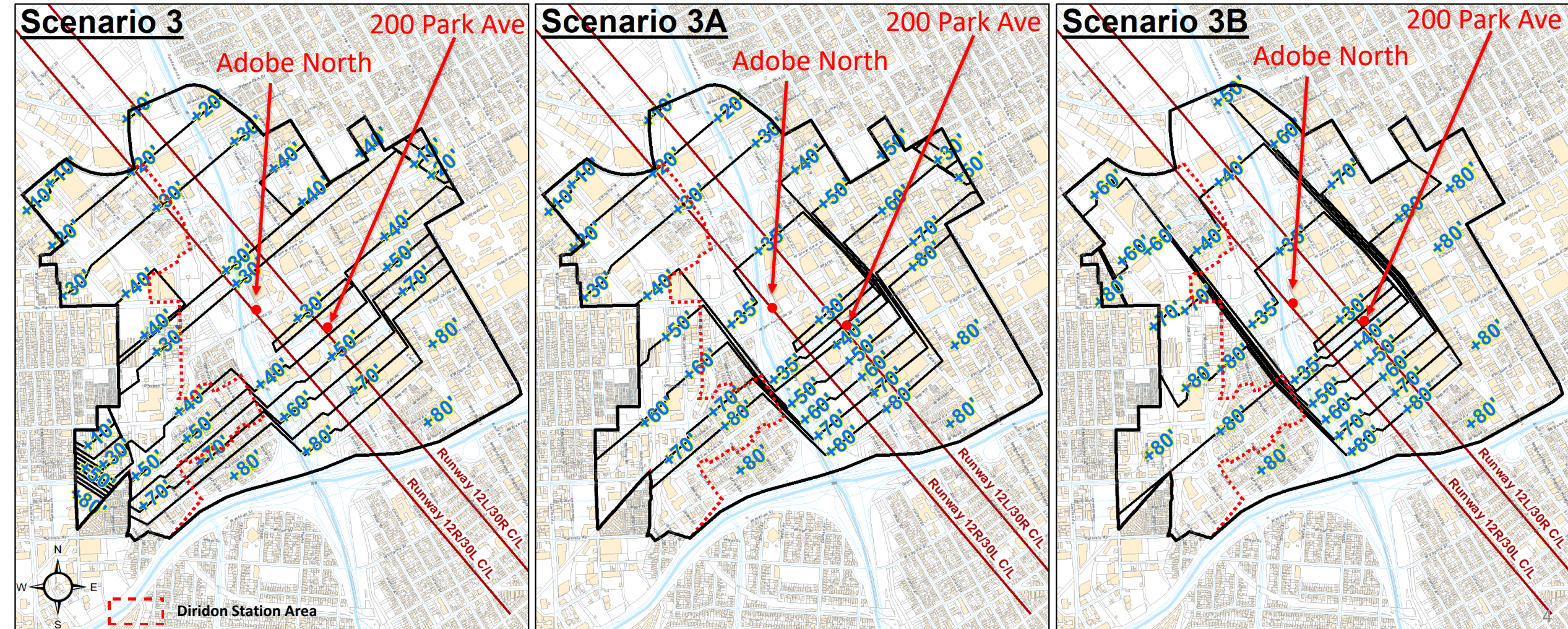


TERPS ILS CAT I - Runway 30L	TERPS RNP 0.30 - Runway 30R
TERPS LPV - Runway 30R	



TERPS ILS CAT I - Runway 30L	TERPS RNP 0.11 - Runway 30R
TERPS LPV - Runway 30R	TERPS Departure - Runway 12L - 330°/NM CG
TERPS RNP 0.15 - Runway 30L	TERPS Departure - Runway 12R - 330°/NM CG

SCENARIOS 3-3A-3B CRANE HEIGHT DIFFERENTIAL TO BUILDING HEIGHTS



- Progression from Scenario 3 to 3B: largest height increases in the Diridon Station Area, East Downtown, minor height increases in central Downtown directly below SJC's Runway centerlines.

AIR SERVICE IMPACTS SUMMARY FOR RUNWAY 12L



	Asia (Beijing)				Europe (Frankfurt)			
	B787-9 (290 seats)		B777-300ER (370 seats)		B787-9 (290 seats)		B777-300ER (370 seats)	
Scenarios	Pax Penalty	Cargo Penalty (lbs.)	Pax Penalty	Cargo Penalty (lbs.)	Pax Penalty	Cargo Penalty (lbs.)	Pax Penalty	Cargo Penalty (lbs.)
Scenario 3	83-84	-	0	10,210-10,430	37-46	370-2,970	0	9,780-10,500
Scenario 3A	105-106	-	0	21,250-21,940	60-69	370-2,970	0	21,020-21,390
Scenario 3B	162-163	-	0	37,360-39,710	120-128	370-2,970	0	38,060-38,630
	New York (Transcon)				Hawaii			
	A320-200 (150 seats)		B737-800 (175 seats)		A321 NEO (189 seats)		B737-800 (175 seats)	
Scenarios	Pax Penalty	Cargo Penalty (lbs.)	Pax Penalty	Cargo Penalty (lbs.)	Pax Penalty	Cargo Penalty (lbs.)	Pax Penalty	Cargo Penalty (lbs.)
Scenario 3	0-7	840-2,390	0	1,070-2,130	0-2	580-1,640	9-13	0-40
Scenario 3A	0-7	840-2,390	0	1,070-2,130	0-2	580-1,640	9-13	0-40
Scenario 3B	4-11	840-2,390	0	1,960-3,010	0-5	580-2,290	13-17	0-40

- **FAA's responsibility** to protect critical air carrier instrument procedures (TERPS surfaces)
 - FAA issuance of “Determination of No Hazard” for temporary cranes
 - FAA may require obstruction lighting and marking
- Airlines and Development Community both impacted by Construction Crane Heights
 - Potential Air Service impacts on Transcontinental, Hawaii, and International Flights during South Flow Operations (13% annual average)
 - Developers to follow Construction Crane Height Guidance Document

CRANE HEIGHT GUIDANCE DOCUMENT



- Airport will coordinate with PBCE to prepare “Crane Height Guidance Document”
 - Attach to all City development permits in Downtown San Jose and Diridon Station Areas
- Construction Crane Height Guidance document for Developers
 1. Utilize Crane jumps to ensure crane at maximum height for shortest period of time
 2. Cranes at maximum heights for 6 months
 3. Schedule highest heights during non-South flow months (April-September)
- Airport exploring Landing Fee Reduction Program
 - Landing Fee Reduction Program for Air Carriers that incur passenger and cargo weight impacts from downtown crane operations

Presented by John Aitken & Judy Ross