CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

COUNCIL AGENDA: 2/26/2019
ITEM: 6.2
FILE NO: 18-1944

Memorandum

TO: HONORABLE MAYOR AND CITY COUNCIL

FROM: Toni J. Taber, CMC
City Clerk

SUBJECT: **SEE BELOW**

DATE: February 26, 2019

SUBJECT: Actions Related to the Downtown Airspace and Development Capacity Study.

RECOMMENDATION:
As recommended by the Community and Economic Development Committee on January 28, 2019:

(a) Accept a completed Downtown Airspace and Development Capacity Study, with selection of Scenario 4, which would affirm the City's development policy to use Federal Aviation Administration (FAA) obstruction evaluation determinations on a project-by-project basis as maximum building height limits in the Downtown Core and Diridon Station Area.

(b) Direct the Administration and City Attorney's Office to explore, and report back to Council on, the feasibility of establishing a "Community Air Service Support Fund" to financially mitigate air service impacts that might arise from implementation of Scenario 4 of the Downtown Airspace and Development Capacity Study.

(c) Direct the Administration to consider potential refinements to the development review process for projects subject to an FAA obstruction evaluation determination including:

(1) Requiring applicants to have the technical data on the FAA submittal forms be prepared by a licensed civil engineer and that the forms identify the location and elevation of the highest points of the proposed building, including any mechanical rooms, screens, antennas, or other accessory structure.

(2) Requiring applicants to also identify the location and elevation of the highest points of the proposed building and accessory extensions thereof, on their City development permit application plans, including any mechanical rooms, screens, antennas, or other accessory structure.

(3) Requiring that when the FAA requires a completed construction survey as part of an obstruction evaluation determination, that such survey be prepared by a licensed civil engineer for the highest-points of the structure, including accessory extensions thereof, and be completed prior to City issuance of an occupancy certification.

(4) Requiring a development permit amendment application for any proposed modification or addition to an existing or approved building that would create a new and/or relocated roof-top high point.

(5) Developing a construction crane policy in the Downtown Core and Diridon Station area to minimize impacts on airline service during construction.

(d) Direct the Administration to initiate amendments, as determined applicable, to the General Plan and other key policy documents to incorporate the above recommendations and

conduct outreach with the downtown development community to provide information and guidance on development height restrictions.
CEQA: Not a Project, File No. PP17-008, General Procedure & Policy Making resulting in no changes to the physical environment and File No. PP17-001, Feasibility and Planning Studies with no commitment to future actions. (Airport)
[Community and Economic Development Committee referral 1/28/19 - Item (d)5]

CED AGENDA: 1/28/19
ITEM: D (5)

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

Memorandum

TO: COMMUNITY & ECONOMIC DEVELOPMENT COMMITTEE

FROM: Kim Walesh
John Aitken
Rosalynn Hughey

SUBJECT: SEE BELOW

DATE: January 14, 2019

Approved D:DSyC

Date 1/18/19

COUNCIL DISTRICT: 3 & 6

SUBJECT: DOWNTOWN AIRSPACE AND DEVELOPMENT CAPACITY REPORT FINDINGS AND RECOMMENDATIONS

RECOMMENDATION

1. Accept a completed Downtown Airspace and Development Capacity Study, with selection of Scenario 4, which would affirm the City's development policy to use Federal Aviation Administration (FAA) obstruction evaluation determinations on a project-by-project basis as maximum building height limits in the Downtown Core and Diridon Station Area.
2. Direct the Administration and City Attorney's Office to explore, and report back to Council on, the feasibility of establishing a "Community Air Service Support Fund" to financially mitigate air service impacts that might arise from implementation of Scenario 4 of the Downtown Airspace and Development Capacity Study.
3. Direct the Administration to consider potential refinements to the development review process for projects subject to an FAA obstruction evaluation determination including:
    a. Requiring applicants to have the technical data on the FAA submittal forms be prepared by a licensed civil engineer and that the forms identify the location and elevation of the highest points of the proposed building, including any mechanical rooms, screens, antennas, or other accessory structure.
    b. Requiring applicants to also identify the location and elevation of the highest points of the proposed building and accessory extensions thereof, on their City development permit application plans, including any mechanical rooms, screens, antennas, or other accessory structure.
    c. Requiring that when the FAA requires a completed construction survey as part of an obstruction evaluation determination, that such survey be prepared by a licensed civil engineer for the highest-points of the structure, including

accessory extensions thereof, and be completed prior to City issuance of an occupancy certification.

d. Requiring a development permit amendment application for any proposed modification or addition to an existing or approved building that would create a new and/or relocated roof-top high point.
e. Developing a construction crane policy in the Downtown Core and Diridon Station area to minimize impacts on airline service during construction.

4. Direct the Administration to initiate amendments, as determined applicable, to the General Plan and other key policy documents to incorporate the above recommendations and conduct outreach with the downtown development community to provide information and guidance on development height restrictions.

OUTCOME

City Council approval of the above recommendations would allow maximum safe development heights and provide increased economic benefits in the Downtown, including the Diridon Station Area.

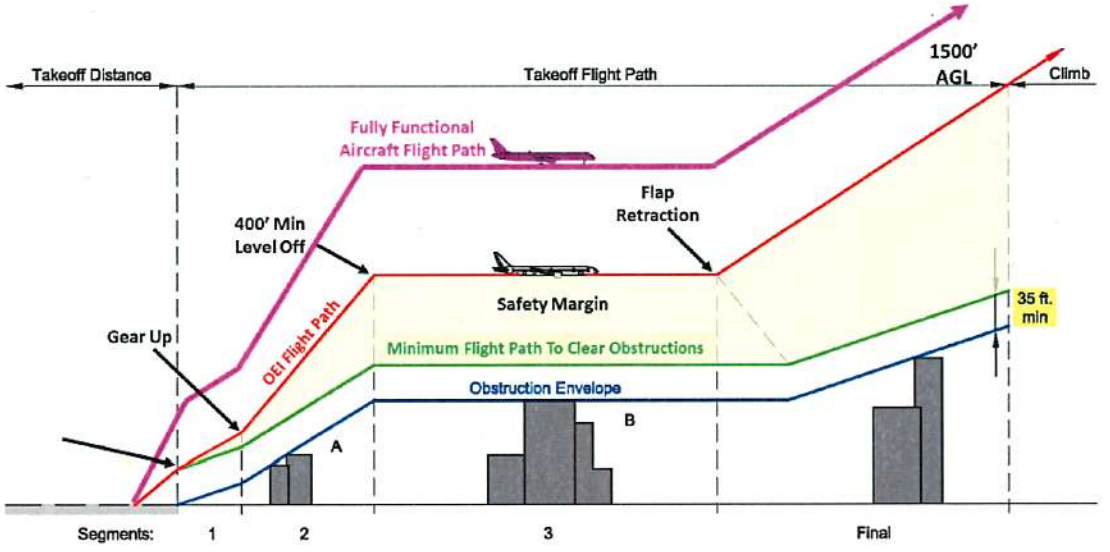
BACKGROUND

Two of the City's primary economic priorities are the continued development of Downtown and growth in air service at Mineta San Jose International Airport (Airport). The Airport and Downtown are within two miles of each other and the primary aircraft approach and departure paths for the Airport are directly over Downtown, which places limitations on Downtown building heights.

The Federal Aviation Administration (FAA) protects airspace around airports through the application of Federal Aviation Regulations (FAR) Part 77 and Terminal Instrument Procedures (TERPS). These regulations define various airspace "surfaces" or slopes which radiate out from an airport's runway and mandate an FAA obstruction evaluation of any proposed structure that exceeds one or more of these surfaces. In San Jose, as in most local land use jurisdictions, proposed structures subject to FAA review are typically required to obtain a "determination of no hazard" clearance from the FAA prior to, or as a condition of, City development permit approval.

While FAA applies Part 77 and TERPS to safely operate the airspace around an airport, it does not consider airline emergency procedures as part of the review. Under Part 25 of the Federal Aviation Regulations, airlines are required to have emergency flight procedures in place for every departure in the event of an engine power loss during take-off. These emergency flight procedures are known as "one-engine inoperative (OEI)" procedures and are designed so that an aircraft can gain sufficient altitude immediately upon takeoff even if an engine loses power, follow a prescribed flight path over any obstacles and surrounding terrain, and safely circle back to the airport for an emergency landing. Each airline develops its own OEI procedures based on

guidelines set forth by the FAA and the International Civil Aviation Organization (ICAO). The diagram below illustrates the requirements in these guidelines.



Protecting for OEI emergency procedures can limit maximum building heights around an airport more severely than the FAA evaluations conducted under FAR Part 77 and TERPS. The FAA believes that airlines can mitigate OEI airspace obstructions by revising their emergency procedures or by reducing takeoff weight to improve climb performance to safely clear obstructions. However, implementing takeoff weight restrictions by reducing passengers, cargo, or fuel can impact the economic viability of airline service. Even small weight penalties can affect the feasibility of airline service to a destination, most notably transcontinental and transoceanic destinations typically serviced by large, heavy aircraft. Therefore, obstructions within the surrounding airspace can be a factor in an airport's ability to attract or retain desired air service.

The City's 2007 Airport Obstruction Study mapped out airline OEI protection surfaces and associated building elevation limits around the Airport. The 2007 study identified two OEI corridors used by the airlines: one over the Downtown core (east of Highway 87 and referred to as the "straight out corridor") and one over the Diridon area (west of Highway 87 and referred to as the "west corridor"). Airlines determine which corridor they will use – straight out or west corridor – depending on the aircraft being flown, the aircraft's destination, and the airline's pilot training program. Those airlines using the west corridor in their OEI procedures do so to avoid the existing high-rise buildings in the Downtown core. Since the OEI west corridor requires a shallower aircraft climb rate due to the turning maneuver, OEI building height limits in the Diridon area are more restrictive than in the Downtown core. Toward the southern end of Downtown, the FAA TERPS surfaces become more restrictive than the OEI procedure surfaces. To date, with developer cooperation, all approved high-rise building projects in the Downtown core and Diridon Station area have been consistent with the OEI surfaces.

In June 2017, City Council directed staff to update the 2007 study and include an economic analysis to identify the trade-offs between maintaining OEI protection surfaces and potential increased building heights under a no-OEI protection or alternative policy. Pursuant to that direction, the Office of Economic Development and the Airport Department have conducted the Downtown Airspace and Development Capacity Study. Landrum & Brown, a national aviation planning/engineering consultant with extensive experience working for the City on OEI and other airport technical issues, was contracted to perform the technical work on the study, with assistance from the economic analysis firm of Jones, Lang, & LaSalle. A project Steering Committee, comprised of stakeholder representatives including the San Jose Downtown Association, SPUR, Silicon Valley Organization, Silicon Valley Leadership Group, Santa Clara & San Benito Counties Building and Construction Trades Council, Santa Clara County Residents for Responsible Development, and Airport Commission was convened to provide review and input on the technical analysis and resulting strategy. City staff participation on the Steering Committee included representatives from the Mayor's Office, Councilmember Peralez's Office, Planning, Building and Code Enforcement Department, Office of Economic Development, and the Airport Department. The project Steering Committee met eight (8) times over the course of the study to review extensive technical materials and provide input and comments during the process.

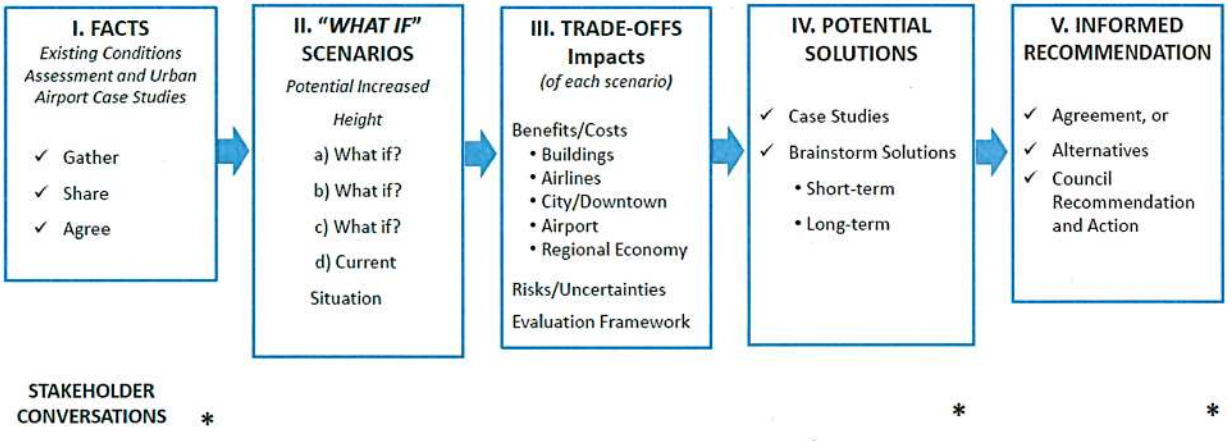
Additionally, three larger downtown stakeholder information meetings were held during the study, once at the initial launch of the study, once to report on study progress and initial findings, and once to present a proposed strategy. The stakeholder meetings were well attended and served as opportunities for the development community to ask questions and provide input to the study.

ANALYSIS

The Downtown Airspace and Development Capacity Study consisted of three major tasks:

- Task 1 Existing Condition Assessment
- Task 2 OEI Feasibility Studies and Impact
- Task 3 Economic Analysis

The collaborative framework outlined below, developed with the project Steering Committee, augmented the project's technical scope:



Task 1: Existing Condition Assessments

Landrum & Brown evaluated and updated the City's Downtown and Diridon Station area obstruction data, existing airline OEI procedures, critical aircraft for SJC current and anticipated air service, and the FAA's 30+ TERPS arrival, departure, and circling procedures to the south of the Airport.

In addition, a weather analysis over the last 15 years was completed, which confirmed that the Airport is in south flow operations (departures to the south) an average of 13% of the time, most often during winter months and morning hours. All-day south flow operations occurred an average of 17 days annually. It is during south flow that airlines need to depart over Downtown.

Task 2: Feasibility Study and Impact

Ten conceptual airspace protection scenarios were formulated to test various alternative combinations of OEI and FAA/TERPS airspace surface protections on maximum building heights. With input from the project Steering Committee, four of the ten scenarios were selected for detailed analysis:

- Scenario 4: No OEI protection (FAA/TERPS only)
- Scenario 7: Straight-out OEI protection with no OEI west corridor protection
- Scenario 9: No OEI protection plus potential elevation increase to some FAA/TERPS surface projections
- Scenario 10 (A–D): Straight-out OEI protection with four alternative OEI west corridor surface protections

The following table displays the range of increased maximum building heights for each scenario compared to existing OEI protection conditions:

Scenario	Additional Height Downtown Core	Additional Height Diridon Station Area
Scenario 4: No OEI	5' - 35'	70'-150'
Scenario 7: Straight-out OEI protection with no OEI west corridor	0'	70'-150'
Scenario 9: No OEI protection plus increased FAA/TERPS surfaces	35'-100'	80'-220'
Scenario 10: Straight-out OEI projection with alternative west corridor protection		
Option A (Increase of 25')	0'	15'-25'
Option B (Increase of 50')	0'	30'-55'
Option C (Increase of 75')	0'	45'-85'
Option D (Increase of 103')	0'	65'-115'

After determining the potential building height increases in the study areas, a technical analysis was conducted to assess the aircraft performance impact (weight penalties) under each scenario using various combinations of aircraft types, destinations, and seasonal temperatures. The following charts illustrate the passenger (PAX) and cargo penalties for specific aircrafts serving selected existing non-stop markets and impacts under each scenario in the summer and winter months.

Transcontinental – New York Market – Assessment of Potential Weight Penalties

New York - JFK Winter (63° F)		A320-200 (150 seats/2,384 lbs. cargo)		B737-800 (175 seats/1,604 lbs. cargo)	
		PAX Penalty	Cargo Penalty (lbs.)	PAX Penalty	Cargo Penalty (lbs.)
Scenario 1	Existing airspace protection	-	-	-	-
Scenario 4	TERPS Only	-	1,067	-	-
Scenario 7	Straight-Out ICAO OEI surface protection without West OEI Corridor	-	-	-	-
Scenario 10	Existing Conditions: 85' - 166' AGL	-	-	-	-
	Opt 10A: 100' - 195' AGL	-	-	-	-
	Opt 10B: 115' - 224' AGL	-	-	-	-
	Opt 10C: 129' - 240' AGL	-	-	-	-
	Opt 10D: 146' - 260' AGL	-	106	-	-
Scenario 9	TERPS only with increased TERPS departure climb gradients and approach procedure minima	8	2,384	-	583

New York - JFK Summer (81.3° F)		A320-200 (150 seats/2,384 lbs. cargo)		B737-800 (175 seats/1,138 lbs. cargo)	
		PAX Penalty	Cargo Penalty (lbs.)	PAX Penalty	Cargo Penalty (lbs.)
Scenario 1	Existing airspace protection	-	-	-	-
Scenario 4	TERPS Only	3	2,384	-	-
Scenario 7	Straight-Out ICAO OEI surface protection without West OEI Corridor	-	-	-	-
Scenario 10	Existing Conditions: 85' - 166' AGL	-	-	-	-
	Opt 10A: 100' - 195' AGL	-	-	-	-
	Opt 10B: 115' - 224' AGL	-	-	-	-
	Opt 10C: 129' - 240' AGL	-	-	-	-
	Opt 10D: 146' - 260' AGL	-	1,378	-	-
Scenario 9	TERPS only with increased TERPS departure climb gradients and approach procedure minima	13	2,384	3	860

Hawaii – Honolulu Market – Assessment of Potential Weight Penalties

Hawaii - HNL Winter (63° F)		A321 NEO (189 seats/18,481 lbs.)		B737-800 (173 seats[1]/No Cargo)	
		PAX Penalty	Cargo Penalty (lbs.)	PAX Penalty	Cargo Penalty (lbs.)
Scenario 1	Existing airspace protection	-	-	-	-
Scenario 4	TERPS Only	-	-	-	-
Scenario 7	Straight-Out ICAO OEI surface protection without West OEI Corridor	-	-	-	-
Scenario 10	Existing Conditions: 85' - 166' AGL	-	-	-	-
	Opt 10A: 100' - 195' AGL	-	-	-	-
	Opt 10B: 115' - 224' AGL	-	-	-	-
	Opt 10C: 129' - 240' AGL	-	-	-	-
	Opt 10D: 146' - 260' AGL	-	-	-	-
Scenario 9	TERPS only with increased TERPS departure climb gradients and approach procedure minima	-	2,537	3	-

Hawaii - HNL Summer (81.3° F)		A321 NEO (189 seats/21,658 lbs.)		B737-800 (175 seats/1,599 lbs. cargo)	
		PAX Penalty	Cargo Penalty (lbs.)	PAX Penalty	Cargo Penalty (lbs.)
Scenario 1	Existing airspace protection	-	-	-	-
Scenario 4	TERPS Only	-	593	-	-
Scenario 7	Straight-Out ICAO OEI surface protection without West OEI Corridor	-	-	-	-
Scenario 10	Existing Conditions: 85' - 166' AGL	-	-	-	-
	Opt 10A: 100' - 195' AGL	-	-	-	-
	Opt 10B: 115' - 224' AGL	-	-	-	-
	Opt 10C: 129' - 240' AGL	-	-	-	-
	Opt 10D: 146' - 260' AGL	-	-	-	-
Scenario 9	TERPS only with increased TERPS departure climb gradients and approach procedure minima	-	3,565	1	1,599

Europe - Frankfurt Market - Assessment of Potential Weight Penalties

Frankfurt - FRA Winter (68° F)		B787-9 (290 seats/26,198 lbs. cargo)		B777-300ER (370 seats/62,240 lbs. cargo)	
		PAX Penalty	Cargo Penalty (lbs.)	PAX Penalty	Cargo Penalty (lbs.)
Scenario 1	Existing airspace protection	-	-	-	-
Scenario 4	TERPS Only	-	21,580	-	4,400
Scenario 7	Straight-Out ICAO OEI surface protection without West OEI Corridor	-	15,338	-	-
Scenario 10	Existing Conditions: 85' - 166' AGL	-	10,000	-	-
	Opt 10A: 100' - 195' AGL	-	-	-	-
	Opt 10B: 115' - 224' AGL	-	9,349	-	-
	Opt 10C: 129' - 240' AGL	-	14,096	-	-
	Opt 10D: 146' - 260' AGL	-	19,282	-	2,027
Scenario 9	TERPS only with increased TERPS departure climb gradients and approach procedure minima	29	26,198	-	11,735

Frankfurt - FRA Summer (81.3° F)		B787-9 (290 seats/23,514 lbs. cargo)		B777-300ER (370 seats/62,240 lbs. cargo)	
		PAX Penalty	Cargo Penalty (lbs.)	PAX Penalty	Cargo Penalty (lbs.)
Scenario 1	Existing airspace protection	-	-	-	-
Scenario 4	TERPS Only	2	22,911	-	7,811
Scenario 7	Straight-Out ICAO OEI surface protection without West OEI Corridor	-	16,407	-	-
Scenario 10	Existing Conditions: 85' - 166' AGL	-	-	-	-
	Opt 10A: 100' - 195' AGL	-	4,217	-	-
	Opt 10B: 115' - 224' AGL	-	9,353	-	-
	Opt 10C: 129' - 240' AGL	-	14,270	-	-
	Opt 10D: 146' - 260' AGL	-	19,612	-	3,876
Scenario 9	TERPS only with increased TERPS departure climb gradients and approach procedure minima	41	23,514	-	15,397

Asia – Beijing Market - Assessment of Potential Weight Penalties

Beijing - PEK Winter (68° F)		B787-9 (290 seats/10,853 lbs. cargo)		B777-300ER (370 seats/56,089 lbs. cargo)	
		PAX Penalty	Cargo Penalty (lbs.)	PAX Penalty	Cargo Penalty (lbs.)
Scenario 1	Existing airspace protection	-	-	-	-
Scenario 4	TERPS Only	51	10,853	-	19,278
Scenario 7	Straight-Out ICAO OEI surface protection without West OEI Corridor	25	10,853	-	11,801
Scenario 10	Existing Conditions: 85' - 166' AGL	-	-	-	-
	Opt 10A: 100' - 195' AGL	-	4,534	-	5,479
	Opt 10B: 115' - 224' AGL	-	9,408	-	6,673
	Opt 10C: 129' - 240' AGL	13	10,853	-	10,537
	Opt 10D: 146' - 260' AGL	34	10,853	-	16,929
Scenario 9	TERPS only with increased TERPS departure climb gradients and approach procedure minima	93	10,853	-	26,672

Beijing - PEK Summer (81.3° F)		B787-9 (290 seats/9,542 lbs. cargo)		B777-300ER (370 seats/55,588 lbs. cargo)	
		PAX Penalty	Cargo Penalty (lbs.)	PAX Penalty	Cargo Penalty (lbs.)
Scenario 1	Existing airspace protection	-	-	-	-
Scenario 4	TERPS Only	56	9,542	-	20,597
Scenario 7	Straight-Out ICAO OEI surface protection without West OEI Corridor	30	9,542	-	13,268
Scenario 10	Existing Conditions: 85' - 166' AGL	-	-	-	-
	Opt 10A: 100' - 195' AGL	-	3,933	-	5,293
	Opt 10B: 115' - 224' AGL	-	8,725	-	10,223
	Opt 10C: 129' - 240' AGL	15	9,542	-	11,020
	Opt 10D: 146' - 260' AGL	36	9,542	-	17,545
Scenario 9	TERPS only with increased TERPS departure climb gradients and approach procedure minima	95	9,542	-	28,076

After much discussion with the project Steering Committee, Scenario 4 was selected as the most promising alternative to the existing OEI protection practice. Scenario 4 demonstrates that the transcontinental market (represented by New York), European market (represented by Frankfurt), and Hawaiian market (represented by Honolulu) would have minimal weight penalties, if any. The Asian market (represented by Beijing) would have passenger and/or cargo penalties under south flow conditions (13% of annual operations). The Steering Committee noted that if air service demand to Asia could be built up to support the transition of service from a smaller 787 aircraft to a larger 777, no passenger penalties would be incurred.

The Steering Committee discussed the possibility of creating a "Community Air Service Support Fund" that could compensate an airline for OEI-related weight penalties when incurred, if needed to keep the flight viable. Federal regulations prohibit the City from funding this type of effort, but other airport service support funds, generated by a private sector partner, such as a Chamber of Commerce, may be feasible.

The airline service analysis conducted for the existing destinations, was expanded to potential future markets. Boston, Miami, and Anchorage were analyzed as additional domestic non-stop destinations, and the charts below show that 737-800 service to these cities would not sustain any

significate weight penalties under Scenario 4. It is important to note that Jet Blue Airlines currently serves Boston with an A320.

Additional Domestic Markets - Assessment of Potential Weight Penalties

Anchorage - ANC Summer (81.3° F)		A320 (150 seats/1,379 lbs. cargo)		B737-800 (175 seats/7,100 lbs. cargo)	
		PAX Penalty	Cargo Penalty (lbs.)	PAX Penalty	Cargo Penalty (lbs.)
Scenario 1	Existing airspace protection	-	-	-	-
Scenario 4	TERPS Only	-	-	-	-
Boston - BOS Summer (81.3° F)		**A320 (150 seats/0 lbs. cargo)**		**B737-800 (175 seats/0 lbs. cargo)**	
		PAX Penalty	Cargo Penalty (lbs.)	PAX Penalty	Cargo Penalty (lbs.)
Scenario 1	Existing airspace protection	7	-	1	-
Scenario 4	TERPS Only	23		1	-
Miami - MIA Summer (81.3° F)		**A320 (150 seats/0 lbs. cargo)**		**B737-800 (175 seats/0 lbs. cargo)**	
		PAX Penalty	Cargo Penalty (lbs.)	PAX Penalty	Cargo Penalty (lbs.)
Scenario 1	Existing airspace protection	1	-	3	-
Scenario 4	TERPS Only	17		3	-

For international air service markets, Rio de Janeiro (6,575 miles), Taipei (6,499 miles), Hong Kong (6,957 miles), Delhi (7,731 miles), and Dubai (8,120 miles) were analyzed, using aircraft typical on such international routes. The analysis indicated that the maximum route distance that could be served from San Jose under Scenario 4 is approximately 6,500 miles, as illustrated in the charts below. The implication of this is that very long haul international destinations may not be able to be served directly from San José and would need to make at least one stop.

Long Range Markets Stress Test - Assessment of Potential Weight Penalties

Rio de Janeiro - GIG Summer (81.3° F) 6,575 miles	A330-200 (284 seats/39,344 lbs cargo)		A350-900 (325 seats/37,963 lbs cargo)		B777-300ER (370 seats/48,211 lbs cargo)		B787-9 (290 seats/7,144 lbs cargo)	
	PAX Penalty	Cargo Penalty (lbs)	PAX Penalty	Cargo Penalty (lbs)	PAX Penalty	Cargo Penalty (lbs)	PAX Penalty	Cargo Penalty (lbs)
Existing Straight Out OEI*							51	
West OEI Corridor								
TERPS Only		20,072		23,528		18,975	60	7,144

Taipei - TPE Summer (81.3° F) 6,499 miles	A330-200 (284 seats/28,577 lbs cargo)		A350-900 (325 seats/27,582 lbs cargo)		B777-300ER (370 seats/35,569 lbs cargo)		B787-9 (290 seats/0 lbs cargo)	
	PAX Penalty	Cargo Penalty (lbs)	PAX Penalty	Cargo Penalty (lbs)	PAX Penalty	Cargo Penalty (lbs)	PAX Penalty	Cargo Penalty (lbs)
Existing Straight Out OEI*							89	
West OEI Corridor							12	
TERPS Only		1,976		23,195		18,742	96	

Hong Kong - HKG Summer (81.3° F) 6,957 miles	A330-200 (284 seats/18,283 lbs cargo)		A350-900 (325 seats/17,182 lbs cargo)		B777-300ER (370 seats/20,785 lbs cargo)		B787-9 (290 seats/0 lbs cargo)	
	PAX Penalty	Cargo Penalty (lbs)	PAX Penalty	Cargo Penalty (lbs)	PAX Penalty	Cargo Penalty (lbs)	PAX Penalty	Cargo Penalty (lbs)
Existing Straight Out OEI*			15				128	
West OEI Corridor							51	
TERPS Only	5	18,283	23	17,182		17,980	134	

Delhi - DEL Summer (81.3° F) 7,731 miles	A330-200 (284 seats/5,014 lbs cargo)		A350-900 (325 seats/3,132 lbs cargo)		B777-300ER (370 seats/106 lbs cargo)		B787-9 (290 seats/0 lbs cargo)	
	PAX Penalty	Cargo Penalty (lbs)	PAX Penalty	Cargo Penalty (lbs)	PAX Penalty	Cargo Penalty (lbs)	PAX Penalty	Cargo Penalty (lbs)
Existing Straight Out OEI*	48		69		62		178	
West OEI Corridor								
TERPS Only	55	5,014	77	3,132	72	106	184	

Dubai - DXB Summer (81.3° F) 8,120 miles	A330-200 (284 seats/3,537 lbs cargo)		A350-900 (325 seats/2,688 lbs cargo)		B777-300ER (370 seats/1,828 lbs cargo)		B787-9 (290 seats/0 lbs cargo)	
	PAX Penalty	Cargo Penalty (lbs)	PAX Penalty	Cargo Penalty (lbs)	PAX Penalty	Cargo Penalty (lbs)	PAX Penalty	Cargo Penalty (lbs)
Existing Straight Out OEI*	57		71		62		184	
West OEI Corridor								
TERPS Only	65	3,537	79	2,688	72	1,828	191	

*Existing Straight Out OEI calculations use different cargo capacity numbers than West OEI and TERPS Only.

As a check of the technical analysis described above, Landrum & Brown also reached out to all the airlines serving San Jose to request their independent analysis of how each of the four scenarios would impact their current and future air service markets at the Airport during south flow conditions. 12 airlines responded and provided the following feedback with respect to Scenario 4:

- Alaska, American, Aeromexico, Delta, Southwest, and Volaris reported no weight penalties to any of its destinations below a temperature of 92° F.
- Hawaiian and United reported only minor cargo penalties, and potentially minor passenger penalties and larger cargo penalties depending on destination and aircraft.
- Federal Express reported no significant cargo penalties.
- British Airways reported no weight penalty impacts for its London service.
- ANA reported minor cargo penalty impacts and no passenger penalties for its Tokyo service.
- Hainan reported the most significant impacts for its Beijing service, resulting in a significant reduction in cargo and passenger payload (up to 50+ passengers on the B787-9 when all seats are sold).

Overall, these airline responses are consistent with the consultant's technical analysis.

Task 3: Economic Analysis

The economic impacts to the Downtown Core, Diridon Station area, airlines, and the Airport were calculated based on the net new development that may occur with an increase from OEI-restricted heights to current FAA/TERPS surface heights. In the Downtown core, the findings indicate that there is already significant density available under the OEI height limits, so setting allowable heights up to the FAA/TERPS limits would not have a significant impact for many years (based on historical development trends), although certain development sites might experience incremental gains.

The most significant economic gains resulting from no OEI protection surfaces are expected to occur in the Diridon Station Area. Development capacity in this area under Scenario 4 is estimated at a net building addition of 8.6 million square feet, resulting in net new construction value of $4.4 billion and net new annual property tax revenue to the City of San Jose of $5.5 million once the construction of all 8.6 million square feet is complete. One-time revenue for building fees, development taxes, park impact fees, and school district fees would also be collected. A split of 10% commercial construction and 90% residential construction for this additional development would result in an increase of 4,700 employees and 12,800 residents in the area.

The economic impact on the Airport and the airlines was studied for the year 2024, the estimated time that impacts could occur as new development starts coming on line. In 2024, Scenario 4 would result in potential airline losses of $802,000 in seat revenue and compensation to passengers as compared to a scenario where building heights were limited to the OEI surfaces. These losses could grow to slightly over $1.2 million in 2032 and to $1.5 million by 2038 as the market, costs, and load factors increase over time. The establishment of an ongoing Community Air Service Support Fund by 2024, as a mechanism to support ongoing international air service, particularly to Asia, could serve to offset these airline economic losses.

The economic impacts over time to the Airport Enterprise Fund would be minimal, consisting mainly of lost Passenger Facility Charge (PFC) revenue and terminal concession spending. The positive economic impact of increasing development heights in the Downtown core and Diridon Station Area significantly outweighs aviation-related economic impacts.

SUMMARY

The Downtown Airspace and Development Capacity Study analysis was one of the most extensive studies that the City has conducted on how the Airport and the Downtown core and Diridon Station area can both thrive as economic drivers of San José and the Silicon Valley

region. With the dedicated involvement of the project Steering Committee, staff is recommending that the City move forward with the study's Scenario 4 and allow development height to be governed by FAA obstruction evaluation determinations. However, to protect the viability of current and future international air service markets, particularly to Asia, staff also recommends that Council approval of Scenario 4 be accompanied by direction to work with the private sector to establish community-funded Air Service Support Fund. This fund would mitigate the occasional airline economic penalties that would incur during south flow conditions and to support retention and expansion of transoceanic airline service.

In addition, it is recommended that the Council actions include direction to the Administration to implement refinements to the development review process for projects subject to FAA obstruction evaluations.

EVALUATION AND FOLLOW-UP

Airport, Planning, Building, and Code Enforcement and Office of Economic Development staff shall implement the recommendations brought forward in this memorandum upon Council approval and report the relevant impacts of these recommendations back to the appropriate council committee, as necessary.

POLICY ALTERNATIVES

Alternative: Maintain existing OEI airspace protection surfaces above the Downtown Core and Diridon Station Area.
Pros: This alternative would provide the maximum protection of the airspace for Mineta San Jose International Airport.
Cons: Maintaining the existing practice for airspace protection would not provide any opportunities for additional development heights in the Downtown Core or the Diridon Station Area.
Reason for not recommending: Implementing this policy alternative would prevent San Jose from maximizing the development of its urban core, which is a fundamental principal of the Envision 2040 General Plan, without significant gains to airport or airline operations.

PUBLIC OUTREACH

A project Steering Committee, comprised of stakeholder representatives from the San Jose Downtown Association, SPUR, Silicon Valley Organization, Silicon Valley Leadership Group, Santa Clara & San Benito Counties Building and Construction Trades Council, Santa Clara County Residents for Responsible Development, and Airport Commission was convened to provide review and input on the technical analysis and resulting strategy. The project Steering

Committee met eight (8) times over the course of the study to review extensive technical materials and provide guidance and feedback during the process.

In addition to the project Steering Committee, three broader downtown stakeholder informational meetings were held, once at the initial launch of the study, once to report on study progress and initial findings, and once to present a proposed strategy. Staff will present the information in this memorandum to the Delmas Park Neighborhood Association on January 22 and the Team San Jose board of directors on January 23.

This memorandum will be posted to the City of San Jose's website for the January 28, 2019 Community and Economic Development Committee meeting and the February 12, 2019 City Council meeting.

COMMISSION RECOMMENDATION/INPUT

The Airport Commission held a special public meeting on January 14 to receive updates and discuss the Downtown Airspace and Development Capacity Study. The commission will continue its discussion of this study at a second special meeting on January 24.

COORDINATION

This memorandum has been coordinated with the Office of Economic Development, Planning, Building, and Code Enforcement, and the City Attorney's Office.

FISCAL/POLICY ALIGNMENT

The recommendations in this memorandum are consistent with the Envision San José 2040 General Plan amended on February 27, 2018 to continue developing a world-class airport and build national and international connections by attracting new air service to it (Goal IE-4.2).

CEQA

Not a Project, PP17-008, general procedure and policy making resulting in no physical changes to the environment.

/s/
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/s/
KIM WALESH
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/s/
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