

To: San Jose Airport Commissioners

From: The Sunnyvale-Cupertino Airplane Noise Group

Date: Jan 24, 2019

RE: Special Meeting Jan 24, 2019

Comment regarding Agenda Item IV

One Engine Inoperative (OEI) study & the corresponding recommendation as outlined in the 1/10/2019 memo to the Airport Commission from Director Aitken

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Below is a statement from the Sunnyvale-Cupertino Airplane Noise Group.

Our group understands that San Jose recently commissioned a study to determine the feasibility of taller building heights in the downtown San Jose and Diridon areas. This study focused on departing flights only, and did not consider any impact on arrivals. As you know, normal flow arrivals fly directly over downtown San Jose, and these arrivals are partly impacted by the current building heights. Decisions regarding building heights will have repercussions for decades to come, and these important decisions should not be based on a clearly incomplete study that is missing a major piece of analysis. Without a proper study regarding the arrival flight paths, it is unclear whether the frequency of SJC normal flow or south flow operations (reverse flow) will be impacted in any way, and any unintended impact could have major consequences to the airport and surrounding communities.

San Jose Airport typically operates under normal flow operations, where arrivals are flying over downtown San Jose. In contrast, when the wind direction changes to South or East and the wind speed is greater than 5 knots, the direction of operation changes to south flow operations (often called reverse flow). An increase in south flow operations would not only impact the quality of life for your neighbors in Sunnyvale, Cupertino, Mountain View, and Palo Alto - An unintentional increase in south flow operations would have a detrimental impact to airline profitability, airport operations, and FAA safety. Yet an analysis of SJC arrivals was never conducted regarding increased building heights. Normal flow is the preferred path for safety reasons, airline financial benefits, and efficiency. For this reason, a study regarding SJC arrivals and any impact on south flow operations is warranted, and is in the airport's best interest.

Based on an FAA meeting in March 2017 at Congressman Ro Khanna's office, we already know that the south flow trigger is impacted partly due to the existing tall buildings in downtown San Jose. An excerpt from that meeting "*San Jose's runway is too short. Part of the reason that it is too short is the buildings in downtown which make a piece of that end of the runway unusable (planes can't drop down until they are past those buildings).*" It is unclear whether the proposed taller building envelope will have a downward pressure on the current south flow

trigger, causing an increase in south flow operations over Sunnyvale and Cupertino – Potentially exacerbating an already contentious airplane noise situation.

We request that any San Jose or Commission vote that would ultimately result in taller buildings in downtown and the Diridon area be temporarily postponed until a supplemental aviation study is commissioned by San Jose, and the FAA is consulted to confirm any potential impact to the SJC south flow trigger. It is possible that the proposed building height changes will have no impact on the trigger. However, this assumption should be confirmed in writing by the FAA and an aviation expert prior to any approval.

To summarize, any San Jose approvals should be delayed until the FAA and an experienced aviation consultant have completed a supplemental report confirming no impact to arrivals and the current south flow trigger (Current trigger > 5 knots south/east wind speed). The current aviation study is incomplete, and further analysis of the arrival flight path over downtown San Jose needs to be completed in order to make a fully informed, proper decision regarding building heights.

Thank you for your help regarding this matter.

Sincerely,

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And members of the Sunnyvale-Cupertino Airplane Noise Group  
Over 500 members strong

**Below is supplemental information and diagrams that were compiled by the Sunnyvale-Cupertino Airplane Noise Group, and which may be helpful in understanding the issue.  
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**Supplemental Materials regarding taller building heights  
in San Jose Downtown and Diridon Area  
(Document prepared by the Sunnyvale-Cupertino Airplane Noise Group)**

**Background Information:**

Due to FAA flight path changes, tens of thousands of residents in Sunnyvale, Cupertino, and Mountain View are now detrimentally impacted by loud airplane noise during south flow operations. Complaint numbers at San Jose Airport have skyrocketed due to increased airplane noise during south flow operations over these cities. Could taller San Jose buildings indirectly increase the frequency of south flow operations, by forcing the FAA to reduce the south flow wind speed trigger from 5 knots to a lower wind speed threshold? The answer is uncertain, and requires further study.

**Excerpts from the March 22, 2017 FAA meeting conducted at Ro Khanna's office:**

Original Question submitted during meeting Mar 22, 2017:

*"As many citizens have noted, San Francisco Airport has a waiver from the 5-knot wind standard, allowing that airport to direct aircraft to land with up to a 10-knot tailwind. What would it take to get San Jose Airport that kind of waiver? If south flow were used only at wind speeds above 10 knots, it would be used much less often and the noise over these neighborhoods would drop.*

*Answer: FAA Flight Standards Program Manager Chris Harris explained that this approach cannot be used at San Jose Airport for two reasons:*

- 1. the usable runway for landing is too short for planes to land safely with that strong of a tailwind (SFO's runways are substantially longer), and*
- 2. San Jose Airport is used by many general aviation aircraft (small propeller planes) which could not land safely at those wind speeds under any conditions."*

Additional clarification regarding the tall building heights in downtown San Jose, and how these tall buildings currently impact the ability to raise the wind speed trigger for south flow from 5 knots to 10 knots. This information has also been confirmed through supplemental conversations with FAA personnel.

Response from Director Moylan based on additional info:

*"At the March 2017 meeting that I organized, FAA said that there were two reasons why San Jose Airport would not be granted a waiver of the 5-knot standard for landing with a tailwind. The first is the length of the runway, because it takes more runway to land with the wind at your back. San Jose's runway is too short. **Part of the reason that it is too short is the buildings in downtown which make a piece of that end of the runway unusable (planes can't drop down until they are past those buildings). But that was not the whole cause of the runway being too short. It was too short anyway.** The other reason is that small planes aren't safe to land in a tailwind no matter how much runway you have. San Francisco can get a waiver because it has only large jets and a long runway. We have small planes and a short runway."*

## **Commissioned study by San Jose included no analysis regarding possible impact to the south flow trigger:**

The studies commissioned by San Jose considered the financial implications of taller buildings for the city at large, the SJ airport, and the airlines. The study also considered various FAA rules and regulations, including OEI (one engine inoperable), FAR Part 77, etc.

In contrast, there was no clear analysis to determine whether taller buildings would impact SJC arrivals and the south flow trigger in any way. The commissioned report specified financial and FAA impacts based directly on DEPARTURE flight paths in relation to building heights. No consideration was given to arrival flight paths. The south flow trigger is partly impacted by the current building heights in downtown San Jose (based on an FAA meeting March 2017).

A supplemental study or consultation with the FAA may be necessary to confirm no impact to the south flow trigger from the proposed taller building envelope. This analysis may require analysis of the arrival flight path during normal-flow operations.

## **Recommendations under Scenario 4 TERPS include minimal increases in height – Could minimal height increases have impact on the south flow trigger?**

Without an analysis by the FAA, the answer is unclear.

Yes, in some areas the recommendations under Scenario 4 call for minimal height adjustments, especially over downtown San Jose. Proposed height adjustments over downtown San Jose under Scenario 4 TERPS are between 5 and 35 feet; Increased heights in the Diridon area are significantly larger deltas (70 – 150 feet).

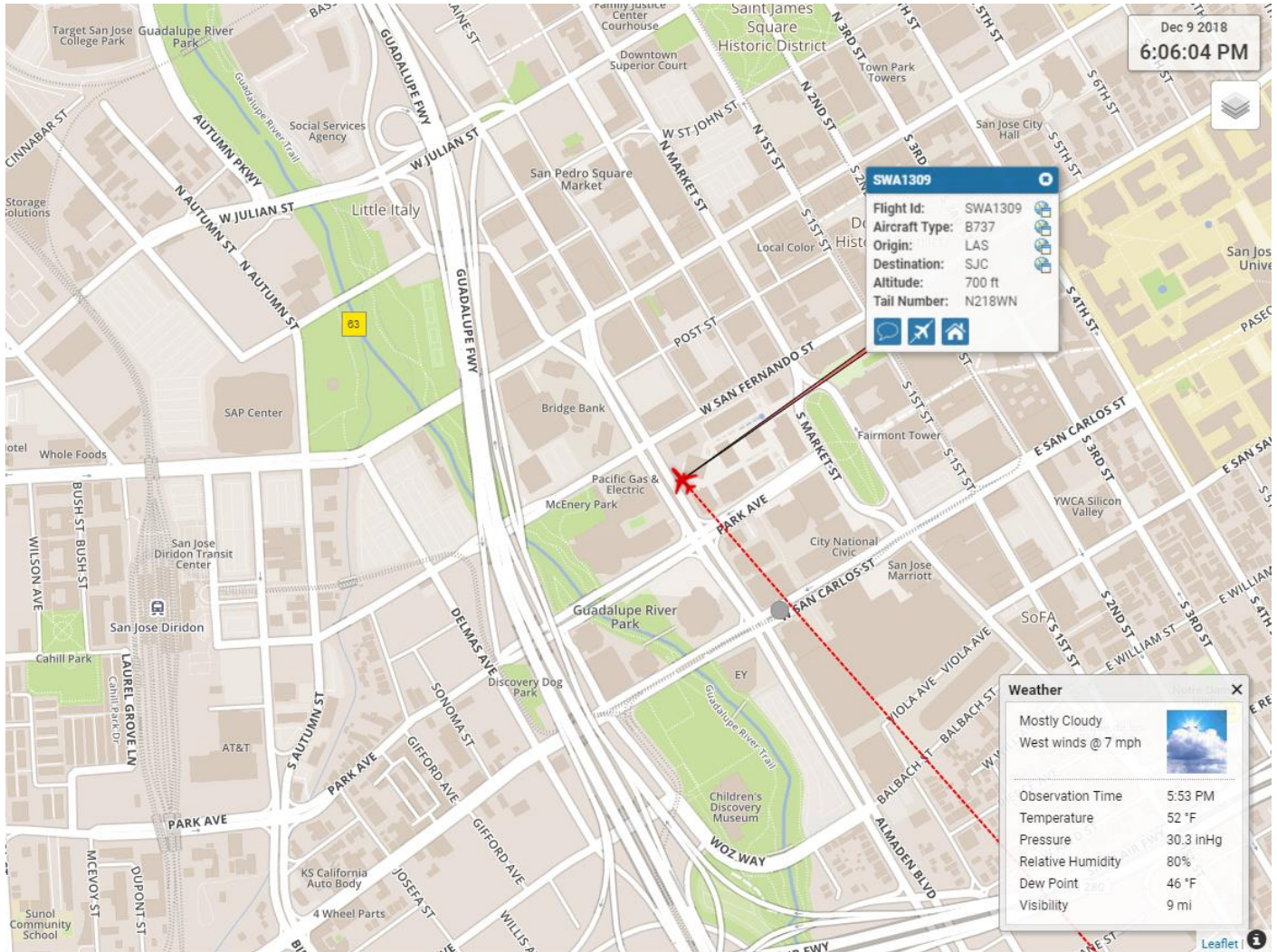
Based on San Jose Web tracker & FAA flight plates, the normal-flow arriving flights use a “straight in” flight pattern for each of the two runways 30L and 30R (during North flow). In many cases (based on San Jose web tracker altitude information), these arriving flights appear to be flying less than 500 feet above the high points of the San Jose downtown buildings.

For example, the Adobe tower at the corner of Park Ave and San Fernando Ave has a recorded height of 260 feet (per Wikipedia). Arriving flights routinely fly over this corner (per web tracker) at approx. 700-foot altitude. Although Web tracker may have some slight discrepancies in the altitudes, these normal-flow arrivals do appear to be flying very close to the tops of the current buildings. (See sample flight pictures next 2 pages.)

This might imply that even small height increases in buildings directly under the two arrival normal-flow flight paths could indirectly force the FAA to lower the south flow trigger criteria, especially if these changes result in the need for a steeper descent slope or closer proximity to building roof tops & other associated obstacles. A 35-foot change might be considered significant if arriving flights are indeed flying closer than 500 feet from the tops of the downtown buildings, which is what SJC flight tracker altitudes seem to indicate.

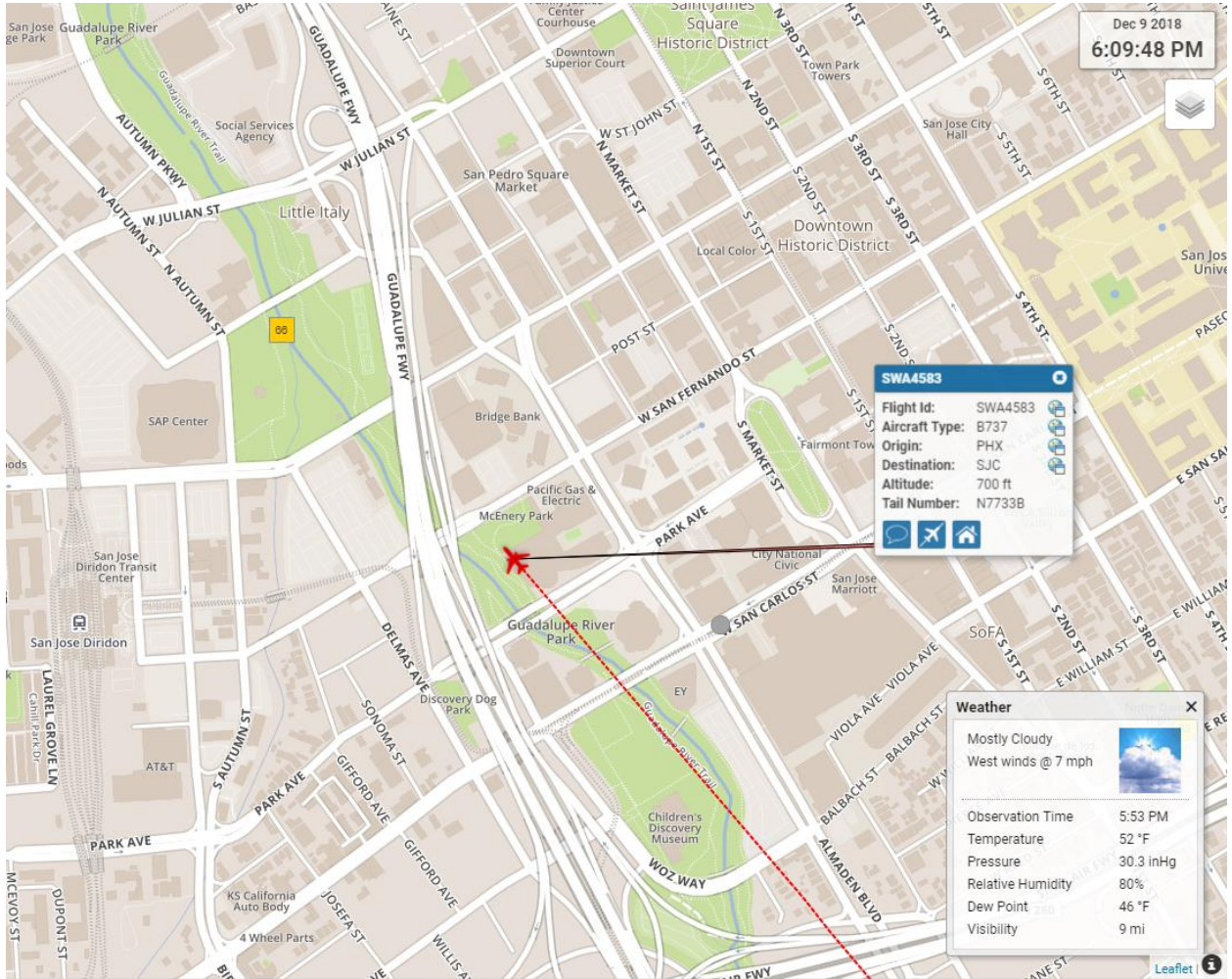
Only analysis by the FAA or an experienced aviation consultant can confirm whether the proposed small adjustments to height will impact the south flow trigger.

Sample flight flying right next to the Adobe tower at an altitude of 700 feet. The Adobe tower is 260 feet, so height delta is approx. 440 feet between the plane and the top of the building. (Approach to runway 30R)



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The two approach flight paths straddle the Adobe towers on each side (Approach to runway 30L). Flight at 700 foot altitude over Adobe Tower, which is 260 feet building height. Delta 440 feet (700 – 260).



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Proposed increases in building heights include taller buildings directly below the two normal-flow arrival flight paths (30L and 30R).

# Study Evaluation Area



The two normal-flow arrival flight paths correspond to the two black lines extending beyond each of the two SJC runways, and showing the distance in feet from the end of each runway (30R and 30L).

The arrival flight paths extend directly into the downtown core, and into a small section of the Diridon evaluation area.

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## **Meeting packet for the Airplane Noise Commission meeting on Monday, Jan 14:**

Meeting Link for Jan 14, 2019 Commission meeting:

<https://www.flysanjose.com/node/5086>

Meeting Link for Jan 24, 2019 Commission meeting:

<https://www.flysanjose.com/node/5136>

Memo regarding newly proposed height recommendations from airport:

<https://www.flysanjose.com/sites/default/files/commission/Airport%20Commission%20Memo%20OEI%20for%20January%2014%202019%20final.pdf>

OEI Slide presentation on Jan 14, 2019:

<https://www.flysanjose.com/sites/default/files/commission/1%20%2014%2019%20Airport%20Commission%20OEI%20Presentation.pdf>

## **SJC Airport, the airlines, and FAA benefit from limited south flow operations at SJC:**

An unintentional increase in south flow operations would not be favorable for the FAA, the airlines, nor San Jose Airport. It appears that normal flow is the preferred path for safety reasons, airline financial benefits, and efficiency.

During the San Jose Airport Ad Hoc Committee meetings on south flow arrivals, FAA staff presented that a south flow arrival approach is a more complicated procedure than north flow given its proximity to other flight procedures for SFO traffic, and as such, it is a less preferred procedure when compared with north flow. The preferred approach is north flow, where planes approach SJC from the south flying north, as there is less air traffic from other airports.

Additionally, the south flow flight path is a longer flight path than the normal flow path. For this reason, it is likely not the preferred flight path for the airlines. The south flow arrival approach is longer, often resulting in as much as 30- 50 miles additional flying distance. Longer flight distances increase airline fuel costs, cut into airline profits, and can impact arrival times. Increases in airline fuel costs and/or impacts to arrival times associated with an increase in south flow operations, could indirectly factor into an airport's ability to attract or retain desired air service, therefore potentially impacting the profitability of the airport.

Finally, an unintended increase in south flow operations would further impact cities like Sunnyvale, Cupertino, Mountain View, and Palo Alto and would exacerbate an already contentious airplane noise problem.



## **Could the proposed building height increases impact any possible improvement currently being considered for the south flow trigger?**

Perhaps.

We understand that the FAA has been working on its' response to the San Jose Airport Adhoc Committee recommendations and questions. It is expected that an FAA response will be available soon after the government shut down ends.

One of the requests in the adhoc report includes a question regarding the south flow trigger, and whether it is feasible for the FAA to slightly increase the south flow wind speed threshold (i.e. from the current 5 knot threshold to a wind speed threshold of 6 or 7 knots). An FAA response is pending.

It is likely that an increase in the proposed building height envelope in certain areas of downtown San Jose and the Diridon area directly below the normal-flow arrival flight path might impact any ability to raise the south flow wind speed trigger in the future. Already the FAA states that the trigger is partially impacted by current tall buildings in downtown SJ.

For this reason, we would recommend no adjustments to the previous building height envelope for areas directly below the normal-flow arrival flight path. In other words, current city codes regarding maximum building heights directly below the "straight in" normal flow arrival flight path would remain unchanged; In contrast, newly proposed height increases for areas a specified horizontal distance AWAY from the normal flow arrival flight path would be fine to implement – assuming the FAA has no objection and no impact to the south flow trigger is identified for these new locations.

## **Future Airline Technology and its possible impact to south flow operations:**

For fuel efficiency purposes, newer airlines are generally being engineered with shallower descent profiles.

General questions that we may wish to pose to the FAA:

- Does the FAA anticipate that future aircraft designs and potential shallower descents would place downward pressure on the south flow trigger, thereby potentially increasing the frequency of south flow flights?
- For the following question assume that the FAA has confirmed no current impact to the south flow trigger based on the proposed taller building envelope in San Jose:
  - Assuming this is the case, then could the proposed taller San Jose buildings in conjunction with a trend toward airline shallower descents cause potential FUTURE impact on the south flow trigger? In other words, is there a synergistic effect between the proposed taller buildings and shallower descent rates that could require a lowering of the south flow trigger wind speed in the future?

END OF SUPPLEMENTAL DOCUMENT