

# Expanded Community Advisory Panel (XCAP)

June 3, 2020

Summary - Regular Meeting (virtual, through Zoom)

## 1. Welcome and Roll Call

Present: Gregory Brail, Phil Burton, Tony Carrasco, Larry Klein, Nadia Naik, David Shen, Cari Templeton, Adina Levin (arrived late), Keith Reckdahl (arrived late), Inyoung Cho (arrived late)

Absent: Patricia Lau

## 2. Oral Communications

Eduardo Jack asked that the public be notified when XCAP will start making decisions in terms of the recommendations. He favors the alternative that mitigates traffic on Oregon and Embarcadero and closes Churchill and feels safety should be in the consideration set.

Omar Hadidi urged XCAP to recommend the City Council engage in discussions with the concerned entities on whether proceeding with grade separation still made sense in this post-pandemic world. If this does proceed, he supports the Churchill closure proposal with the bike and pedestrian underpass and mitigations at Embarcadero and Oregon Expressway. He opposes the partial underpass and the viaduct. The Churchill closure would serve as the first part of a phased approach to grade separation at Churchill, it is much less costly, it is traffic friendly, and it is safer, incorporating a bike and pedestrian underpass and reducing traffic backups on Churchill.

Terry Lack (phonetic) agreed with the previous speaker. Closing Churchill is easy, efficient, safe, will keep the neighborhood intact. Closing Churchill is the only reasonable option with mitigations at Oregon and Embarcadero.

Lisa Nisson (phonetic) disagreed with the previous speakers. She encouraged choosing any alternative that didn't close Churchill. Cars do not drive fast on Churchill and she also worried about access to the neighborhood by emergency vehicles.

Penny Elson (phonetic) remarked the bicycle/pedestrian connection drawings for the partial tunnel at Charleston and Meadow were very unclear and were not ready for community meetings. The bike/ped components are school routes and are not clearly laid out. She sent a note today that had rock and roll maps for all the affected school sites and provided information about school bike counts. She included the relevant City of Palo Alto Comprehensive Plan goals, policies and programs.

Susan Newman agreed with Ms. Nisson's comments about finding any option other than closing Churchill. She encouraged XCAP to recommend to City Council that the Embarcadero modifications should be separated from the Churchill closure and be done in any case. She noted in Hexagon's analysis, the mitigations did not address the very poor level of service at Oregon Expressway.

Jason Stinton (phonetic) encouraged XCAP to use the data available, the cost models, the Hexagon reports, the traffic reports to decide on an alternative that fits within the budget for the City, respects Caltrain's statements on right-of-way and meets the traffic needs of the City. The Embarcadero interchange and Page Mill also need to be fixed and there is a good cost model for those.

Chair Naik noted there was a memo given to XCAP from the Palo Alto Police and Fire Departments about their response to the impacts of a closure on Churchill. That is on the Connecting Palo Alto website, it is under the October 30, 2019 meeting, Public Safety Memo. Their response was that it didn't impact their operations.

### **3. Action/Discussion: Noise/Vibration Memo from AECOM**

Paul Burge, Board Certified Noise Control Engineer presented an overview of the noise and vibration Comparative analysis for the grade separation project. The purpose of the noise analysis was to look at a variety of potential options for eliminating some or most of the four grade crossings in Palo Alto. This study tried to evaluate the noise and to a lesser degree the vibration impacts of the potential alternatives. Within Palo Alto there are four grade crossings, three of which are being proposed for various alternatives for separations. There are two station stops in Palo Alto and two more immediately outside of Palo Alto that impact this analysis. He described the methodology used for this analysis which was shown in his presentation. The next slide showed the background on noise. After that was the background on noise followed by existing conditions and noise survey slides. Several maps showed the noise survey locations which tried to get a good variety of the land uses within a few hundred feet of the rail line where the highest noise levels were expected. The next slide showed the noise survey results. The noise spikes were definitely driven by train activity, light at night, very heavy during the morning and afternoon rush hour periods. They were able to remove the train noise and replaced it with a value that was closer to a non-train event. Those were summed up to get an estimate of the difference between the existing noise condition with trains and the noise condition without the trains. This showed there was a 15 to 17 decibel difference between conditions with and without train noise. The next slide showed a summary of all four locations, then study alternatives per grade crossing. Next were a series of drawings depicting existing conditions at grade crossings. Slides moved to the viaduct option as it is drawn for the Churchill grade crossing. This was slightly different at the Meadow/Charleston viaduct. The next shown was the hybrid drawing with noise walls. He explained most of the cross-section diagrams were focused on the final build alternative. Both the viaduct and hybrid feature the six-foot parapet walls that would help reduce the wheel rail noise. A special benefit to the hybrid was that it would also act as a natural sound barrier for the roadway noise for the homes on the west. The trench was discussed next with a slide. He explained there were two variants to the south tunnel option, both passenger and freight in the tunnel and the second option has passenger traffic only in the tunnels and freight remains at grade above ground. There are only about three freight trains that run at night. The next slide showed the underpass at Meadow and Charleston. This would eliminate the horns at the grade crossings. The second option for Churchill is a partial underpass. He next explained the predicated operation noise and modeling assumptions. The next slide showed the predicted operational noise at the four locations consistent with the previous diagrams

followed by predicted operational vibration. Predicted construction noise and vibration he referenced to page 25 in the report which went into more detail. The next slide covered overall alternative noise rating. The previous information was from the report XCAP received. The day after that report went out feedback was received that pointed out Caltrain had already committed to a selection for the new trains used in this area. It is purchasing and putting into service entirely new seven-car train sets which are electric multi-unit vehicles (EMUs). There is no locomotive with these and the power unit is distributed throughout the train. It still takes a certain amount of energy to push or pull a seven-car train on this rail corridor which will still produce noise. For both diesel and electric locomotives, the venting for the power units is near the top of the locomotive, 14 to 17 feet in the air which projects the noise into the neighborhood. The power units on the EMUs are down near where the wheels are, 1 to 1 ½ feet above the rail. The big difference is that the six-foot parapet barriers for the hybrid and viaduct alternatives would be much more effective at reducing the power nose from the EMUs. He noted he didn't have any of the actual acoustical data for the EMUs, but they added an extra point on the tables for the alternatives which would get the added benefit of now having the motor noise mitigated by the six-foot parapet barriers, which would viaduct option for both locations and the hybrid option for the Meadow/Charleston location. This did not change things a lot.

XCAP Member Levin advised a change not covered in this report was how much of a difference it will make when the electrification process goes live and increases to six trains per direction per hour. Also, in their medium-term planning, Caltrain is looking to increase to eight trains per direction per hour. Significantly later the maximum speed is expected to go from 79 to 110 miles an hour. Could there be some updates which included this information?

Mr. Burge replied this analysis stayed with just the existing schedule. They had not planned to look at different future scenarios. The assumption that more trains will result in more noise is correct, but from a practical standpoint, additional noise from additional trains would affect all the alternatives in the same amount. Regarding train speeds, the maximum service speed for the future EMUs is about 79 or 80 miles an hour. The 50 mile an hour speed was based on their observations that it seemed like the combination of speeding up and slowing down at stations. They were not asked to look at the high-speed trains in their estimates.

XCAP Member Brail remarked in Caltrain's current configuration there are trains that stop in Mountain View and then don't stop again until Palo Alto, so in the Charleston, Meadow area speed may get above 50 as they came through that area.

Mr. Burge responded they were not looking at the absolute noise level but at the difference between the two alternatives.

XCAP Member noted that in all the time of working on this project, people mentioned noise a lot. The perception is that elevated options are much noisier. To that end, how did the noise levels from table 5.3 get to the other two charts that make a more subjective interpretation. Earlier in the report it said a typical person in a typical environment can tell a 3-decibel difference, a 5-decibel difference is a lot noisier and a 10-decibel difference is twice as noisy. In many of the charts the difference between one alternative and another is within 3 decibels of each other. In the vast majority of

the options other than the existing, the noise levels seem to be almost the same. What is the difference between a noticeable noise level versus a theoretical difference? He wanted to make sure the public is not left with the perception that one alternative is much noisier than another when a normal person wouldn't be able to tell the difference.

Mr. Burge advised that issue comes up a lot. This is subjective to different people. It has to do with hearing acuity, hearing health and age. The general rule of thumb is most people can just barely perceive a 3-decibel difference in the real world. They start to notice the difference at 3 decibels and above and at 10 decibels it is noted to be twice as loud. A decision should not be made solely on that. That is also true of the construction noise and the vibration levels. Regarding the viaduct and the hybrid being louder, normally that is true. The thing in favor of those two options is the six-foot parapet barrier which knocks down the rail wheel noise, but also with the new EMUs it will help reduce the traction motor noise. When the horns are gone and there is about a 10-decibel reduction in both the rail wheel noise and the traction motor noise, the effect of it being higher in the air is lessened. At the ground zone a lawn or grassy field will absorb more noise at a lower elevation. For these estimates it was assumed it was hard ground and there wasn't a lot of excess attenuation from the lower elevation. Every single one of these alternatives is a massive improvement over what is existing because 90 percent of the noise is from the horns.

XCAP Member Brail asked about vibration and that the viaduct option would be 10 decibels less in vibration. What does that mean?

Mr. Burge noted vibration was a secondary issue so not as much time was spent on that. Vibration is measured in velocity metric of inches per second which is used in assessing building damage. For annoyance a vibration decibel is used and a 10-decibel difference is quite a lot. The viaduct reduces vibration so much because instead of generating vibration along every inch of the at-grade tracks, it only generates the vibration that comes down through the pillars, the vibration spreads out more quickly and there is less coming down.

XCAP Member Brail inquired if a person would notice a 10-decibel difference in vibration?

Mr. Burge believed so, especially the first-row west side homes which are within as little as 50 feet from the tracks.

XCAP Member Shen advocated for a change in the rating system. It seemed that all the options that ranged from 6 to 8 would then potentially mean there really isn't a difference from a noise and vibration perspective.

Mr. Burge referenced the overall alternative noise rating which measured noise, vibration and construction noise vibration. The scale is zero, no noise benefit, to five the best noise benefit. At Churchill, both the closure and the viaduct will give a moderate noise benefit, the underpass will give something more. The difference between the underpass at Meadow/Charleston is a two, the underpass at Churchill is a five, but the underpass at Churchill works better because it also helped to mitigate some of the road noise because half of Alma is lower and the noise level would be

reduced. In developing these relative scores each of the locations was looked at. It wasn't intended to have a direct comparison between the underpass at Churchill and the one at Meadow/Charleston. The viaduct location at Churchill is much closer to the homes.

XCAP Member Shen believed there would be a number of people who weren't at this meeting or looked at the report but just looked at the numbers. All the information has to be reexplained and put out there again. He would like to find some way of saying there is not a difference between 50 and 60 decibels.

Chair Naik noted that is what XCAP would do in their report. The data is there, this is a noise analysis score and not an overall score.

Mr. Burge reiterated that just a difference in the noise benefit is not the whole story when considering the vibration as well. Someone might look at the operational noise table and see the underpass is 1.3 decibel lower than the viaduct. That is probably not a noticeable difference, but if you add in the fact that the viaduct will generate a noticeable reduction in vibration and will have about one-third of the duration for the construction noise and vibration, would that put it a little higher in the ranking. The predicted noise level is the result of a modeled calculation. The corresponding tables in the report have much more information. It is important to take the three things together and the summary table includes an effort to consider all three of the modes overall. He suggested changing ranking to ratings. These are all good alternatives from a noise standpoint but some will contribute more noise reduction. Some of these alternatives cost much more than others also. The aggregate table could be dropped and just list the calculated noise benefit, the qualitative vibration benefit, and the qualitative construction noise vibration impact.

XCAP Member Carrasco remarked there was a lot of really good data in the report. The report mentioned there was a 17-decibel difference between ambient noise and the existing train noise. Could the difference between ambient noise and alternatives that were evaluated be looked at? That may be a clear difference maker in terms of how the choice is made. Secondly, he asked if decibel noise contours could be done on a map that showed the ambient noise, the existing 17 decibel increase in noise when trains go by and the third is what would that difference be with the options. The decibel contour map could show how it affects the corridor. That might show the new EMU is quieter than the existing trains.

Mr. Burge replied one way to do this would be to produce noise contours. The problem with noise contours is they show a very precise location for a noise contour. The data that is available is usually not nearly as precise as the contour would suggest. The calculation was done at some of the long-term measurement locations and what the difference was in the 24-hour level between the existing environment with trains and with no train noise at all would be the maximum difference. The grade crossings showed the greatest difference. For noise contours to really be accurate, the cross traffic, the location and height of every single structure along either side would have to be modeled. That would give a more detailed-looking map, but the graphical results would be more precise than the data that was had going into it. That would also take a lot more work.

XCAP Member Carrasco indicated it would be better than not knowing. If there was a wider band on the decibel level, it would help to understand and explain the data to someone in a short amount of time. There could be a disclaimer of a percentage of error.

Mr. Burge explained it wasn't necessarily error but an uncertainty. Right now, the dominant noise is the horn noise but this varies by the engineer in the train. The report used the prediction procedure that is recommended by the Federal Government. That was compared to some of the measurements and it was found this was a reasonable estimate. This would suggest a very precise answer to what is based on some less precise assumptions in terms of what some of the controlling parameters are in the prediction.

XCAP Member Reckdahl agreed with XCAP Member Shen's concerns especially the numeric table. It suggests there is more precision than there is.

Mr. Burge suggested the vibration and the construction noise vibration columns were termed as being a quantitative analysis for the operational noise and qualitative for the other two.

XCAP Member Reckdahl indicated this should be more a rough guidance than a final precise number. He asked if there was a rough decibel level for the each, the horn, the engine noise and the wheel noise?

Mr. Burge responded that the prediction method used did calculate those separately. Horns were included for the existing condition. The future predictions did not include horns. In one of the appendices in the report there are the calculation sheets that showed the different contributions from the different train and highway sources. One of the metrics used sometimes is the maximum level. He referenced the noise survey results report which showed the maximum horn level over the entire event and there could be a big difference between the maximum level and the associated average over a certain interval. He explained the  $leq$  was the energy average of the noise over a specific period of time. The  $ldn$  is the twenty-four-hour average with the 10-decibel penalty added at night.

XCAP Member Reckdahl asked if just the horn went away and the trains stayed as it, how much would the number go down?

Mr. Burge noted the existing noise with horns, diesel is the current prediction. For the first-row homes on the west that is in the low to mid 80's. Even the loudest of the alternatives would be 69.4 for the closure and underpass. Ninety percent of the benefit would come from getting rid of the horns.

XCAP Member Reckdahl inquired what the spectral content of the noise levels, the frequency range was?

Mr. Burge answered train events tend to have a pretty complex spectrum. The engine noise tends to be low frequency, the horn noise is constructed intentionally to be a very irritating combination of usually six to eight different frequencies, the wheel rail

noise tends to be a higher metallic noise. Added together, it's a pretty wide-ranging cacophony of different noise from the frequency spectrum standpoint.

XCAP Member Reckdahl asked in the breakdown of noise versus vibration, is anything below 200 hertz is considered vibration.

Mr. Burge explained noise and vibration are two different things. Noise is the air vibrating and picked up by your ears and interpreted by your brain into sound. Ground-born vibration is a vibration force that is imparted by the train into the ground and is actually the ground moving. It is measured by velocity units, inches per second.

XCAP Member Reckdahl expected to see something in the report about the viaduct resonance and didn't see this.

Mr. Burge related that is seen much more on steel structures and mostly older structures on viaducts and bridges. The modern structures are usually structural steel encased in concrete.

XCAP Member Reckdahl remarked the rails are mounted and would have some resonant frequency. Concrete is not a high damping object, so some resonance would be expected even in concrete.

Mr. Burge replied not in an audible range.

XCAP Member Reckdahl as what the natural frequency would be in a viaduct?

Mr. Burge advised the frequency is dependent upon the size and shape of the structural components. These structures are very heavily damped compared to bare structural steel.

XCAP Member Burton voice his concern about mixing the construction rating with the noise and vibration on an overall rating table as this could influence the scores by combining them into a single overall rating. He would prefer to see the construction rating as a separate score because this includes the duration, dust, costs. He also addressed airplane noise and depending on where you live, this was very significant.

Mr. Burge agreed construction noise is temporary but thought it was a mistake to pretend it was not a component. There was a more quantitative approach to the operational noise, the other two were more qualitative and they could be separated. Some of the things that influenced the rating for construction had to do with the duration. The viaduct and grade crossing closures had a two-year duration. The tunnel and trench had a six-year duration. The tunnel, trench and hybrid had the added impact of having heavy trucks going through the neighborhoods. The construction noise information in the report has more details than the single page. Regarding the airplane noise, the metrics used, the peak hour and the Idn would be the same whether the airplane noise was included or excluded.

XCAP Member Burton asked if the squeal of the brakes when a train is approaching a station was considered?

Mr. Burge answered that it could be. Train operators usually try not to apply the brakes a lot when coming into the station, but try to coast into the station. The assumptions for this report were focused on the noise near the grade crossings and did not take into consideration brake noise coming into the station. The EMUs usually have regenerative braking in which a generator is engaged which sucks the energy out of the brakes to reduce speeds.

XCAP Member Burton related he lived about a half mile from the Caltrain right-of-way and he didn't really hear trains during the day. At night he can clearly hear the freight trains, the horns, engine and wheel rail noise. It would be useful if the twenty-four-hour noise studies showed the differences between daytime passenger operation and nighttime freight operation.

Mr. Burge replied the difference with the contribution of the nighttime noise is that the ambience noise drops down at night. On average there are about three freight trains a night and each event happened for about a minute. They are part of the calculation.

XCAP Member Burton questioned the one minute, because freight trains are longer than passenger trains and run at slower speeds and it is longer than one minute.

XCAP Member Levin noted having some aggregate information is useful, and agreed with the recommendation to break out the construction noise. In doing the summarization, it is very important to make the visualization clear about what the difference is between the future conditions and the current conditions. Something that will be counterintuitive is the underpass is noisier because of the car noise.

Mr. Burge asked if it would help if the predicted operational noise table expressed the noise levels as the reduction from the existing?

XCAP Member Levin thought that might be helpful. She also wouldn't put a lot of attention into modeling the current schedule because Caltrain has consistently said with electrification the electric trains could accelerate more quickly and be able to hit more stops in the same amount of time and run a more even schedule.

Mr. Burge replied using a different assumption for the total number of trains could be done, but having more sets of numbers shown might be more confusing.

XCAP Member Levin suggested fewer alternatives and Caltrain has published information on their future schedules.

XCAP Member Burton replied when people question the whole rationale for the grade crossings, there may be a lot more noise with increased frequencies if the separations were not done.

Mr. Burge questioned if the illustration was how the relative benefits of the different alternatives would change with increased train volumes or illustrate how much noise levels would go up as a function of the increase in the traffic? The goals of this report were to provide a relative comparison of the different alternatives.

XCAP Member Levin clarified that the report showed the future condition compared to the present condition is about minus 15. If Caltrain then increased its frequency by 25 or 50 percent, will that make the future condition worse or better?

Mr. Burge replied you would have to increase the number of train volumes by an order of magnitude to erase the benefit from eliminating the horn soundings. The amount of traffic may have to be increased by a factor of five to ten in order to approach getting back to the same levels without horns. The direction for this report was to evaluate the relative benefits of the different design alternatives.

Chair Naik reiterated that XCAP's focus is using the noise study to help choose between the existing alternatives. She noted there was no discussion about a noise barrier when the train stays on grade could impact noise. If you put a six-foot parapet around the closure at existing condition, what did that do to the noise? Are there different types of noise barriers?

Mr. Burge remarked as he did the analysis, nobody asked about just putting a six-foot barrier for the current at-grade condition. It wouldn't be much help until the horn noise was gotten rid of but after that, putting up the parapet barrier on grade at a closure could have a good outcome. It would only have to be tall enough to block the wheel rail noise and the lower power unit noise for the EMU trains. That would also help at the underpass option because one of the problems with the noise reduction for the underpass option is that it isn't doing anything to reduce the noise from the train operating at grade. If a parapet barrier was introduced in addition to the underpass, that would probably reduce train noise by about 5 decibels.

Chair Naik asked if there was a difference in the height of the parapet? Is a three-foot parapet different from a six-foot parapet assuming they're locomotives, but if there are EMUs and all of the noise is coming from lower, would a three-foot parapet work? She reiterated this should be included in a final report.

Mr. Burge replied six feet is a good height. Normally it is recommended that the partial height barriers would have acoustical absorption on the inside so the noise didn't just bounce off the barrier, bounce off the train body and back over the barrier. You wouldn't want to go much below six feet but wouldn't need to go much above six feet if on the EMUs the power units are down near the wheels. There are different types of transparent barriers but usually these are not acoustically absorptive. You could do a solid four-foot barrier with acoustical absorption and above that another three or four feet of transparent barrier.

Chair Naik pointed out there was a Caltrain EIR that was done for electrification which probably has a lot of noise and braking information. She asked if there were any measures that could help lower the noise of freight over passenger?

Mr. Burge answered freight is mostly wheel rail noise but they do usually have multiple locomotives so there is some more locomotive noise, but much more wheel rail noise. Generally, the same things that work for passenger trains will work for freight.

Chair Naik asked how much further away would the elevated trains be heard?

Mr. Burge explained in the original analysis it was assumed there would be less noise abatement at the second row of houses because when you raised up the tracks, you would lose some of the first-row noise barrier reduction. With the EMUs that might be much reduced, because the elevation of the power source is lower, but it would also be behind a barrier.

#### Public opinion

Rachel Croft agreed with many of the XCAPs comments. She felt XCAP and the community should decide what is important and what should go into a final rankings table. Noise is much more important than vibration and final configuration is more important than construction. She would also much rather have the vibration of the train than the viaduct. Doing nothing should not be an option. As the number of trains increases, the horn noise will be much more of an impact. She asked if there would be a possibility of looking at the number of lanes at Alma and reduce the scope of the project so Caltrain's right-of-way is not an issue.

Steven Carlson commented in terms of communicating to the public, he felt it was most effective to stay away from the numbers and the tables. This study dispels some of the common myths and addressing those in terms of talking points is the best way to communicate this. All of the options on the table will result in a significant noise reduction from the current state. There is a common perception that elevating the viaduct would create more noise for everybody but this report notes that is not true. The viaduct not only is not noisier, but is the one rated by the consultant to have the lowest amount of noise.

Lindsey Joy asked for clarification on the noise and vibration study if it was evaluated at different elevations? How would the viaduct impact the first floor versus second floor of a home regarding noise and vibration and could that data be separated?

Susan Newman appreciated the study, noting it was very helpful when discussing this with her neighbors.

XCAP Member Cho remarked at Churchill the difference between the three options is 1 to 2 decibels and it was noted those were insignificant.

Mr. Burge replied that the fact is some of these alternatives had similar results. The difference in these alternatives was not known until the analysis was done.

Chair Naik pointed out that all of the at-grade alternatives, the two underpasses and the closure, were not represented the same way as the others because the others all have sound abatement treatment and those do not. There exists the possibility of putting up a noise parapet on a closure or the underpass which could be as much as a 5-decibel difference. The hybrid and viaduct noise calculations were done with the noise parapet but that was not done for the underpasses or the at-grade closure.

Mr. Burge replied that could look at that but that was not part of the direction given to them for the study.

XCAP Member Cho indicated her observation was that there was a significant study done that compared the alternatives and the difference was insignificant. Because the alternatives were ranked, people are using that to push one alternative over another.

Mr. Burge reiterated this was strictly a noise and vibration analysis. The results of this study should be taken in conjunction with the other considerations, including aesthetics.

## **MOTIONS**

Chair Naik moved to have the noise report amended and come back to XCAP. She would like to see if the analysis changed using the correct EMUs and not the electric locomotive. She would like more information about the sound attenuation with the parapet. Verify the speed, which could eventually go to 110. Consider the future train schedule at sixteen trains per hour the max. Information to be included in the report regarding a noise parapet, a six-foot wall for the on-grade alternatives, the closure and the two underpasses. Regarding the chart, call out the fact that the construction column is temporary noise versus the other two which are permanent noise.

XCAP Member Reckdahl seconded the motion.

Mr. Burge asked if the suggestion was to remove the composite table?

Chair Naik clarified she simply wanted making some sort of delineation that showed the construction column was a temporary noise versus the other two.

XCAP Member Klein moved to remove that table as an amendment to the motion. It would tend to confuse the public rather than enlighten them. He felt each member could compile his or her own table with the data that is available. He is worried about the cost of the additional information requested.

Chair Naik took that as a friendly amendment and will remove it.

XAP Member Reckdahl agreed to remove it.

Mr. Shikada addressed XCAP Member Burton's question about additional cost, he didn't know if the consultant could respond to the cost, but maybe clarification of what is currently within scope versus outside of scope.

Mr. Burge responded there were definitely out of scope items in that list. The proposed approach was to follow the FTA policy guidance manual and switching over to getting additional specific data for the EMU will required some extra work. He was unclear if the XCAP was asking him to look at additional including the parapet wall as additional alternatives or modifications to additional alternatives? Should he look at the underpasses with and without six-foot parapet barriers.

Chair Naik replied it could be as simple saying that a noise parapet put at grade gives a 5-decibel reduction, if that's a standard thing. She was curious about what is out of scope. The EMUs have been selected for a while and already in the process of being

built, so she was surprised that was not included and considered out of scope and additional work.

Ms. Litzinger explained there is no sound information available for this particular car they were aware of.

Chair Naik advised she had that information and would send it and it may be in the Caltrain EIR.

Mr. Burge commented when talking about verifying speeds, what he has calculated regarding trains accelerating and decelerating, that 50 miles an hour may not be a bad guess. When he does detailed EIRs, he is given a speed contour which showed what the train speed would be at different stations. Part of his modeling was assuming an average speed over the whole corridor.

Chair Naik asked for verification that in the future, the speed profile matches what is needed to understand about noise.

Mr. Burge advised he didn't have the information available. To evaluate the noise at a different speed he could modify the calculation spreadsheet and change the speed parameter. Knowing what the correct speed is could be more time consuming.

Chair Naik suggested a comment if the speed increased by 20 miles an hour it would have an increase of X many decibels generally. The current motion is having AECOM return to correct to EMUs, including something related to speed such as if the speed increased by X number of miles per hour, that might have a change of X decibels, if including more trains per hour is a cost issue, that could be dropped, at least adding a line in the report that an at-grade noise barrier of six feet could drop by 5 decibels would be sufficient as an alternative for the closure and the underpasses.

XCAP Member Carrasco remarked he was uncomfortable keeping the information about the judgement issues from the noise consultant from the public and it should not be deleted.

XCAP Member Levin agreed with XCAP Member Carrasco and did not support suppressing the summary.

XCAP Member Brail noted it might help if the subjective tables were backed up by some sort of methodology even it was just a footnote. If the work is shown that would be good, if it's not shown it will be confusing.

XCAP Member Burton indicated the consultant said a difference of less than 3 decibels wouldn't be noticed. If the tables are calling out these minute difference is decibels, he would be more comfortable with showing ranges of decibels like perceptible, not perceptible, very perceptible. People can relate to that better than to numbers.

XCAP Member Shen agree with removing the table as the simplest answer. If it is left in, some modification should be made. At a minimum, a better legend. The discussion of why the underpass in the Churchill option is different than the underpass in the Meadow/Charleston area, but the numbers implied the ranking should be the same

and that difference should be called out somehow. Also, zero was noted as no change from now, but when you don't know that information, zero can be perceived as the other end of the scale. The improvements really aren't that much and not even perceivable by humans. If a table is included, a hard look is needed to present that information better and improve the way it is now. If that can't be done, he would leave it out.

XCAP Member Brail proposed an alternative solution of appointing a noise subcommittee and they draft the noise section of the report and they make an XCAP subjective table.

Chair Naik suggested removing the opting of keeping or taking out the table with the feedback to AECOM that they try to fix this. When they come back with the report, XCAP can review it and make a final decision.

XCAP Member Klein pointed out that not including the table is hardly an attack on transparency. There is nothing there that isn't already in the report. It is the consultant's opinion on how they should be weighted.

Mr. Burge agreed this was a subjective rating, but he is not in favor of one alternative over another. It may be best that he lays out the analysis for the three different components and let XCAP decide on how to combine those.

XCAP Member Levin encouraged giving direction to try to improve the summary, but did agree with getting rid of the summary as long as the temporary construction impact is broken out from the permanent noise and vibration impacts.

XCAP Member Brail indicated the data was fine, but objected to arbitrarily adding the different columns.

Chair Naik suggested dropping this chart from the amendment so the amendment would stand as making sure the right EMUs are used, verify the speed and adding a line about the noise parapet and the 5-decibel reduction and potentially looking at sixteen trains an hour if City Staff thinks that's okay. Then a second motion can be made regarding the chart.

XCAP Member Carrasco offered a friendly amendment and felt the most significant thing this study showed was that all of the options were better than the existing situation and suggested a simple table that explained that.

Mr. Burge stated there was a comparison table, but thought the suggestion was to include not just the absolute level for each alternative, but show the numbers in terms of the change from existing.

Chair Naik remarked it was changing slide 25 and report page 23, Predicted Operational Noise.

Mr. Burge indicated it is shown as absolute numbers but can include it as both, absolute numbers and the delta numbers.

Chair Naik accepted the friendly amendment and the numbers should be shown both ways.

XCAP Member Reckdahl agreed with that.

Male asked for confirmation that whatever amendments are proposed, they can be done easily and within the scope.

Mr. Burge answered the noise contours would be a be change but most of the requests were fairly minor. If is addressing what would be the difference in general for increasing the number of trains, the difference in general for including barriers, that is fairly simple to do. Providing some of these general comments would be much more straightforward as opposed to going back and completely recalculate everything and redo all the results.

Male confirmed that it would be acceptable to have generic statements about how different items presented would overall affect the alternatives?

Chair Naik indicated that would be acceptable unless using the correct EMUs would drastically change the actual calculations.

Mr. Burge replied he would need to see the data on the trains.

Ms. Litzinger assumed the information would be readily available so they wouldn't have to make a measurement to figure it out.

Chair Naik restated the motion which is to have AECOM come back and give the XCAP an updated report to include verifying whether using the correct EMUs makes a difference in the data, verifying the speed profile with Caltrain, explaining that a noise parapet at grade could provide a 5-decibel reduction in sound. She asked for a vote on the motion.

XCAP Member Brail voted yes.

XCAP Member Burton voted yes.

XCAP Member Carrasco voted yes.

XCAP Member Cho voted yes.

XCAP Member Klein voted yes.

XCAP Member Levin voted yes.

XCAP Member Reckdahl voted yes.

XCAP Member Shen voted yes.

XCAP Member Templeton voted yes.

Chair Naik voted yes.

## **MOTION PASSED UNANIMOUSLY**

Chair Naik asked for a motion about table 8.1 or are all agreed to let Mr. Burge return with his best work on that.

XCAP Member Brail preferred to see his work and then decide whether to take it out or not.

Chair Naik indicated all agreed and a motion was not needed.

### **4. Action/Discussion: Review and Approve Chair's XCAP Update #5 to City Council, tentatively scheduled for June 8<sup>th</sup>**

Mr. Shikada confirmed that Chair Naik will be speaking at 5:00 at the City Council meeting.

Chair Naik asked if any XCAP Member had any issues or concerns about Update #5.

Public Comment

Susan stated that having alternatives looked at for potential optimizations, not just in terms of sound abatement but in terms of other modifications to the alternatives is a good idea. Regarding the sound issue, there had been talk of doing a modified approach to the viaduct that moved it closer to Alma and she asked if it was worth looking at how that would modify the findings.

## **MOTION**

XCAP Member Carrasco moved to approve the report as shown in the packet.

Chair Naik was unsure how many meetings there would be before August. The report is due August 31 and typically the Council goes on a break so this would be the last meeting.

Mr. Shikada related that early August would be a possibility but that is quite close to when the report should be done.

XCAP Member Carrasco did not change his motion. It was a good report and covered the basics of where XCAP is and the thinking at this point.

XCAP Member Templeton seconded the motion. It is a very detailed report.

Chair Naik offered that she did do a presented to the Palo Alto Bicycle Coalition yesterday and they had a lot of feedback. She would like to amend orally in her report to City Council is to reiterate to the Council that PABC thought a lot of the bike/ped connections were still missing and she wanted to express that was something multiple XCAP Members said over multiple meetings. She asked for authorization from the Group to amend that to her oral testimony when giving her report to Council.

XCAP Member Carrasco noted a friendly motion to move the report as stated with the addition of Chair Naik giving an update about the need for bicycle and pedestrian improvements.

XCAP Member Templeton accepted the friendly amendment.

XCAP Member Carrasco restated his motion to accept the document in the packet that was authored by Chair Naik with the addition that was added as a friendly amendment.

XCAP Member Templeton seconded the motion.

XCAP Member Brail voted yes.

XCAP Member Burton voted yes.

XCAP Member Carrasco voted yes.

XCAP Member Cho voted yes.

XCAP Member Klein voted yes.

XCAP Member Levin voted yes.

XCAP Member Reckdahl voted yes.

XCAP Member Shen voted yes.

XCAP Member Templeton voted yes.

Chair Naik voted yes.

#### **MOTION PASSED UNANIMOUSLY**

#### **5. XCAP Member Updates and Working Groups Update**

Chair Naik moved this item to the next meeting other than the June 17 meeting will start at 2:30 PM.

#### **6. Staff Updates**

Chair Naik remarked it was important to bring Caltrain back to a future meeting to go over the Caltrain emails before starting deliberations.

#### **7. Adjourn**

The meeting adjourned at 7:05 P.M.