



SR-710 Tunnel Technical Study
Pasadena Community Meeting Summary
April 28, 2009
Blair High School Cafeteria
6:30 – 8:30 pm

INTRODUCTION

On April 28, 2009, Caltrans held a community meeting to inform community stakeholders about the SR-710 Tunnel Technical Study. The meeting took place at the Blair High School Cafeteria in Pasadena. Approximately 50 community members attended.

SR-710 Study team members who attended included the following project management staff from Caltrans: Doug Failing, District 7 Director; Abdi Saghafi, SR-710 Tunnel Technical Study Project Manager; and Deborah Harris, Chief, Media Relations and Public Affairs. Los Angeles County Metropolitan Transportation Authority (Metro) staff Lynda Bybee, Executive Director of Regional Communications, and Shahrzad Amiri, Deputy Director of External Affairs, also attended. Other Study team members who participated in the meeting were: Yoga Chandran of CH2MHILL; Steve Dubnewych of Jacob Engineering; Al Wattson of Paladin Professional Consultants; Bruce Schell of EMI Earth Mechanics; Rebecca Barrantes and Glenda Silva of The Sierra Group (TSG); Rena Salcedo, Claudia Gonzalez and Debbie Rusas of GCAP Services; and Katherine Padilla, John Limon and Thelma Herrera, of Katherine Padilla & Associates.

MEETING FORMAT

The meeting began at 6:30 pm with an informal Open House. There were informational displays set up around the room that depicted a range of topics, including: The Study Background and Public Involvement Process; The Technical Advisory Committee and the Steering Committee, both of which provide Study oversight; research methodologies of The Exploration Program; examples of subsurface soil and rock samples that are being collected as part of the Study; and modern tunnel building techniques. The Open House format provided community members with the opportunity to ask questions and engage in one-to-one conversations with knowledgeable Study team Members.

The Presentation portion of the meeting was convened at approximately 7:15 pm. The audience was welcomed by Doug Failing, Caltrans District 7 Director.

Mr. Failing explained the Study background. He stated that the Study was being conducted in a route-neutral manner, and defined the meaning and its significance. He also stressed that this is a feasibility study and does not include an environmental document component.

Mr. Failing introduced elected official representatives in attendance: Julianne Hines, District Director for Assemblymember Anthony Portantino, and John Tang, Field Representative for Assemblymember Mike Eng. He continued to introduce other attendees, including David Worrell, Steering and Technical Advisory Committee member and Study team members.



The meeting was turned over to Rebecca Barrantes, who welcomed the audience and reviewed the purpose of the meeting. Rebecca reviewed the ground rules for conduct during the meeting, especially during the Question & Answer component.

Steve Dubnewych and Yoga Chandran, part of the Study team's geotechnical experts, then provided a PowerPoint presentation that described the Study Purpose and process; geological factors and their influence on tunnels; modern tunnel systems in Madrid, Shanghai, and Paris; and The Exploration Program that is currently underway to determine subsurface soil, rock and other geological conditions within the Study area.

Following the geotechnical presentation, the notification process, including door-to-door outreach to neighborhoods adjacent to the exploration sites, was also described. The public involvement process for the study was reviewed, indicating frequency and timeframe for Steering and Technical Advisory Committee meetings, community meetings, newsletters, presentations, and reports.

COMMUNITY DIALOGUE

After the presentation, community members participated in a Question & Answer session. Mr. Failing and members of the Study team listened, sometimes asking questions for clarification, and responded. The session was facilitated by Rebecca Barrantes. Topics discussed included: tunnel ventilation systems; the cost of the Study, potential costs of tunneling and possible sources of funding; and the need to report research findings to the community.

The questions and comments offered by community members are categorized and appear below. *Responses from Caltrans Director Failing and Study team Members are indicated in italics.*

Study Costs

- How long are you projecting it will take to build a tunnel? What would the cost be? Out of the previous tunnels shown in the presentation, what would be the closest one in comparison? What did those tunnels cost and how long did they take to complete?

We have not done a detailed study regarding how long this is going to take but typically for this particular type of tunnel with connections on either end, you will have machines working on both directions at the same time. You can build 30-40 feet a day. Depending on the length of the tunnel, we are looking at several years. We do not know what it will cost at this point.

- Caltrans is allotted a certain amount of money from the Federal government or from the State. Shouldn't Caltrans have an idea of how much it is going to cost at this point? It is always going to cost more than you think it is going to cost.

Actually, now it costs less than we think it is going to cost due to the market we are in. It is hard to predict what it is going to be like 2 years from now. These discussions are important environmental



document questions. The commitment we made with your elected officials before we began to do anything in that area, was to take a solid look in a route neutral manner as to whether tunneling was even feasible through the Study area. Issues on financing for the project are very important questions. How much is it going to cost? What is the available funding from existing sources? Is there a possibility that this is going to be partially privately funded? These are important questions and are appropriate to be asked and dealt with during the environmental document phase.

- Which of the previous tunnels discussed in the presentation is the closest to this one (for costing purposes)? For example, the Madrid or Versailles tunnel.

It is really a function of the geotechnical conditions we are studying right now. In terms of costs of those tunnels, if you do a Google search of these projects on the internet you will get a lot of information about their costs. Some of these projects are billions of dollars, some of them are a lot longer in length, and have different tunneling conditions. There is also a handout available out on the information table and on the study website that contains web links to resources that will provide information about other tunnel projects.

Research and Testing Methodology

- If a boring happens 350 feet below the surface I am standing on, will I feel the vibrations?

We are still gathering data; however, we have constructed tunnels in the City of Los Angeles in similar ground formations (soil conditions). Although they are not as large (15-20 feet in diameter at approximately 150 feet deep) we had no complaints of vibrations or noise to the public during construction and operations. We don't expect any vibrations that will impact your community at all.

Borings

- There was a slide during the presentation that showed you were doing 33 borings and you are still in the field. Basically, you have done 25. It seems like 12 of the borings were done in Zone 3. Why?

We selected borings by generally looking at geologic formations that span across each of the zones. We want to make sure that we capture formations of a zone. Other criteria include whether there are faults going across the zone. If we look at Zone 3, we have various faults (i.e. Eagle Rock fault, Raymond fault). There are also different variations of geological material in Zone 3. We are trying to capture some of these formations from Zone 3. Zone 4 and Zone 5, for example, are mostly uniform so we have a lower number of borings. The number of borings conducted in a zone relates to anticipated geological matter that we are trying to confirm.

One of the other factors is existing data. Zone 1 had a recent tunnel through that area and there are some existing borings already. With Zones 4 and 5 and all the Super-fund studies, several borings have been previously completed. There have also been a lot of groundwater studies over the years in other zones. Zone 3 is the one area that doesn't have high rise buildings, and does not have any



major geotechnical projects; therefore, no one has ever had to drill very deep. We had to conduct several borings in this area and get geological information and data.

- The map from the presentation slide only showed one boring north of Los Angeles, south of Alhambra Road and no place else. Is this correct?

Yes, we have noted that.

Was that in the Steering Committee meeting minutes?

That was actually Caltrans' decision. Caltrans appreciates the input from our Technical Advisory Committee (TAC) and Steering Committee (SC) and we are very conscious of the role they play. The Committees do not make these decisions. Caltrans seeks advice from the TAC and the SC; however all decisions are made by Caltrans.

Route Neutral Study

- Although this is a route neutral study, all routes/zones seem to focus on one location for the portal at the south end. Are there any opportunities for more geotechnical surveys to be done for a "portal neutral" opening at the south end?

When we discussed this issue with various elected officials representing the Study area, there was really never any question that we are beginning at the point where the SR-710 meets the I-10 near the exit in Alhambra. Most were confident that this was the appropriate beginning point because of where traffic is and how it flows. The question that has been raised frequently is whether we need to come up through Pasadena through the current terminus of the SR-710 just above California and South of Del Mar; or, should we be looking at some other place for that northern portal. Certainly, the data that we are gathering is broad enough to provide information about portals in other locations.

- There is only one portal location on the south end but in the Pasadena area there appears to be a wide variety of portals. Why?

The concept of the Zones is to gather data to assess tunnel feasibility within the width of the Zone. We are not using the study to locate portals which would be done during the environmental document phase. You could almost assume that there is no portal at either end and we just want to see if we could tunnel through the zones or not.

- It was said in the beginning of the presentation that this was a route neutral study, but it would not include the portals. Is this correct?

The tunnel feasibility study does not include location of portals. There would need to be portals; however, that would require further environmental study. Generally, the elected officials we have spoken to have all agreed that we are probably going to start in Alhambra, not necessarily at Valley



Boulevard. The portal could start at Valley Boulevard or before Valley Boulevard. It will certainly begin before Mission. Everyone anticipates that.

We have seen in existing Zone 3 that those properties will have to be removed, or something will have to happen to them for the portal at Valley Boulevard. You already own those properties. For other portals, in the other zones, can it be route neutral if you already own other location portals in other zones?

Yes. Because we are really only looking at the geotechnical characteristics in the area. We are not evaluating portals. Those are all questions that should be asked and made during the environmental document phase. One of the issues to discuss is at the north side, at California Boulevard, you have Sequoia School and the current paved road ends at Del Mar and you have the ramps that come up at California Boulevard. Would we start there at California Boulevard or could we actually back up a little bit. Those are all appropriate discussions that we could have outside the route neutral technical feasibility study. Certainly we have had these discussions with elected officials that represent these areas.

- Comment: As the coiner of the term, route neutral, it has surprised me that people have not asked me what I thought it meant. I think that the interpretation is somewhat limited in this context. When I came up with the idea, it was not just the route in terms of from A to B, but it was also meant to include the plans for environmental neutrality (I.E. greenhouse gas emissions that would be emitted during the construction and the transportation of the landfill). I could imagine large portions of material being transported by diesel in the communities. I know that it may be premature to talk about environmental impacts and what those would be, but I wanted you to amplify the term route neutral not just to be from point A to B but also to take into account the totality of the environmental impacts of that construction and to date that is not something that has been factored in to the other tunnels. I know of no other offset, of any other tunnel construction of any of the examples that have been given, that have been forced to offset the greenhouse gas emissions resulting from transportation of material using diesel trucks. I just wanted to clarify that.

That would be an appropriate and very important discussion assuming the environmental document is done. Certainly, here in California, under recent laws, greenhouse gas is becoming a more and more important issue, not just long term but during construction as noted.

Tunnel

- Are you fixed on a tunnel? Are there any alternatives?

There is not an alternative because we are not doing an environmental document. All we are focused on is a route neutral geotechnical feasibility study.



- Can someone explain the exhaust system and how it would be constructed?

We have not studied the way this tunnel would be exhausted as part of the geotechnical investigation. Based on other tunnels in the world, there are different ways of ventilating tunnels. You could ventilate tunnels like we showed in an earlier presentation slide where there are ventilation fans or alternatively we could have these vents or ducts located above the traffic lanes and then it is exhausted at either end of the tunnel. There are the situations where you can have intermediate shafts along the tunnel and they could be vented that way as well. There are many ways to ventilate a tunnel; however, we are not studying that at this time.

- The story went around very early that there would be these giant shafts lifting up out of the ground and going through the neighborhoods for ventilation. Everyone was terrified of that. Is that not what you envisioned?

There was an earlier study conducted by Metro in which some ventilation possibilities were considered, which included vent shafts as one of the ways of doing that. That is an excellent question, but it would belong in the environmental document phase. At this point, we are really focused on route neutral tunnel technical feasibility. There would be the need to capture the exhaust gases from vehicles. It would be very necessary to do some treatment of those gases. There are a number of ways of doing that. In the Metro study, they were trying to show you one of the most visible ones, which is where you take them to a certain level and you vent the exhaust so that it mixes with the normal air. There are a number of other methods that we will explore and evaluate, assuming that the decision is made to go ahead with the environmental document. It is a great question and we don't want to dismiss it, but it's really appropriate for the environmental phase of a project.

- What is the depth of the Madrid tunnel? What are the depths and widths of each portal of that tunnel?

Our tunnel expert is not necessarily familiar with the depths; however, you can look this up on the internet. All portals are located above level ground. They all are at or above sea level. The portals all end up at zero elevation otherwise it is hard to drive in.

Outreach

- How often are committee meetings currently being held? Are meeting minutes being taken? Will they be made available to the community?

We have at least 4 rounds of committee meetings planned during the study. The frequency depends on the study process and information that comes out of the study. We have actually had 3 committee meetings in this first phase of the process. Committee meeting information is posted on the website and the community is welcome to attend. The next round of committee meetings are



scheduled for June 9th and June 25th. As soon as we mail the notices out to the committee members, we will post the meeting information on the website.

- Are meetings being videotaped and broadcasted? Are they available to the public?

Meetings are digitally recorded and video-taped and available to the public upon formal request

- Are minutes available for the community/committee meetings?

Yes. They are posted on the website. Meetings are also digitally recorded and video-taped and available to the public upon formal request

- Can all questions and answers from the 710 meetings be made public, not just the most frequently asked questions from the website?

Yes. They will be posted on the website. We have done that for all the previous meetings

- How long after the meeting are minutes available?

It usually takes a week to post them on the website. We have to make sure that they are thorough. It is a process.

Environmental Document

- Can you explain a little more about the environmental document? How does it work when you are covering 5 zones? Who receives it and writes it? Does it cover all 5 zones or is there a separate one made for each zone? Are decisions about the appropriate zone made prior to the document? Who writes it? Is there a review process, etc.?

We are not doing an environmental document at this time and that is not the object of what we are studying. For discussion purposes only, let us assume for the moment that the route neutral technical feasibility study is done and we determine that some or all of these alternatives or zones can be tunneled through. Certain zones would have certain challenges and that is the end result of the study. Assuming that the decision is made to proceed, most likely it would be either Metro and/or Caltrans that could be responsible for the environmental document. There could be a Joint Powers Authority set up with a number of cities that could also be responsible. All of those are decisions that would need to be made. The entity that prepares that environmental document would be responsible for writing it. It would be written in-house by staff, or, as it is done quite often, consultants may prepare either portions or the entire document. The entity that prepares that document, whether it is a JPA, Caltrans, or Metro, would be responsible for the contents of that document.

The environmental document would then go through an approval process. If it is cleared under strictly CEQA, most Joint Power Authorities or agencies like Metro have existing authority to find a project compliant under CEQA. If we are seeking federal funding than we would need to clear this



under the National Environmental Policy Act (NEPA). That document, regardless of who prepares it, will have to go through Caltrans if it is a highway type project. We would then review that document and approve it under the Federal Highway Administration (FHWA). If it is under NEPA, we would do so with the consultation of the FHWA. There would be a record of the notes and notice related to the decision. There is a whole series of steps, including scoping, where you seek input from the community. As a part of that process, you begin to make decisions about alternatives or zones. Do we narrow it down? Do we do all of them? It would be one document that would cover all of the Zones or one Zone. There would be one document that we would need to examine all the environmental impacts in order to make a decision as to whether you have a project to move forward with a tunnel or not.

- In the case that there is an environmental document process, would the overseeing body be the County or State?

It could be City, County or State under CEQA. State would have to play a role under NEPA. Again, all of those are great questions that would need to be answered if a decision is made to proceed with a tunnel and we formulate either a JPA or use an existing entity.

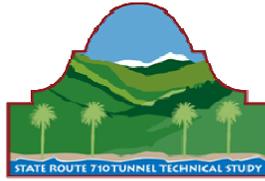
- In the case that there is an environmental document process will an Environmental Impact Report (EIR) be done on a specific zone, or all 5 zones? Could that determination as to whether an EIR needs to be done be made prior to the EIR taking place?

Again, we have to go back to the standard answer, which is today we are doing a route neutral tunnel technical feasibility study. We are not doing an EIR, and we are not really discussing an EIR, nor has a decision been made to proceed with one. What you begin with in an environmental document is a need to solve a problem and define the purpose or the need of the project. Depending on the scoping process, we may determine that Zones 4 and 5 are not necessary and we should only be looking at Zones 1, 2 and 3. That decision is made during the environmental document process, as a part of scoping and the beginning of due process. There are lots of alternatives out there and you will get lots of options, but the purpose and need is what drives the decisions that involve the environmental document process.

Study Conclusion / Caltrans Owned Property

- If we decide to go with the tunnel, will there be meetings on what to do with the Caltrans-owned properties in the different communities?

Yes, there will be. Right now, we are conducting a route neutral feasibility study. Depending on the results, at some point in the future, we may be making some decisions to do an environmental document. Normally during the administrative process of doing an environmental document, there are a couple of stages where you make decisions. Administratively, you would normally make decisions during scoping or at completion of environmental document on the status of existing houses. Certainly, there are a large number of tenants that live in properties that are going to be



very interested as we move into that phase. We have not made a commitment to do anything yet, but will keep them informed.

- I am one of the residents on Bedford. You drilled out by my house. I would like to thank you for coming back and cleaning up the boring area. I have a two part question. Based on what this gentleman asked you, the final results from your study won't come out until May or June of next year. At that point, do you think that you (Caltrans) will make the houses available for sale to residents? The second question is a concern when I hear that there are committees that are going to make those kinds of decisions. I think basically, it is Caltrans' decision to sell the houses to the tenants.

There is one graphic showing the conceptual study being done by September and another graphic showing it final study as being done by Spring of 2010, but we are pushing for much sooner because we need the information. The decision is going to be made by the State. There is not a committee that will make that decision. There are several places in where that decision might be made. There is a potential for a decision to be made via the Legislature. There has been legislation regarding the sale of those houses. The Executive branch of the government, under the Governor himself, could also make the decision. His office is also examining whether those properties should be made available at a point in time, which is potentially much sooner than later. Caltrans will make an administrative recommendation. The decision will ultimately need to be made by the State of California. It would not be an appropriate time to make this kind of an administrative decision for the feasibility study. We would need to enter into the environmental document phase of a project, go through the scoping process and narrow it down to one or two alignments. In the environmental document process, the issue would be whether to sell the properties completely as-is or reserve an underground easement for future tunneling. Those are decisions that would best be made during scoping of an environmental document; however, that doesn't mean that Caltrans has the final approval. It could be made at another level of government; either in the Governor's office or the State Legislature. It would be appropriate in the environmental document phase to make those decisions.

- There was a committee hearing held yesterday for AB 113, which was authored by Assemblyman Portantino. It was regarding a bill stating that all properties would be sold (related to SR-710), without consideration for a surface freeway. It was my opinion in watching this that the reason it wasn't voted on is because representatives from Caltrans and Metro encouraged legislators not to support the bill until additional information was provided in 6 months. Is that possible?

It is not known who spoke at the hearing. It could be possible because aside from the Legislature, there is a potential government interaction from the Governor that could be completed independent of the administrative process that we are currently going through. We are not aware of any Caltrans staff testimony but it could be possible.



- Can you project how the houses would be removed per portal?

No. We have not begun looking at that overall. However, in El Sereno, no houses would be removed and in fact there is a large spot of the land that could be returned to the community as a park or some other facility. At the north end, possibly the Sequoia School could be saved, although it is near a potential portal. We have not begun to look at portals at all in Zones 1, 2, 4 and 5 in terms of where they would be located and what the residential properties in that area are.

Other

- Zones 4 and 5 have Super-fund sites. Is that likely to eliminate them as geotechnically unfeasible?

Not necessarily. We need to be aware of these sites as a matter of concern, but it doesn't eliminate that zone from being technically feasible for tunneling. It does raise questions about how it you would appropriately handle the hazardous materials, how you would protect your workers, how would you dispose of any material that is coming from those particular zones. It doesn't automatically make it infeasible for tunneling, but it certainly raises questions about how it would be done in a safe manner.

- In one of the slides of the presentation there are mitigation criteria with various criteria. They are seismic, soil type, and water contamination. Is there a weighting factor for those criteria?

We don't have a weighting factor at this point. We are beginning to look at the data. We will need to look at the detailed criteria as part of our analysis.

- Would exploration of 2-4 million cubic yards of the replacement that is cut and covered have a certain geological aspect to the character of the materials that is going to be excavated down to 150 feet?

It is not a straight forward answer. In certain areas the excavation material at cut and cover areas may be similar to those at tunnel elevation and some areas it will be different. The current focus is to evaluate the material potentially encountered for the tunnel and not evaluate the material for cut and cover tunnel. This will need to be looked at during the environmental document phase.

- The Los Angeles representative on the Technical and Steering Committee was not present at the last two Steering and Technical Advisory Committee meetings according to the minutes. Is this correct?

We do not recall. NOTE: The Mayor's office and Council members from Districts 1, 13, and 14 have been periodically briefed and receive information on study progress since inception.



- Would there be a study to see if we would allow/plan for wireless companies to have cell sites in the tunnel?

That is a possible revenue generating opportunity. It would not necessarily need to be part of a study so much as a determination of whether it can be done or not. Please recall that here in California we try to discourage people from driving while using cell phones. That does not mean that there would not be a need for passenger communication devices, or our own communication devices that could potentially be wireless. Assuming that route neutral technical feasibility is done, and you get into the environmental document writing phase, wireless communication would be considered. It could hopefully create revenue for the State of California to for all the things that we need to do.

- Of the consultants that are working now, and Caltrans, what is their experience in road tunnels? If they do have road tunnel experience, what is the largest diameter and longest lengths?

Steve Dubnewych: I am with Jacobs Associates and we specialize in tunnel design and construction management, program management. We do have extensive experience working on tunnels. We just finished the design with Caltrans on the Caldecott tunnel in Northern California. We have also worked overseas on several projects in Australia. Diameters are in the range of 40-45 feet, and the lengths vary.

Bruce Schell: As a geologist, it doesn't really matter whether it is a road tunnel or a sewer tunnel or anything else. We have done 5-6 tunnels in the last 10 years or so. They were road tunnels ranging from 20-40 feet in diameter.

Yoga Chandran: My involvement is mostly with water tunnels and sewer tunnels, not necessarily with road tunnels. Diameters are up to 20 feet and lengths are a couple miles long. We also have another consultant that is not here, that is ILF with extensive national and international tunneling expertise (over 500 miles of tunnel all over the world).

Doug Failing: I personally have done a road tunnel. I have done drainage tunnels and other things in projects that we have done. A tunnel is a tunnel. We have adequate experience and expertise that is available to us, not only through our staff but through consultants and we are very comfortable that we are gathering adequate information in order to make decisions that will be done as part of this route neutral tunnel technical study.

NEXT STEPS

The meeting concluded at 8:38 pm. At the meeting conclusion, Rebecca Barrantes, Community Outreach Project Manager thanked the community of Pasadena for their participation and assured them that they would be kept informed throughout the Study. She also informed audience of upcoming Steering and Technical Advisory Committee meetings, as well as community meetings in La Canada, Glendale, Alhambra, Monterey Park, San Marino and North Eastern Los Angeles.