



# City of Palo Alto

## City Council Rail Committee Staff Report

(ID # 9049)

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**Report Type: Action Items**

**Meeting Date: 3/21/2018**

**Summary Title: Community Roundtable Meeting - Trench and Tunnel White Paper**

**Title: Report on the March 6, 2018 Community Roundtable Meeting on the Trench and Tunnel Grade Separation White Paper**

**From: City Manager**

**Lead Department: City Manager**

### **Recommendation**

Information report only, no action required.

### **Discussion**

On March 6, 2018 the City held a community roundtable focused on the Trench and Tunnel White Paper prepared by Mott MacDonald (white paper can be viewed online: [www.cityofpaloalto.org/connectingpaloalto](http://www.cityofpaloalto.org/connectingpaloalto)). The meeting was well attended with over 200 participants. Staff began the meeting with a summary of the White Paper followed by a presentation by Mark Christoffels, the Chief Executive Officer/Chief Engineer of the Alameda Corridor East Construction Authority in Southern California. Mr. Christoffels shared his experience overseeing a major transit project in Southern California that included building a trench. The second half of the community meeting was devoted to roundtable discussions of the following questions:

1. Are there questions you didn't get to ask about the presentations we just heard?
2. It sounds like a citywide tunnel is technically feasible and could have benefits because of reduced construction impacts and property impacts, but City staff has identified several significant impediments: the cost of construction, the approval needed from adjacent cities, the need for 2% grade approval from Caltrain and ongoing operating and maintenance costs and other agencies. Do you agree that these issues are serious impediments and if not, why not?
3. Construction impacts are going to be a major challenge with any grade separation alternative, including the trench and tunnel options. One example is

the need for a “shoofly” track around the construction. A shoofly of various lengths would be needed for all of the trench and tunnel options and could mean closing all or a portion of Alma Street for the duration of construction (3-5yrs). Do you have questions about this issue or information that would be helpful for you and your neighbors to understand the construction impacts better?

4. Over the next couple of months, the City will be narrowing down the list of grade separation alternatives from over 34 discrete ideas we’ve received at a series of round table meetings like this to a short list of 4 to 8 alternatives for more in-depth study. Tell us the one option you think should definitely stay on the table – either for the one grade separation you are most interested in or for the entire corridor?
5. Are there grade separation ideas that you think should be taken off the table?
6. As we continue exploring grade separation options, we want to get more residents of Palo Alto involved in the process – and not just residents who live along the rail corridor, as this will affect all of us. Can you suggest some ways that we can get more people involved?

With the great attendance turnout at the meeting, staff floated to assist in the roundtable discussions instead of sitting at a table and facilitating each discussion. In many cases, citizens self-organized for the discussion and would ask staff for assistance as needed.

The room was organized in a way that allowed each table to actually write on the table itself in order to capture questions, ideas and comments. This format contributed to the energy and engagement in the room to make this a very lively meeting. Attachment A summarizes the written feedback heard and written at the community roundtable discussion.

Citizens came prepared and contributed many thoughtful questions and comments. This information, in addition to the input from other roundtable discussions, technical studies and reports, will provide the needed context and data for the Rail Committee to begin narrowing the broad list of grade separation ideas to a shorter list of four (4) to eight (8) ideas to study in more detail. While staff is still evaluating the feedback from the recent community roundtable discussion a few key takeaways include:

*Deep bore tunnel – citywide*

There remains, although certainly not universal, considerable hope and desire for a citywide deep bore tunnel. The notion of potentially lower construction impacts, reduced noise, and recapturing land above a tunnel make this idea naturally very appealing to some discussion participants. Staff asked participants to suggest potential solutions to the numerous and significant constructability challenges in building a

tunnel, including the estimated \$3 billion construction cost; necessary approvals from adjacent cities; the need for 2% grade approval from Caltrain, as well as ongoing operating and maintenance costs. Ideas to address these challenges included monetizing the land value capture, state and federal funding, creation of a multi-city joint powers construction authority, and hopes that the business community and Stanford could assist with funding. These thoughts along with other participant ideas are included in Attachment A.

#### *City wide trench*

There appeared to be less interest in a citywide trench, as the cost and construction impacts in particular were seen as extreme. Significant concerns about a shoofly that would likely require two lanes of Alma to be closed were troubling. The traffic impacts related to a shoofly and response times for emergency vehicles were raised by a number of citizens, although some wanted to fully understand how other grade separation alternatives would be constructed (i.e. would other design options also need a shoofly?), before considering this a fatal flaw.

#### *Partial trench (e.g., East Meadow and Charleston crossings)*

There appeared to be significant interest in further exploring a south Palo Alto trench for the East Meadow and Charleston crossings. The close proximity of the crossings, the potential for limited property impacts and lower cost than a citywide trench or tunnel were appealing to some attendees.

#### *Other takeaways*

A recurring concern among participants was the potential property impacts and eminent domain. In addition, some citizens would like to see elevating the rail line be reconsidered while others felt strongly that elevating the rail line should be off the table due to noise and privacy concerns. Another idea, separate from a trench and tunnel was the closure of the Churchill Ave. crossing and conversion to a bike/pedestrian underpass, while also improving traffic flow on Embarcadero Road.

Another recurring concern related to the meeting's focus on one set of design options (trenching and tunneling) without more context about the other options. This suggests a real eagerness for the screening process that the Rail Committee is poised to undertake. Members of the community want to compare ideas, narrow the field of options, and get more information about those ideas that are considered most viable.

The ideas discussed at this community roundtable provided additional input for the Council to consider. As previously stated, this information, in addition to the technical studies and reports, will provide the needed context and data for the Rail Committee to begin narrowing the broad list of grade separation ideas by June 2018 to a shorter list of four (4) to eight (8) Alternatives for Study.

#### **Attachments:**

- Attachment A: Copy of Reformatted Copy of Roundtable Comments 03.06.18 (2)

Comments from Tables at Community Roundtable on Grade Separation (March 5, 2018)

Table #	Table #1
1	Study option like Blemont with road down & tracks up a bit. Stop studying trench/tunnel options that cost \$billions that we don't have.
1	Move past heavy rail to light rail solution
1	Why isn't there a "JPA" for caltrain grade separations?
1	Value capture just part of solution. Factor in costs of closing of Alma traffic time & business leave. Minimize eminent domain.
1	1) More thoroughly explore the value capture for land made available by a city-wide tunnel. 2) Engage actively tech companies & Stanford for contribution & input to preferred options. 3) Work with neighboring cities (Redwood City to Sunnyvale) for a more integrated and likely cheaper solution.
1	How is the innovative energy of Silicon valley being engaged in suggesting alternatives? What are the impacts on businesses in the city during construction and afterward? Can there be a serious study of how to monetize the ROW for tunneling and covered trenches i.e. Bus Bartin Study. How can citizens contribute to the effort to evaluate each plan? The total costs of each alternative have not been evaluated. Such as closing Alma or restricting traffic to 2 lanes for 5 years. How are impacts during construction and after to be quantified for comparison? Such as traffic, access, etc. Has there been a design of an interchange between Alma & Embarcadero? Are there traffic impact studies for the various alternatives?
1	
	Table #2
2	Ridership: is rail route appropriate?
2	Why isn't there a JPA for grade seps?
2	Needs multiple pedestrians underpasses like PAMF one
2	#4 South Palo Alto Trench Charleston Meadow
2	Content sensitive solutions? What happened.
2	Are there any realistic options to avoid costs/complications related to freight?
2	#2 Involve CARRD!!
2	#2 Study tunnel option!! Not with creating and business wealth in Peninsula and Stanford engineers
2	Is this called a "heavy rail" since we do have freight (31 day)
2	Freight could be on surface or relocated
2	Want to hear about plan for financing and fund raisers
2	Businesses pay Trans?
2	Can we relocate freight?
2	Walk with surrounding communities
2	Goal: personal property (houses) need to be protected
2	#3 How many houses would be taken? Would 2 lanes be open in Alma? Would bikes be prohibited (yes) on Alma? <u>Sidewalks</u> : Look for long-term benefit. Find ways to make ir work, not short-sighted
2	#3 Effect on resident cars getting out garbage, Fedex, noise
2	<u>Funding</u> <u>Financing</u> Plan? (Tax PG&E Businesses Trains)

2	#5 – Trains elevated overhead – Do not close Churchill!
2	#6 Good turnout longer. People won't get involved unless they would be effected (Alma/Churchill residents )
2	Why isn't Stanford, Facebook, Google, Microsoft, Papetiere participating with money of the?
2	Explore hybrid solutions?
2	Process doesn't appear transparent
2	When will Trump be impeached?
2	When will Pence be impeached?
2	#5 off the table -underpasses –overpasses
2	Minimize residential property loss
2	Why no big-picture thinking here in Silicon Valley?
2	#2 Learn more from Mark and his can-do attitude
2	#2 please be creative and try harder. Make some deals, tax some corporations
2	#2 we seem scarred (F.U.D. [fear of uncertainty and doubt])
2	#2 please keep tunnel as 1 of the 48 options!
2	#3 Josh needs to do a study. How many lanes closed? Give us some info. Residents access. Protect personal homes
2	#5 taking homes. Elevated tracks. Take off table.
2	#6 online
2	Consult with Elon Musk, MIT, Stanford, Google
2	Emphasize long term benefits to population instead of fear, uncertainty + doubt
2	Close California station + trench S. Palo Alto into Univ. Av. Station

**Table #3**

3	Options to keep on table for grade separation: Viaduct w/ sound barriers. No property take w. dropped roads & clover leaves. Aestheticallt pleasing. Bike & pedestrian trail underneath. Is a viaduct one of the 40 options? For the boring options what is the cost of the boring equipment relative to the construction cost? If other jurisdictions also bored, would sharing the cost of the equipment dramatically reduce the boring cost? Options to take off the table: take our citywide trenching but what is its cost relative to viaduct? need more information. How can we better engage the community? Sidwalk outreach, at Farmers markets & parks etc, meet people where they are rather than expect them to come to you.
3	Remove ideas that upset many properties. Don't take people's homes.
3	One idea to push is the tunne. Least impact on community, covers all rail crossings. Minor impact during construction.
3	What are the projected costs of the above ground or at grade options? What are staff suggesting if sub grade is too expensive? Why didn't the presentation mention that staff thinks sub-grade us too expensive? Why weren't the staff suggestions about what would work presented? (at this meeting.)
3	Grade crossing priority consideration-raised tracks at Churchill. Citywide tunnel to take off the table for consideration.

**Table #4**

4	1) Have there been pedestrian safety issues with train trenches (e.g. in SoCal)? Have we sufficiently assessed the safety of cars, bicycles & pedestrians for the options? Which are the safest options for pedestrians & bicycles? 2) Can the freight trains be re-routed? 3) Can cars be routed above the trains? 3) Which crossings are being considered for blocking? 4) Can the trains and cars be lowered/raised part-way? 5) How many homes will be impacted? And how could we afford to make them whole in today's market? 6) For Churchill & East Meadow, please consider tunnels for pedestrians & bicycles, not for vehicles. Close to vehicles like Homer Ave. 7) Please put more work into financial projections of the options. 8) There will always be impediments-these are challenges to be solved. We have the brightest people living here. Keep the long view. 9) Consider a 1% grade or could Menlo Park be convinced to start the descent further out ( & same w. Mountain View) to avoid 2% grade. 10) Idea to stay on table- Pedestrian/bicycle crossing tunnel at Churchil & Meadow-similar to Homer Ave.
4	Keep tunneling/boring.
4	Question: If build a tunnel, does the railroad own the ground & air rights above it?
4	Concerned that the financial impediments to the more expensive options suggest the City has not been creative enough in finding solutions.
4	Despite the enormous cost of tunneling (or trenching), the alternative will hugely, negatively transform the city. A tunnel (or covered trench) would positively transform the city with green (illegible) (& limited development) unifying the E. & W. sides of the railroads.
4	Palo Alto is divided by the tracks. It is a hundred year impact to what we're doing. Can we unite the city by either a raised track or a tunnel?
4	The bike/pedestrian Alma St construction burdensome, but doable, if improve efficiency of the north-south streets, plus access to existing businesses on Alma.

**Table #5**

5	Provide access for emergency vehicles. Hopw will the city help families whose houses will be impacted (taken by eminent domain) to minimize their financial loss? How do you mitigate construction challenges? Closing Alma would close the city. Televised future meetings on cable & have access for all in questions. Thinks of bicycle safety.
5	Send letters to homeowners who would be impacted by the plans & solicit their activity in planning for success.
5	So what would you do to Churchill & N. PA?
5	Move the train down 101?
5	Block off some crossings, we don't need Embarcadero & Churchill. Block off Churchill?
5	They make tunnels work in Europe why can't we?
5	We are very panicked.
5	What is 1% grade from
5	High speed rail schedule?
5	What are the 40 options the City has?
5	Close off Churchill, no seizure of homes by eminent domain.
5	How can you close Alma for so long?
5	#5 A) Serve a letter to all residents/landlords that would be effected by this project. B) Discuss on KQED-Michael Krazing show C) local cable TV show
5	#4 At minimum: A) close Churchill & E. Meadow to calm traffic. B) Grade separations for all crossings to accommodate 20+ trains per hour.
5	Shoofly: Alma can't be reduced by 2 lanes-traffic is already horrible.
5	What is Mountain View doing? Trenching? And Menlo Park?
5	What about emergency vehicles if you reduce Alma?

5	#5) I feel the City is trying to direct us into a solution that they city wants or to remove solution the City doesn't want.
5	#3) Closing one lane each way on Alma will have very negative impact on the traffic not just Alma, because the traffic will spill into the other city streets. The city needs to figure out what are the possible way to reroute the traffic.
5	1) Can we join forces with other cities for less costly overall option for tunneling doe to economy of scale?
5	Do all options require eminent domain?
5	4) I think the city should still consider the tunneling solutions we should look hard in the possibility to raise fund to pay the bill.
5	2) While I agree tunneling is more difficult, I think they city should take a harder look to raise fund for this option. I think this regions have enough wealthy businesses that should help pay for it. Equally Stanford.

**Table #6**

6	"S. PA High-line" Why can't we tunnel only in S. PA? Why only looking at trench? We can make our city better w/ the bike access if the cost was similar. PA has more crossings that other cities. Which car/track crossing can we eliminate, Meadow, Churchill? Pedestrian only underpass. I live in S. Palo Alto and I'm very concerned w/ the safety at the Charleston & Meadow crossings. What we are currently doing is not enough, children & random drivers are not safe. Going under is the only responsible option. Palo Alto is a rich city w/ rich homeowners-we can afford to do the right thing. I am very interested to cover the tunnel w/ bike paths & city parks-not development. Thank you, Rebecca Morasca
6	Can we tunnel under Alma & reclaim land no shoefly for construction.
6	Can the tracks be re-railed to El Camino? b/c commercial not residential.
6	What can be done to reduce noise?
6	How much property takes from a split alternative.
6	Fund/Financing: is it possible to combine funding sources to avoid cash flow drawbacks or onlt value capture.
6	What is noise impact of elevation/split. Electric trains? Freight trains?
6	How close does development need to be to the tracks/grade separation to generate value capture funding?
6	Please provide more detail on funding/financing options. Show comparables with other jurisdictions.
6	Stay on table: trenching for Charleston/ E. Meadow must stay on. Segue to the trenching at Churchill & Oregon (eventually as current structure ages) Southern Cal street station not so expensive?
6	Rhetorical! Are not the traffic distruptions and auxilliary requirements as the trenching options.
6	Is there any other options that has the same safety problems for large teenage/child bike traffic? E.g. underpasses appear narrow, steep, or missing.
6	Bonding off property taxes then repay with property value?
6	Take off the table: car overpasses, fully raised tracks.
6	1) How do you keep water out of the trench? 2) Where do find \$4B 3)Does SP own development rights over ROW? 4) What does SP think about these options? 5) Can Embarcadero be fixed?
6	Not enough info here to really make decision or answer questions.
6	Construction impact: if Alma has to close, can work be done to improve N-S roads like Middlefield, perhaps closing some inersections, widening, remove lights?
6	We like the idea of closing 2 of the 4 (?) crossings (Churchill & Meadow), and add bike/ped overpass or underpass there as well.
6	Grade separations to keep: 1) tunneling 2) split (raise rail, lower road) 3) trenching South PA 4) pedestrian-only tunnel crossings (no cars) at Churchill & Meadow. Assumes no narrowing of Charleston at Alma.

**Table #7**

7 1. Trench under E. Meadow & Charleston, build trench one track at a time. 2. Trench under Churchill and north. Get Elon Musk's Boring company to help keep freight at surface and passenger trains?

**Table #8**

8 Q: Is this a meeting to steer public opinion away from the trench?!? (e.g. ohhh it "costs too much," see here chart...) Trench to East Meadow! (it's a good in between solution) Build forever on Alma (if you need!) It's gonna impact Palo Alto for 100+ years! Should tell people that! It's compelling!

8 Increase awareness. flyers to houses nearby the tracks. It's how I learned about it.

8 Palo Alto Weekly 2/23/18: \$700M Santa Clara Co. funding for grade-separation. Palo Alto lobbied behind Sunnyvale & Mountain View-council members playing catch up. Why isn't Palo Alto leading adjacent cities seeking major funding from Sacramento & DC (to bore tunnels as far as possible as San Gabriel did) Bring back elevated tracks option: cheaper, Caltrain wants it, affects 2 houses on each side, could sell rights to surface, minimal impact on cross traffic. Stunned that "temporary track" will take half of Alma for \_\_\_\_ years

8 #2) Yes, I agree with the staff analysis. #3) Building a shoofly South of Oregon Exp should-at most- take up only one lane of Alma St. #4) Keep the elevated train tracks (berm) option on the table, especially for the Charleston Road and Meadow Dr. crossings. #5) Take thge Palo Alto Ave. grade separation off the table. #6) A mass mailing to all Palo Alto residents, or include updates in the Palo Alto utilities bill.

**Table #9**

9 Will half trade up have down effect shoefly and close road for how long?

9 \$1,000 employees tax/yr for 2/3 of employees X100,000 employees X30 years is \$2B

9 Get state money for costs of minimal solution. They should pay for the cheapest solution. We pay for a better solution.

9 Deep bored tunnel (twin) should not be off table yet. Many should be from bond issue so future generation will pay as they will enjoy it. For citizens to accept taxes to find it, they need compelling vision that will renew city by removing the N-S barrier in our city.

9 Table of all impacts of all alternatives.

9 -Cost usage of land for other purposes; -loss of homes; -closure during construction of part or all of lanes on Alma and cross-streets

9 Re. 1. Do protect on a city-wide basis, coordinate all

9 Re. 2. Yes, trench/tunnel problems

9 Re. 3. Put 'shoefly' trench on Park Blvd (not Alma)

9 Re. 4 Put all rail at surface, or above with min new underpasses. Build rail cross structure to reduce noise concerns

9 Re. 5. Trench & tunnel = off

9 Re.6. add'l roundtable set-ups

9 Timeline: Ag. 2021 -Aba -<65 homes. PAUSD grandfathered in \$2m is low.

**Table #10**

10 Possible combo: trench S. PA & Alma to El Camino raised or lowered? Isn't 2% required for S. PA trenching also (for San Antonio station)? Is there enough Caltrain ROW at S. end of city to shoofly w/o "stealing" from Alma?

10 Are we negotiating with SP yet? It seems we should, at least about the 2% grade. If trenching leaves Meadow closed should Charleston be single land (narrowed)?

10 How can we proceed without close coordination with Menlo Park and Mountain View (at least)? i.e. do we need a regional JPA a la San Gabriel Valley?

10 How to understand the revenue opportunities for freeing up the existing tracks? Put Alma over RR tunnel? Sell old Alma land for housing/commercial; use proceeds to pay back bond?

10	Who owns the track? SP? Who is Caltrain? We think bored tunnel should stay on. Get rid of 1a, 1b, 2a, 2b-especially option that leaves out E. Meadow: 3+ schools rely on that crossing! All 6 of us agree. Pls report on what is happening in Boring technology developments improvements. What is changing? What is the future? What is happening in Japan? China, Germany in boring? Elsewhere?
10	Who owns the air rights above tracks? Can we negotiate for using that space for Alma St?
10	Diesel cargo trains in tunnel?
10	Boring technologies getting better. Driverless cars. Should we wait to decide?
10	Given the 5 yrs of resident's discomforts during 5yr construction, & the cost, & the future population of the region it makes sense to do the project in whatever way gives the greatest benefit for the future. Especially bad example is BART-slow, nonstandard rail gauge, horrible, ear damaging decibels-> bad planning all around.
10	Department/groceries in buildings above each station? See Tokyo
10	We are Palo Alto, we are creative and not afraid to take risks for the long term. Can we do tunnel and develop on land by going thru some financing options and build a connected Palo Alto from East to the West? We need to think long term for 100+ years. 5 years of discomfort is a great reason that we don't do something temporary and ugly.

**Table #11**

11	NO TAKING OF HOMES
11	Can cost be offset by Stanford or businesses? Increase business transportation taxes?
11	Can we enhance the crossings at Oregon and Embarcadero to avoid taking of property?
11	Build tunnel, tax businesses for funding
11	Can you negotiate a deal for these kids displaced to still go to PA schools?
11	If our property is acquired, can my kids stay in same school district
11	How will city compensate for owner who loses his house? Cash or land?
11	When will the list of houses owner informed that they lose the houses?
11	Compensate homeowner by giving out lands
11	Can government compensate to give land and pay for building house
11	Housing shortage, no houses should be taken
11	What happens to the people that have to move?
11	Safety of highschoolers riding bike East Meadow to Gunn
11	Traffic impact of shoefly – What is the result of the study? Southbound rush hr is already bad
11	How will the city address the taking of property or home to support the rail? Do not take homes or property.
11	Easements on homes near East Meadow – Are they temporary or permanent?
11	Reduction in noise at East Meadow crossing relative to current noise after trenching?

11	How does financing work? What's the likelihood that PA can secure the required funding from the various sources? Can you bury the southern half of the trenching only? Why do officials think that the whole –city option is infeasible? Is it primarily exercise, or is it that it is not clearly necessary? Whatever happens to the grade-level crossing at Churchill, can anything be done to ensure bicycle access for Pali students? A bike tunnel the size of California Ave. would not carry enough traffic. For the southern-only options, will 1% grades worth? Why do the proposals show a 2% grade? How do these studies relative to high-speed rail infrastructure? What's the anticipated O+M case for the citywide tunnel or southern-only tunnel? Have we studies the traffic impacts of closing half the lanes of Alma. 5. Don't bother with elevating the roads over the rail line. San Antonio crossing is huge and ugly. 4. Please do prioritize the boring/tunneling options (either whole city on southern only). They seem best in the long run: quitter, better land use, less ugly.
11	Before spending money on studies details, ask Caltrain if 2% is ok. Otherwise, trench/tunnel is D.D.A.
11	Water table impact
11	1. Short-term/long-term
11	2. Effected distance from construction
11	Tunnel /trench – no homes taken? Overpass – many homes? Underpass – how many? No trench/tunnel – close meadow + Churchill, fix Embarcadero. School safety very important.
11	1. 2 southern crossings should get trench funding
11	2. Churchill should be closed on west side, but left open on east side of tracks so cars can turn left and right onto Alma.
11	a) Ped/bike crossing under tracks
11	3. Widen Embarcadero to include additional lane
11	4. What to do with crossing at San Francisquito Creek?
11	*Trench should stay as one city-wide solution
11	*Any option that takes homes by eminent domain should be taken off table
11	Take off tasks – any option where eminent domain taking of houses
11	How did Berkeley finance tunnel for Bart?
11	Tunnel South Palo Alto alternatives (keep open on table
11	What bond alternative are there to budget financing timing for more costly but long term better solutions?
11	This long-term solution/benefit green belt w/ business's on right-away
11	Value of Alma tunnel righ-away need to be relational to costs (trenching vs. tunneling)
11	Long-term vs. short-term solutions (e.g. Berkeley built Bart and happy long term)
11	To appropriately assess alternatives to meet revenue costs
11	Trench South Palo Alto (Meadow and Charleston and close Churchill)
11	Build South Palo Alto trench before Caltrain electrification!
11	Elevated track idea should be taken off the table
<b>Table #12</b>	
12	How do we come up with a solution that works for the future? How do we account for running high speed rail along schools and houses?
12	Take off: elevated track

12	The questions seem leading, as if the leadership is trying to guide us to their preferred solution! The process seems far too piecemeal by city. Shouldn't there be a larger conversation/planning? Where are we in the process? According to the schedule, you should be eliminating 30+ ideas, where are those ideas?
12	Why are you asking about shoo-fly if you need them for all alternatives except tunnel.
12	If you can tunnel under hay how come you can't stay closer to surface? Why do we need to go so deep? What are the future train traffic assumptions? Can't remove alternatives until we know all the alternatives.
12	Why aren't we considering a Peninsula wide plan (similar to ACE) Need relative costs of all alternatives. What about freight? If not freight, what happens? Equity of N vs South PA. Folks feel pushed to conclusion by staff.
12	When do we know about 2%? What are assumptions at train traffic & design standards? T & T seems expensive, but compared to what?? Any options w/o shoofly? Do we have an appetite for 1/2 a solution (i.e. trench in south only)? What other sources of funds can we access? If T & T not realistic, what is?
12	#4 & #5- Don't have enough data for grade separations today. How can we answer?
12	How likely is it that some of the crossings will be closed? Why aren't we hearing about HSR? What are the costs of the other options? How are the stations affected? Is doing nothing a legitimate option? What is the financial feasibility of trench/tunnel?
12	#2 What are relative costs of all options? Is tunneling in South Palo Alto only really feasible? How does freight train fit in? How should we think about funding? When would we know about 2% exemption?
12	Can we buy out the freight ROW to eliminate this desing criteria? Why aren't we pushing Stanford to share in the funding? (i.e. via GUP) Is there any plan to build pedestrian/bike underpasses 1st before roads are closed, in order to ease transportation barriers?
12	Will the N. Palo Alto power brokers honestly consider a trench only in S. Palo Alto? This is going to be costly & disruptive no matter what, so we need to choose a solution we'll be happy with, rather than a compromise solution. Where is the last of 40 solutions? Why isn't this available for the public to view? Eliminate option: elevated track throughout city (i.e. berm)
<b>Table #13</b>	
13	What options do we have to create a light rail solution? Buy out freight rail, convert caltrain to light rail.
13	Build hybrid like Belmont/San Carlos. Eliminate options that cost \$1B+ and options that put the stations 50' down. Eliminate options that take too long or are not funded.
13	Will they consider lift-able cap? (to get around train car removal problem) Full costs of managing construction & moving of tracks? w/o freight, there are more, better, cheaper options. Any prospect to get rid of freight. Is shoefly only required for trench options?
<b>Table #14</b>	
14	No eminent domain absorbing homes!
14	Can we do this gradually? i.e. one street at a time or like South PA then north PA later? What about cross streets? Like with Meadow or Charleston?
14	We think that the trenching idea should be taken off the table. How to get more people interested: create drama/be controversial
<b>Table #15</b>	
15	<u>OUTREACH</u>
15	Articles in PA Weekly
15	Close the railroad crossings for a whole day. Everyone will want to know what the heck is going on.
15	What are the noise considerations for a lowered train versus a raised train?
15	Do we have to keep stations in mind while we decide?

15	Dow we have to keep freight on this system?
15	Are we coordinating with other cities? Why are we going this above?
15	Cannot close Charleston or east Meadow. Need to keep both available!
15	Finance question: Are large businesses in PA paying their fare share to support infrastructure. Per employee fee? Better property tax parity so residents don't pay all.
15	I agree – yes! This is the largest infrastructure project this city has faced in generations. All the more reason to do it right so it is valuable for generations to come. Let's not be cheap and regret it for decades.
15	Will you really read and consider all these questions?
15	1. What is a feasible budget?
15	2. Is a tunnel a most option b/c the rsailroad will veto?
15	3. What are the noise considerations for an overhead train vs. trench? Can noise be mitigated?
15	Charleston + Meadow both need to stay open and safe.
15	Why Joint Powers of effected cities
15	Overhead all the tracks
15	How much can Stanford pay?
15	Get rid of freight traffic!!! It wrecks the rails, and wrecks your Planning!! Don't wait, and don't say you can't.
15	Are you sure this is going to be obsolete before it is finished
15	Noise for neighbors?
15	Do not be pennywise and pound-foolish
15	To get people involved more, temporarily close Charleston for a day with a sign to come to a meeting about the closing!
15	How about getting rid of freight train traffic?
15	Close the Churchill crossing and just allow pedestrian/bike crossing with an overpass or tunnel.