Attachment B

Staff Comments

The City of Pasadena provides the following comments on the SR 710 North Study Draft EIR/EIS:

Section	Paragraph	Comment
2. Project Alternatives	2.2.3.4 Freeway Tunnel Alternative	On p. 2-69, the last sentence of the first full paragraph reads, "To limit redundant analysis, only the single-bore or dual-bore variation with the best performance and fewest impacts was evaluated." Why was only the option with the fewest impacts evaluated? CEQA requires that the worst-case scenario be considered.
	2.2.3.4 Freeway Tunnel Alternative	This alternative includes an extension of St. John Ave. from Del Mar Blvd. to California Blvd. However, no plans are provided for this improvement. What is the footprint of this improvement and what is the existing condition of the land it would impact?
	2.2.3.4 Freeway Tunnel Alternative	This alternative includes the widening of Pasadena Ave to include a new late from the proposed northbound I-710 off-ramp at Pasadena Ave. to Colorado Blvd. However, no plans are provided for this improvement. What is the footprint of this improvement and what is the existing condition of the land it would impact?
	2.2.3.4 Freeway Tunnel Alternative	This alternative includes portal building with operations and maintenance centers (OMC) at each end of the tunnel, including at the Del Mar Blvd. portal in Pasadena. No details whatsoever are provided for this proposed facility. From the limited information provided, it is not possible to discern the location, layout, height, elevation, mass, bulk, color, or materials of the structure or of any outdoor equipment yards or other facilities. Without such details, it is not possible to consider the OMC's impacts on noise, traffic, air quality, aesthetics, or other environmental conditions. Without such details, the City of Pasadena is deprived of a meaningful opportunity to comment on potentially substantial adverse environmental effects of the project and the document fails to meet the basic disclosure requirements of CEQA.
	2.2.3.4 Freeway Tunnel Alternative	On p. 2-72, the DEIR/DEIS notes that an electrical substation would be required to power the boring machine during construction and for permanent power. This page further notes that "the location of the substation would be coordinated with the Los Angeles and Pasadena Departments of Water and Power." Again, without

Section	Paragraph	Comment
		any details provided about a substation, it is not possible to discern its potential environmental impacts and the document fails to meet the basic disclosure requirements of CEQA.
	2.2.3.4 Freeway Tunnel Alternative	The location of construction staging areas is not provided. Would any construction staging occur within or adjacent to the City of Pasadena? If so, what localized air quality, noise, and traffic impacts would occur?
	2.2.3.4 Freeway Tunnel Alternative	No details regarding the excavation and processing of earth. How many cubic yards of earth would be excavated and hauled offsite? Where would temporary stockpiles be located? Would any crushing or process of earth materials occur within or adjacent to the City of Pasadena that could create air quality and noise impacts?
3.1 Land Use	Table 3.1.3	The DEIR/DEIS states that all of the Alternatives are consistent with each identified Pasadena General Plan Land Use and Mobility Policy. Given that many of these policies emphasize non-auto transportation modes (transit, pedestrian, and bicycle), it is difficult to understand how the TSM/TDM and Freeway Tunnel Alternatives would be consistent with the intent of the alternative mode policies. These policies emphasize the expansion of the current alternative mode network as well as the improvement of the existing facilities in order to better facilitate their use. While the TSM/TDM and Freeway Tunnel Alternatives would include some of these enhancements, their primary purpose is to encourage automobile travel, rather than to encourage transit, pedestrian, and bicycle use. While each alternative may meet the letter of the stated policies, the TSM/TDM and Freeway Tunnel Alternatives do not meet the intent.
3.2 Growth	3.2.3 Environmental Consequences	The DEIR/DEIS states that the Freeway Tunnel Alternative would not increase growth pressures and therefore would not result in growth-related effects. The City of Pasadena disagrees with conclusion.

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		The Freeway Tunnel Alternative would reduce travel times between Pasadena and points south, thus, increasing the attractiveness to commute to or from Pasadena. By providing no local access interchanges between Alhambra and Pasadena, growth pressures are further concentrated near these portal locations. In Pasadena, the largest growth pressures resulting from this alternative would be expected near the local access intersections that are closest to the portal. Minimally, the Freeway Tunnel Alternative is anticipated to increase growth pressures and cause related environmental impacts near the following local access interchanges: SR 134 at Orange Grove Boulevard, I-210 at Fair Oaks/Marengo, and I-210 at Mountain/Seco.
3.3 Community Impacts	3.3.1.3 Environmental Consequences	In regards to the Freeway Tunnel Alternative, the DEIR/DEIS states that: • Maranatha High School and Sequoyah School are "Community Facilities that Could Experience Short-Term Air Quality, Noise, and Traffic/Access Effects" • Maranatha High School is a "Community Facility which Could Experience Long-Term Noise Effects". It is unclear why the Sequoyah School would not experience long-term noise impacts. Regardless, the DEIR/DEIS fails to describe how such effects would impact the operations, community cohesion (e.g., pedestrian access, etc.), or community resources that these facilities provide. The DEIR/DEIS incorrectly states that "none of these schools [including Maranatha and Sequoyah] engage in noise-sensitive outdoor activities on a routine basis." Maranatha has an outdoor athletic stadium (football, soccer, and baseball) and an outdoor amphitheater. In addition Maranatha's approved Master Plan identifies outdoor sports courts and an outdoor pool. Similarly, Sequoyah School has outdoor play areas and outdoor performing

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		arts facilities and operations (plays, band concerts, ceremonies, etc.). How would short- and long-term air quality and noise effects impact these outdoor facilities? Presumably, noise impacts would disrupt outdoor programming and air pollutants could cause respiratory and other health related impacts. Such impacts must be disclosed, evaluated, and mitigated. In addition, community cohesion and access effects are a concern for these schools. Formally and informally, student pedestrians travel to Singer Park, Del Mar Station, Old Pasadena, and other community resources. How would the project affect such pedestrian activity? Again, such impacts must be disclosed, evaluated, and mitigated.
3.6 Visual/ Aesthetics	3.6.3.2 Permanent Impacts	The analysis of visual/aesthetic impacts is limited to 30 view locations and noise barriers. The analysis fails to analyze numerous locations and proposed facilities, which in the City of Pasadena include but are not limited to the north portal operations and maintenance building/facility, the storm water treatment system near the north portal, the electrical substation (location not provided), and the SR 710/Colorado Boulevard interchange option for the ventilation structure. Each of these features could significantly impact views, aesthetic character, and aesthetic quality.
	3.6.3.2 Permanent Impacts	The impacts on the visual quality and character of Old Pasadena are not analyzed. For example, the Freeway Tunnel Alternative proposes six, 50-feet tall, ventilation structures on the Colorado Street Bridge over SR 710. Figure 3.6-33 depicts this ventilation facility with three stacks on either side of Colorado Boulevard, which appear to be designed in a contemporary style and constructed of brick and/or concrete with flumed openings clad or painted in multiple colors. These stacks would be in stark contrast to the aesthetic character of the Old Pasadena Historic District, which lies immediate to the east. The adjacent segment of Colorado Boulevard (within the Historic District) consists of one- and two-story buildings of

Section	Paragraph	Comment
		varying historic architecture that form a downtown commercial district with continual ground-floor storefronts along a zero-setback blockface. The proposed stacks are out of context with this aesthetic character and quality in terms of mass, scale, height, style, and materials. In addition, the stacks conflict with the rhythm, feel, and visual experience of Old Pasadena. These are significant impacts on the visual quality and character of Old Pasadena. As previously noted, the lack of details for this and other proposed facilities (e.g., operation and maintenance building/facility) preclude meaningful comment or consideration of their impacts on the visual quality and character of surrounding portions of Pasadena.
	3.6.3.2 Permanent Impacts	The DEIR/DEIS does not consider the impacts of the proposed operations and maintenance building/facility on views, visual character, visual quality, or light/glare. Given the type of facility, it could likely have significant aesthetic impacts. However, the location of the facility is not identified, nor are any physical details of the facility. Thus, it is not possible to comment on its aesthetic impacts.
	3.6.4.1 Measures for Long-Term Visual Impacts	Measure V-1 Vividness improperly defers mitigation to a future stage. The measure neither specifies where mitigation will be implemented nor specifies what conditions would require mitigation. Furthermore, no performance standard or enforcement mechanism is provided to ensure that impacts are actually mitigated to a less than significant level.
	3.6.4.1 Measures for Long-Term Visual Impacts	Measure V-2 Intactness improperly defers mitigation to a future stage. The measure neither specifies where mitigation will be implemented nor specifies what conditions would require mitigation. Furthermore, no performance standard or enforcement mechanism is provided to ensure that impacts are actually mitigated to a less than significant level.
	3.6.4.1 Measures for Long-Term Visual Impacts	Measure V-3 Unity improperly defers mitigation to a future stage. The measure neither specifies where mitigation will be implemented nor specifies what conditions would require mitigation. Furthermore, no performance standard or

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		enforcement mechanism is provided to ensure that impacts are actually mitigated to a less than significant level.
	3.6.4.1 Measures for Long-Term Visual Impacts	It is unclear why Measure V-5 Built Structures applies only to the LRT Alternative. The Freeway Tunnel Alternative includes structures in the form of ventilation stacks, maintenance buildings/facilities, electrical substations, etc. Such built structures clearly have the potential to significantly impact the visual/aesthetic environment.
	3.6.4.2 Measure for Short-Term Visual Impacts during Construction	Measure V-7 Short-Term Visual Effects improperly defers analysis. Specifically, this measures states, "During final design, Metro (TSM/TDM, BRT, and LRT Alternatives) and Caltrans (Freeway Tunnel Alternative) will identify land uses adjacent to construction areas that may be sensitive to views of construction, staging, and materials storage areas." Identification of "areas that may be sensitive to views" cannot be deferred until a later stage.
	Table 3.6.1	Table 3.6.1 inexplicably concludes that the six, 50-feet tall ventilation structures proposed on Colorado Boulevard would improve the visual quality of the area. The City of Pasadena strongly disagrees with this conclusion. Table 3.6.1 rates the existing visual quality as 3.5, which is between "moderately low" and "moderate". It appears that this scoring does not consider the very high visual power, memorability, visual integrity, visual coherence, and compositional harmony created by Old Pasadena.
3.7 Cultural Resources		The EIR should include maps that identify the locations of historic resources evaluated along with precise descriptions of the work proposed in proximity to each cultural resource. The EIR does not clearly state whether any buildings in proximity to any of the alternatives will be demolished or altered to accommodate the improvements.
		On p. 3.7-23 and 3.7-87, the property at 270 S. Orange Grove Blvd. is listed as being in the City of South Pasadena, but it is actually in the City of Pasadena. Due to lack of specificity of proposed improvements in this area, it is unclear whether

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		other historic resources, such as the Ambassador West Cultural Landscape Historic District and the Ambassador Auditorium, would be affected by these alternatives.
		On p. 3.7-44, the installation of a “Case A” BRT station adjacent to a contributing building in the Old Pasadena Historic District is mentioned; however, there is no description of what this entails to allow the reader to ascertain how this new facility may affect views of the adjacent historic resource.
		The BRT alternative does not evaluate impacts to the City-designated historic sign at 592 S. Fair Oaks Avenue (Monty’s Steakhouse), which is in close proximity to the existing sidewalk.
		Although the BRT alternative shows “mixed-flow traffic” areas associated with this alternative on Del Mar Boulevard, Hill Avenue, Colorado Boulevard and Lake Avenue, it is unclear whether there will be construction of improvements in these locations. At a minimum, it appears that new stations will be established at five intersections along this route, the extent of which is unknown. There are historic resources along Colorado Boulevard between Hill and Lake Avenues, including one that is within public right-of-way adjacent to property at 1304 E. Colorado Boulevard (Foothill Blvd. Milestone).
		P. 3.7-79 contains a brief description of the Ambassador West Cultural Landscape Historic District, which inaccurately describes the contributing features of the district. The district was identified as part of a study of Historic Designed Gardens and comprises seven historic gardens, all of which collectively exemplify the Non-Residential Modern Garden Property Type identified in the study. The Ambassador Auditorium and Hall of Administration buildings were separately evaluated in an EIR for the Ambassador West Project in 2006 with status codes of 3S and 6L, respectively. The Student Center Building was evaluated in 2014 in a Mitigated Negative Declaration for amendments to the Maranatha High School Master Plan with a status code of 5S2.
		On p. 3.7-80, there is an evaluation of the impacts of the Freeway Tunnel

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		Alternative on the Norton Simon Museum; however, there is no explanation of the improvements that are proposed in the vicinity of this building. There are other historic resources near this building and the improvement areas shown on p. 2-61 that could be affected by the project, depending on the extent of improvements proposed, including, the West Colorado Street Historic Auto Row Historic District (eligible for NR, but not listed) and the John S. Hartwell House at 423 Lincoln Avenue (listed in the NR)
		The impacts of the proposed ventilation structures on historic resources are not analyzed. The Freeway Tunnel Alternative proposes six, 50-feet tall, ventilation structures on the Colorado Street Bridge over SR 710 in the vicinity of three historic districts—the Old Pasadena Historic District (National Register), the West Colorado Street Historic Auto Row Historic District at the northwest corner of Colorado and St. John (eligible for listing on the National Register), and the Ambassador West Cultural Landscape Historic District at the southwest corner of Green John (eligible for listing on the National Register). The proposed ventilation structures have the potential to significantly impact these historic districts due to changes in their setting, character, context, and integrity. For example, Figure 3.6-33 depicts the ventilation facility with three stacks on either side of Colorado Boulevard, which appear to be designed in a contemporary style and constructed of brick and/or concrete with flumed openings clad or painted in multiple colors. These stacks would be in stark contrast to the setting and feeling of the Old Pasadena Historic District, which lies immediate to the east. The adjacent segment of Colorado Boulevard (within the Historic District) consists of one- and two-story buildings of varying historic architecture that form a downtown commercial district with continual ground-floor storefronts along a zero-setback blockface. The proposed stacks are out of context with this setting and feeling in terms of use, mass, scale, height, style, and materials. In addition, the stacks conflict with the rhythm, feel, and experience of Old Pasadena. As previously noted, the lack of details for this and other proposed facilities (e.g.,

Section	Paragraph	Comment
		operation and maintenance building/facility) preclude meaningful comment or consideration of their impacts on Pasadena's historic districts.
3.13 Air Quality	3.13.3.1 Temporary Impacts	The Air Quality analysis does not compare the project's construction emission to the South Coast Air Quality Management District's regional significance thresholds. Based on the daily pollutant volumes shown in Table 3.13.4, all build alternatives would exceed these thresholds.
	3.13.3.1 Temporary Impacts	The Air Quality analysis does not evaluate the project's construction emission in accordance with the South Coast Air Quality Management District's Localized Significance Threshold (LST) Methodology. Given the substantial daily pollutant volumes shown in table 3.13.4, it is assumed that emissions would exceed the LST screening thresholds at numerous locations.
	3.13.3.1 Temporary Impacts	The Air Quality analysis does not evaluate the localized impacts of haul truck and other construction equipment activity at the north portal location (loading, idling, equipment congregation, etc.). What impacts would such activity have on sensitive receptors in Pasadena?
	3.13.3.2 Permanent Impacts	The Air Quality analysis does not evaluate the localized impacts of the proposed north portal operations and maintenance building/facility. Given the volume of equipment that may be staged at this site, localized pollutant volumes/concentrations (including diesel particulate matter) may be significant.
3.14 Noise & Vibration	3.14.3.1 Permanent Impacts	The Noise and Vibration analysis indicates that pile driving may be required and blasting may occur in the cut-and-cover segments. Such activity could cause significant noise and vibration impacts to Pasadena's structures, residents, and businesses. The Pasadena Noise Restrictions Ordinance (Pasadena Municipal Code Section 9.36), Section 9.36.080 - Construction equipment states, "It is unlawful for any person to operate any powered construction equipment if the operation of such equipment emits noise at a level in excess of 85 dBA when measured within a radius of 100 feet from such equipment." Pile driving and blasting normally generate noise levels in excess of 85 dBA at a distance of 100 feet. Noise levels in excess of this standard are normally considered significant

Section	Paragraph	Comment
		impacts pursuant to CEQA in Pasadena.
	3.14.3.1 Permanent Impacts	The Noise analysis does not evaluate the impacts of the proposed operations and maintenance building/facility at the north portal. Given the potential for equipment to be operated and staged at this site, noise impacts may be significant.
	3.14.3.2 Temporary Impacts	The Noise analysis does not evaluate the impacts of haul truck and other construction equipment activity at the north portal location (loading, idling, equipment congregation, etc.). What impacts would such activity have on sensitive receptors in Pasadena?
3.24 Construction Impacts	3.24.3 Community Impacts	The DEIR/DEIS does not consider the impacts that construction would have on the operations or pedestrian access to Maranatha High School or Sequoyah School. Both of these schools have outdoor facilities and programming. Maranatha has an outdoor athletic stadium (football, soccer, and baseball) and an outdoor amphitheater. In addition Maranatha's approved Master Plan identifies outdoor sports courts and an outdoor pool. Similarly, Sequoyah School has outdoor play areas and outdoor performing arts facilities and operations (plays, band concerts, ceremonies, etc.). How would construction phase air quality and noise effects impact these outdoor facilities? Presumably, noise impacts would disrupt outdoor programming and air pollutants could cause respiratory and other health related impacts. Such impacts must be disclosed, evaluated, and mitigated. In addition, community cohesion and access effects during construction are a concern for these schools. Formally and informally, student pedestrians travel to Singer Park, Del Mar Station, Old Pasadena, and other community resources. How would the project affect such pedestrian activity? Such impacts must be disclosed, evaluated, and mitigated.
	3.24.7 Cultural Resources	There is potential for the conclusion described in this section to change based on responses to comments provided in Section 3.7.
	3.24.13 Air	See the comments provided above in regards to Section 3.13.3.1 Air Quality,

Section	Paragraph	Comment
	Quality	Temporary Impacts.
	3.24.14 Noise	See the comments provided above in regards to Section 3.14.3.2 Noise and Vibration, Temporary Impacts.
4. CEQA Evaluation	4.2.1 Aesthetics, part I(a)	The analysis of Scenic Vistas correctly states that views of the San Gabriel Mountains exist in the study area, but fails to analyze the impacts on these views from placing 50-feet tall ventilation stacks. For example, the option for placing the ventilation stacks on Colorado Boulevard would notably obstruct north-facing views of the San Gabriel Mountains from pedestrians and motorists.
	4.2.1 Aesthetics, part I(c)	The analysis of Visual Character and Quality states that the Freeway Tunnel alternative would only result in visual impacts where tunnel entrances and exits are visible. This analysis fails to consider the visual impacts of the ventilation stacks, operations and maintenance buildings/facilities, storm water treatment systems, electrical substations, and other above ground facilities. As previously noted, the impacts of these facilities on visual character and quality are potentially significant and require evaluation and mitigation.
	4.2.1 Aesthetics, part I(d)	The analysis of Light and Glare does not consider the impacts of the proposed operations and maintenance building/facility. As previously noted, given the type of facility, it could likely cause significant light and glare impacts.
	4.2.3 Air Quality, parts III(b) and III(c)	The Air Quality analysis does not compare the project's construction emission to the South Coast Air Quality Management District's regional significance thresholds. Based on the daily pollutant volumes shown in table 3.13.4, all build alternatives would exceed these thresholds.
	4.2.3 Air Quality, parts III(b) and III(c)	The Air Quality analysis does not evaluate the project's construction emission in accordance with the South Coast Air Quality Management District's Localized Significance Threshold (LST) Methodology. Given the substantial daily pollutant volumes shown in table 3.13.4, it is assumed that emissions would exceed the LST screening thresholds at numerous locations.

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	4.2.3 Air Quality, part III(c)	Part III(c) states that "Measures AQ-1 through AQ-4 would reduce construction-related air quality impacts from fugitive dust emissions and construction equipment emissions of the Build Alternatives to less than significant levels." It is not clear how this determination was made, as no analysis of impacts after mitigation is provided in the DEIR/DEIS.
	4.2.3 Air Quality, part III(d)	The Air Quality analysis does not evaluate the localized impacts of the proposed north portal operations and maintenance building/facility. Given the volume of equipment that may be staged at this site, localized pollutant volumes/concentrations (including diesel particulate matter) may be significant.
	4.2.5 Cultural Resources	There is potential for the conclusion described in this section to change based on responses to comments provided in Section 3.7.
	4.2.7 Greenhouse Gas Emissions	Section simply refers reader to Section 4.3 Climate Change.
	4.2.12 Noise, parts XII(a), XII(c), and XII(d)	The discussion of Long-Term Stationary Noise Impacts considers the noise ordinances of the Cities of Alhambra and Los Angeles. Why is the Pasadena Noise Restrictions Ordinance (Pasadena Municipal Code Section 9.36) not considered? Section 9.36.050 of the Pasadena Municipal Code "General noise sources" states "it is unlawful for any person to create, cause, more or continue to make or permit to be made or continued any noise or sound which exceeds the ambient noise level at the property line of any property by more than 5 decibels." Similarly, Section 9.36.090 "Machinery, equipment, fans and air conditioning" states that "except for emergency work…it is unlawful for any person to operate any machinery, equipment, pump, fan, air conditioning apparatus or similar mechanical device in any manner so as to create any noise which would cause the noise level at the property line of any property to exceed the ambient noise level by more than 5 decibels." Section 9.36.040 defines ambient noise and provides adjustments for steady audible tones, repeated impulsive noise, and noise occurring for limited time periods. Proposed permanent facilities in Pasadena (e.g., ventilation stacks, operation and maintenance facilities, electrical substation,

Section	Paragraph	Comment
		etc.) should be evaluated against the Pasadena Noise Restrictions Ordinance.
	4.2.12 Noise, parts XII(a), XII(c), and XII(d)	While the discussion of Long-Term Stationary Noise Impacts includes an analysis of the LRT Maintenance Yard/Shop proposed along Valley Boulevard, it does not consider the operations and maintenance facility that would be developed at the north portal in the Freeway Tunnel Alternative. Such an analysis must be provided, as noise levels from an operation and maintenance facility have the potential to exceed the standards in Pasadena Noise Restrictions Ordinance and/or otherwise cause significant noise impacts.
4.3 Climate Change	4.3.3 Project Operational Emissions	It is unclear how the BRT and LRT Alternatives would result in more greenhouse gas emissions than the Freeway Tunnel Alternatives. The DEIR/DEIS needs to explain this counterintuitive conclusion. The intent of the BRT and LRT Alternatives is to reduce the number of vehicle trips, whereas the Freeway Tunnel Alternatives would increase the attractiveness of automobile travel.
SR 710 Health Risk Assessment Vol I	Scenario 1: No Build and Build Alternatives vs. Existing Condition	Scenario 1: The assumptions that over a 7-year period emission levels will remain constant after 2035 is not realistic, but should be an underestimate. Considering the changes in the automotive market, including ride-sharing and electric vehicles. (p. 44 of 108) The authors repeatedly quote the excess risk that is acceptable according to the SCAQMD. According to SCAQMD this risk is, 'Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden; > 0.5 excess cancer cases (in areas ≥ 1 in 1 million); or Chronic & Acute Hazard Index ≥ 1.0 (project increment).' The latter, is defined by the California Air Resources Board as 'the potential non-cancer health impacts resulting from a one-hour exposure to toxic substances. An acute hazard index is calculated by dividing the one-hour concentration of a toxic pollutant by the acute reference exposure level for that pollutant.'
	2.3.2.2 Source Parameters	In-car filtration systems, when using the re-circulation mode may attenuate additional risks[1,2] In a review of tunnel filtration, in this case electrostatic

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	(Tunnel Ventilation Towers)	precipitators, systems, a group from France in 2010 found that the estimates put forth by the 710 group may be an overestimate. The chart below shows that for the most damaging particles, the smallest <2.5 micrometers, the efficiency could be as low as 54%, not 80% purported by the 710 authors. This could be the authors taking into account that this project would happen more recently so filters will have naturally increased in efficiency and that this project would select only the most efficient filters on the market. There are alternatives like bag filters and biofiltration but I do not believe it was noted in this report which was selected for their assumptions. This is the description available for their assumptions of air filtration efficacy, "the tunnel ventilation tower emissions for the north and south tunnel portals were modeled as point sources. The exhaust flow rate of the ventilation tower *varies depending on the tunnel design*. Exhaust flow rates vary depending on whether the tunnel is the single-bore or dual-bore design." (p. 52)

Size	Content (by weight)	Efficiency *ECCO**
<2,5 µm	30 %	54 – 91 %
2,5 – 10 µm	60 %	94 – 99 %
>10 µm	10 %	>99 %

Table 3: Electrostatic filter performance according to particulate size (Source: http://www.aigner.at)

Filtration systems *may* reduce exposure to surface exposure; however, what is the effectiveness for those stuck in traffic while in the tunnel. Did the authors account for the additional exposure that commuters may experience on an annual/lifetime basis?

Researches from Los Angeles looked at heavy metal and air pollution exposure to compare and contrast Light rail versus freeway exposure and the results were slightly different than presented in this study, "This study represents the integration

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		of the results from five commute environments in Los Angeles. Personal PM exposures are discussed for the: (1) METRO gold line, a ground-level light-rail route, (2) METRO red line, a subway line, (3) the 110, a high volume freeway with low heavy-duty vehicle (HDV) fraction, (4) the 710, a major corridor for HDVs from the Port of Los Angeles, and (5) Wilshire/Sunset Boulevards, major surface streets. Chemical analysis including total and water-soluble metals and trace elements, elemental and organic carbon (EC/OC), and polycyclic aromatic hydrocarbons (PAHs) was performed. The focus of this study is to compare the composition and estimated lung cancer risk of PM2.5 (dp < 2.5 μm) for the five differential commute environments. Metals associated with stainless steel, notably Fe, Cr, and Mn, were elevated for the red line (subway), most likely from abrasion processes between the rail and brakes; elements associated with tire and brake wear and oil additives (Ca, Ti, Sn, Sb, and Pb) were elevated on roadways. Elemental concentrations on the gold line (light-rail) were the lowest. For water-solubility, metals observed on the red line (subway) were the least soluble. PAHs are primarily derived from vehicular emissions. Overall, the 710 exhibited high levels of PAHs (3.0 ng m−3), most likely due to its high volume of HDVs, while the red and gold lines exhibited low PAH concentrations (0.6 and 0.8 ng m−3 for red and gold lines, respectively). Lastly, lung cancer risk due to inhalation of PAHs was calculated based on a commuter lifetime (45 years for 2 hours per workday). Results showed that lung cancer risk for the 710 is 3.8 and 4.5 times higher than the light-rail (gold line) and subway (red line), respectively. With low levels of both metal and PAH pollutants, our results indicate that commuting on the light-rail (gold line) may have potential health benefits when compared to driving on freeways and busy roadways.”
	2.2.2.2 Annual Average Emissions & 2.4.2.2 Non-cancer Chronic and Acute Risks	on p. 47 the authors noted ‘traffic growth and cleaner vehicles in future years’ will reduce overall air pollution. And that they are ‘not able to forecast traffic patterns…from years 2031 to 2081’. This seems like because the automotive industry is making such great strides in reducing emission levels, it is therefore acceptable for the local jurisdictions to open a freeway to relieve future stresses. This could be counterproductive to the strides being made elsewhere. Wouldn’t it be more beneficial if this is looked as an opportunity to build on these approaches?

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		(This is mentioned again on p. 55 'due to improved fuel efficiency , newer emission-control technology'.)
		IF the auto-industry is moving towards self-driving cars, or aut0-sharing programs this will likely lead to an increase in cost to consumers. For those who can't afford these cars this could be a burden of cost to become insured. This could become an important social justice issue. Would it not be more important for us to identify options now that will be more cost- and environmentally-effective? What alternative would be better?
	2.4.1.2 Exposure Assumptions & 2.5 Conservative Nature and Uncertainties of Health Risk Assessment (OEHHA has provided a discussion of risk uncertainty, which is reiterated here (OEHHA, 2003))	p. 54 'adjusted 9-yr'. What is it adjusted for? They do not explain what methods they use for adjusting (e.g. partial rates, regression, etc.) or what they are adjusting for. p. 57 'interaction effects not taken into account'. What the authors mean to say is they did not look at the effect modification of risk due to other risk factors 'within populations' For example, it is known that children and seniors are at increased risk for pulmonary effects of air pollution, the elderly a population they did not take into account in this report.
3.1.2 Consistency with State, Regional, and Local Plans	3.1.2.1 Local Plans	On page 3.1-12, the DEIR mentions the 1998 West Gateway Specific Plan. On October 27, 2014, the City of Pasadena City Council approved a zoning change within the Specific Plan area to create a neighborhood park site and adjacent 9-unit SFDD residential development. "Desiderio Park" as it will be known is a 3.8-acre neighborhood park site that will feature passive recreational activities and natural landscape. Construction of this park is anticipated to occur in 2016-2017.

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3.1.3 Parks and Recreation Facilities, and Section 4(f) and 6(f) Resources	TABLE 3.1.4: Parks, Recreation Resources, and Bikeways within 0.5 Mile of the Build Alternatives by Jurisdiction	Table 3.1.4 should be revised to add the following locations to the list of Pasadena parks: Desiderio Neighborhood Park. This 3.8 acre neighborhood park will feature passive recreational activities and natural landscape. Construction of this park is anticipated to occur in 2016-2017. Arlington Gardens, 275 Arlington Drive. This 2.6 acre public garden provides walking trails, amphitheater, arbors, and native and ornamental plantings representing various plant communities. Pasadena Community Garden, 721 Pasadena Ave. This 0.7 acre community garden provides food gardening opportunities to the local community.
3.4 – Utilities/ Emergency Services	3.4.1.1	The Fire Department understands the need for the relocation of several utilities. Also understanding that there will be constant delays in 8 locations, and detours in 11 locations in Pasadena within the vicinity of the North Tunnel Portal (Old Town Area). This will surely affect the responses of Emergency Personnel. The Fire Department recommends proper notification on a timely basis to stay updated with accessible pathways for emergency personnel to respond. The same notifications would be recommended for any water supplies being shut off or moved during construction as to provide for additional equipment dispatched for water supply if an emergency should call for it.
3.4 – Utilities/ Emergency Services	3.4.8	The Fire Department understands the need for relocation and moving of underground utilities. With proper notifications of where the utilities will be under construction and the Fire Departments best access route to these areas. The Fire Department has the trained personnel at Fire Station 32 on the USAR Team staffed every day for any time of confined space rescue.
3.12 – Hazardous Waste/ Materials	3.12.3.1	The Fire Department understands there will be several sites with the potential of Hazardous Waste during the alternative build options. They will be monitored during actual construction. With Mutual Aid agreements we have Hazardous Materials Teams in Burbank and Glendale staffed at all times.

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3.24.4 – Utilities/ Emergency Services	3.24.4	The Fire Department understands there will be delays along with lane restrictions, and ramp/road closures during the build. With proper notifications staffing can be adjusted if needed to relieve extended response times.
4- CEQA- Hazards/ Hazardous Materials	4.2.8	The Fire Department understands there will little to no impact during the construction.
4 – CEQA – Public Services	4.2.14	The Fire Department understands the report will show little to no impact in the regards of public access in public services, recreation and transportation.
General Comments	Distance	Fire Department has the following concerns, with the multiple levels of the tunnel, what would the weight restrictions be? Will there be ample room for ALL Fire Department apparatus including our Class A Commercial Vehicle (USAR) to not only fit, but be able to cross-over to a different tunnel or be able to access from a lower level to an upper level?
General Comments	Entrance/ Exits	If the freeway will not permit HAZMAT vehicles at all, will there be a toll or checkpoint to actually keep this hazard out? Also keeping in mind that one of the deadliest tunnel fires (Mont Blanc) was from a truck carrying butter and flour which once ignited, basically became an oil based fire equivalent to over 3,000 gallons of gasoline burning which we believe would generate more than a 100 MW Fire (the listed rating of the deluge system) Not only a checkpoint but in the Mont Blanc Tunnel entrance they now have FLIR technology to screen Large Trucks of possible heat and fire inside the truck to prevent it from entering the tunnel in the event it has an issue. At 6.3 Miles in length even at 60 mph would take a vehicle over 6 minutes which is more than enough time for a fire to or near 100MW. A detection system would greatly prevent a possible truck developing a fire to even enter the tunnel. Also a stop gate with Toll would greatly prevent any “accidental HAZMAT “ from passing through.
General	Natural Elements	The Tunnel runs directly through the active Raymond Fault, with no overhead

Section	Paragraph	Comment
Comments		access points in the event of a collapse inside the tunnel the Fire Department will likely not be able to get special apparatus within a reasonable range to help make a technical rescue.
General Comments	Fire Protection System	The Fire Department would like there to be a dedicated water tank for the Standpipe and the Deluge System separately for BOTH tunnels in case there is a fire or issue in both tunnels at the same time. Each tunnel should be treated separately and have its own “60 minute dedicated water supply” in case there was failure of the water main in either tunnel.
General Comments	Security Risk	Being a one of a kind tunnel not only in the US or world, but in a heavily populated area of Los Angeles there becomes a severe security threat including New Year’s where there is over 1 million people within the Pasadena “Old Town” vicinity.
General Comments	Fire Department Staffing	This will impact the Fire Department greatly. Resources are already over-worked in that area/district. Another Station with added resources and staffing would definitely be recommended/needed for a necessary response time. Also would need to assess specialty apparatus or staffing resources for best access within the tunnels.
General Comments	Operations in Tunnel (911)	Multiple Agencies from North and South will automatically be dispatched together on every call. Some southern end agencies use different radio frequencies including CHP or LACO Sheriffs. The Current EIR lists only one radio frequency will be installed in this tunnel This needs to have 3, (UHF, VHF, 800 MHZ) in order to run Major Emergencies with multiple agencies.