SUMMARY OF LEGAL COMPLAINT

Westside Purple Line Extension Impacts: Health, Safety, and Noise Risks Posed by Construction and Operation of the Westside Purple Line Extension Beneath Beverly Hills High School

I. Toxic Emissions and Particulates from Staging Areas 2 and 3 Pose Significant Health and Safety Risks to the High School's Students, Faculty, Staff, and Community Members Using its Facilities

The FTA and Metro have located Project Staging Areas 2 and 3 directly across from the High School's portable classrooms and recreational facilities. Construction at these staging areas will generate harmful levels of airborne toxins that will be blown directly downwind into the areas of the portable classrooms and the High School's recreational facilities, including its lacrosse and baseball fields. These airborne toxins can cause or contribute to severe health problems, ranging from short-term effects such as coughing, dizziness, nausea, and headaches, to long-term effects, such as cancer, chronic asthma, and other respiratory illnesses. Construction activity at the Project Staging Areas is scheduled to last for approximately seven years. For the following reasons, the FSEIS does not properly analyze or mitigate the health and safety risks posed by construction.

Description of Impact	Paragraph
The FSEIS uses a cancer risk exposure threshold, 10-in-one-million, to measure cancer risk from toxic emissions of DPM, $PM_{2.5}$, and NOx emissions from construction at Staging Areas 2 and 3. This threshold is too high and not health protective for children or pregnant staff, who are more sensitive to toxins than the general adult population and are considered "sensitive receptors." A 1-in-one million threshold for cancer risk is more health-protective and appropriate and should have been used. Using the proper 1-in-one million threshold, the cancer risk to the High School students exceeds the threshold by 46 times, the cancer risk in unborn children in their third trimester exceeds the threshold by 18 times, and the cancer risk to adults exceeds the threshold by 11 times.	147, 149, 150
The FSEIS's analysis of short-term, 24-hour average $PM_{2.5}$ impacts is flawed, because it relies on an exposure threshold too low for sensitive receptors. Given the potential high levels of $PM_{2.5}$ emissions expected to impact the High School campus on a daily basis, to protect sensitive children and others from the short-term health impacts from $PM_{2.5}$ emissions emanating from the proposed staging areas, the federal significance threshold of 1.2 $\mu g/m^3$ for 24-hour average impacts should have been used.	148, 149
The FSEIS fails to analyze the long-term $PM_{2.5}$ health impacts at the High School campus by comparing annual average $PM_{2.5}$	148, 149

concentrations over several years to the federal significance threshold, 0.3 $\mu g/m^3$ for annual average impacts.	
At the height of soil-moving activity, particulate matter PM_{10} will exceed California ambient air quality standards at the High School's portable classrooms while school is in session.	134
Air quality modeling in the FSEIS does not appear to follow local and EPA guidance on developing a proper emission source representation for stationary and mobile off-road and on-road construction equipment. This flawed approach causes the FSEIS to significantly underreport levels of airborne toxins that can be expected from highly concentrated diesel exhaust plumes released from equipment stacks near ground level and from smaller areas of construction activity. In turn, this leads the FSEIS to grossly underestimate the negative health impacts of construction activity from the staging areas adjacent to the High School.	149
The Agencies did not perform a conservative and health-protective point-estimate health risk assessment for the impact of construction activity at the staging areas on the High School population. The maximum cancer risk reported at the school should be calculated at the nearest facility property line, consistent with local and state guidance. Thus, the health risks at the school have not been properly reported for public review and comment.	149
The FSEIS health risk assessment does not quantify the additional public impact from toxic substances in the soil and the potential releases of methane and toxic substances in the soil and the potential releases of methane and toxic gases during subsurface activities. These hazards and resulting air emissions will add to the health impacts posed by air emissions from construction equipment used for the project.	149
Diesel powered equipment such as bulldozers will be operated while school is in session and the community is using the High School's recreational facilities. Fine dust emissions will be generated from excavated materials dropped into piles while construction is underway and will not be loaded into haul trucks until the evening.	134
The FSEIS fails to propose sufficient mitigation measures to reduce the significant health impacts of construction at the Project Staging Areas to acceptable levels. Despite the Agencies' proposal to mitigate the adverse air quality impacts of the Project Staging Areas by, among other things, removing a diesel crane and bulldozing from Staging Area 3 and limiting hauling of excavated material by diesel trucks to evening hours, the cancer risk for students would still be unacceptably high at greater than 10-in-one-million. Indeed, even the Agencies' calculation of the risk at 3.6-in-one-million is greater than three times an appropriate level for children.	151

While the Agencies' proposal to install MERV-16 filters in the HVAC systems of the High School's portable classrooms will provide some degree of protection, these filters obviously will do nothing to mitigate the cancer risk to students, faculty, and members of the public using the High School's athletic fields, and the Agencies have not proposed to install these filters in any of the High School's buildings beyond the portable classrooms.	152
While the Agencies' proposal to limit the hauling of excavated material from Staging Area 2 by diesel trucks to evening hours will reduce harmful levels of DPM during school hours, the levels remain unacceptably high. These diesel-powered haul trucks will queue and idle before loading. Moreover, the deployment of the trucks during evening hours will increase cancer risk for students and members of the public using the High School's facilities, particularly its athletic fields, during the evening hours.	134, 153
The FSEIS provides that contractors will monitor dust and emissions to ensure that they are kept within acceptable levels. Therefore, the parties responsible for creating problems will be charged with monitoring and reporting them. This self-policing system does not create any incentives for contractors to report themselves as violators. Indeed, the design/build contract puts in place financial penalties for Metro if the Project incurs delays and fails to meet certain deadlines. Thus, the actual incentives in place favor speed over ensuring environmental safety and a sound educational environment. The Agencies should appoint an independent monitor with the power to sanction contractors and shut down work that threatens to harm the High School and its community, and the independent monitor should be answerable to the School District.	154

II. Construction and Operation of the Westside Purple Line Extension Will Generate Harmful Levels of Noise and Vibration and Harm Education of the High School's Students

Noise and vibration generated by construction and operation of the Westside Purple Line Extension will harm the education of the thousands of students at the High School. Ensuring appropriate noise and vibration levels and listening conditions at a school is essential to effective education. Noise interference in the classroom can impair children's speech and listening comprehension as well as their concentration, understanding of verbal information, reading comprehension, and memory. Chronic exposures to internal and external sources of noise can lead to deficits in test scores. For the following reasons, the FSEIS does not properly analyze or mitigate noise and vibration impacts from construction and operation of the subway.

Description of Impact	Paragraph
Noise levels at the portable classrooms during construction will far exceed accepted noise levels for schools. The American National	156, 162

Standards Institute sets forth a noise threshold of 35 dBA for classrooms. This standard is supported by a large body of research that found that when classroom environments have average noise levels greater than 35 dBA, speech is less intelligible to children, and they have lower comprehension. The FSEIS expect that construction noise levels at the High School's portable classrooms will be 65 dBA, substantially above the American National Standards Institute threshold. The portable classrooms have less sound attenuation properties than permanently constructed buildings, and these high noise levels will have a substantial adverse impact on the comprehension and performance of students attending classes in these classrooms.	
Noise levels at the portable classrooms will also exceed the FTA's own Transit Noise and Vibration Impact Assessment standards. The FTA's standard considers schools as Category 3 receivers. Category 3 threshold for noise is 40 dBA. The expected construction noise level of 65 dBA substantially exceeds the Category 3 threshold.	157
The FSEIS understates the impact of construction noise on the High School by erroneously relying on a provision of the Municipal Code of the City of Beverly Hills, which provides, "[i]t shall be unlawful for any person to operate any machinery, equipment, pump, fan, air conditioning apparatus, or similar mechanical devise 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 five (5) decibels." The FSEIS noise-impact analysis, thus, is not based on noise standards that are appropriate for schools, but on whether they can keep construction noise levels within 5 dB of pre-construction levels. The Agencies intentionally ignore a provision of the same Municipal Code that prohibits the creation of ***any*** noise near schools while they are in session. Moreover, as the Agencies admit, the noise levels at the portable classrooms exceed even the Municipal Code standard that the Agencies erroneously relies on by 8 dB for daytime and 7 dB for nighttime.	158
The noise monitoring proposed by the FSEIS is insufficient. Contractors will bear much of the responsibility to undertake measures to reduce noise and vibration and monitor them to ensure that they are kept within acceptable levels. Thus, the parties responsible for creating the problems will be charged with monitoring and mitigating them. Indeed, the design/build contract puts in place financial penalties for Metro if the Project incurs delays and fails to meet certain deadlines. Thus, the actual incentives in place favor speed over ensuring environmental safety and a sound educational environment. At a minimum, an independent monitor for noise and vibration is required.	163, 166

The noise monitoring is also insufficient because the High School will receive only short-term noise monitoring, consisting of weekly short duration (1 hour or more) measurements to verify that noise levels do not exceed the predicted noise levels or relevant impact criteria. Harm to the learning environment can arise anytime high levels of construction noise are present during school hours. The Agencies' proposed intermittent, short-term monitoring appears designed more to miss harmful noise events rather than detect them.	164
The Agencies have no plan to continuously monitor harmful vibrations at the temporary classrooms during school hours. Metro plans to stockpile excavated material – or "muck" – at this staging area directly across from the temporary classrooms. According to the FSEIS, muck piling "is predicted to generate the highest noise levels" at the portable classrooms. The FSEIS also states that a front-end loader used for muck piling and handling at the site will "generate the highest ground vibration levels at any of the sites during tunneling," and that a "vibratory roller and dozer" will also be used at the site. Yet, the Agencies make no effort to analyze the effects of vibrations from this nearby construction activity on the educational environment of the temporary classrooms.	165
Noise and vibration levels predicted in the FSEIS for planned Building C are also harmful to learning and necessarily limit the recreational and educational uses of that building. The FSEIS states that the noise and vibration effects for operation of a single train under Building C to be 53 dBA (first story) and 72 VdBs within the subterranean parking structure. Those numbers increase to 56 dBA and 75 VdBs when two trains pass beneath the structure, and the FSEIS estimates that two trains will simultaneously pass under Building C up to 21 times per day.	167
Given the importance of education, the FSEIS should classify schools as FTA Category 1 receivers – the lowest noise threshold. Metro agreed to apply the Category 1 standard to the Colburn School of Music with respect to the subway section that will run beneath the Colburn School. There, the subway line will run 135 feet below street level. In contrast, here, the High School's Building C will, at points, be within 24.5 feet of the rails. Yet the FSEIS offers no mitigation measures to reduce the noise from subway trains running beneath the High School to the FTA Category 1 threshold.	168
The FSEIS fails to propose any classroom-based noise mitigation measures. Noise reduction systems are often used in classrooms to enhance learning environments. The installation of such systems would help mitigate any possible dBA increases from the already high levels tested in the High School's portable classrooms.	169

III. Construction with Abandoned Oil Wells and Methane Gas on the High School Campus Poses Significant Health and Safety Risks to the High School's Students, Faculty, Staff, and Community Members Using Its Facilities

Construction of the subway tunnels underneath the High School campus pose significant health and safety risks by disturbing abandoned oil wells and methane gas on the High School campus. For the following reasons, the FSEIS does not properly analyze or mitigate health and safety risks posed by the impact of construction on abandoned oil wells and methane gas on the High School campus.

Description of Impact	Paragraph
The FSEIS severely underestimates the possible existence of abandoned oil wells on the High School campus, the likelihood that these wells have accumulations of methane in their casings, and the likelihood that such wells will be punctured by the tunnel boring machine. As a result, the FSEIS understates the risk of harm to the students, faculty, and public who use the High School campus from a release of methane in the event that a well containing trapped gas is punctured, including the risk that such gas will accumulate under a building or result in a sudden uncontrolled release of gas, leading to exposure to students and staff, as well as the risk of a potential explosion.	172
The FTA and Metro have collected insufficient information regarding the amount and location of naturally occurring methane on the High School campus. California Department of Toxic Substances has declared the High School campus a "methane zone." Yet, FTA and Metro have only taken soil gas samples from a single borehole at tunnel depth on the campus and that single borehole demonstrated that methane concentrations increased as depth increased.	174
The FSEIS understates the risk of harm that methane migration poses to the students, faculty, and public who use the High School campus. The FSEIS fails to consider and address the manner in which the tunneling process will create new pathways for methane to travel upwards to the surface. The FSEIS does not propose an adequate methane migration system for the campus, which would reduce the risk of methane migration introduced by tunneling under the surface.	174

Westside Purple Line Extension Impacts: Risk of Harm to Beverly Hills High School's Historic and Recreational Resources and Modernization Plan

I. Subway Tunnel Construction Poses Significant Risk of Harm to Protected Historic Structures

The High School's Building B1 is a Section 4(f)-protected historic property. Building B1, constructed in 1926, has lightly reinforced footings. For the following reasons, the FSEIS fails to properly assess risk of harm on Building B1.

Description of Impact	Paragraph
The FSEIS wrongly concludes that "tunneling with a pressurized-face tunnel boring machine [under Building B1] would not cause significant ground settlement that would result in structural damage to the historic building."	96
Although the Project will build two tunnels next to one another, the FSEIS fails to consider the combined settlement of the two bores. The FSEIS only indicates the surface settlement of each individual bore and does not consider the effect of both tunnels.	98
The FSEIS also deviates from standards it purports to rely on to determine the acceptable amount of soil settlement. The Century City Area Tunneling Safety Report and Appendix B to the FSEIS indicates that the standards employed for calculating surface settlements along the Project Alignment involved using surface volume losses of 0.5 to 1.0 percent values. The surface settlements for the High School campus as presented in Appendix B, however, are not based on the use of these benchmarks, but rather reflect the use of volume losses of less than 0.5 percent in order to manufacture a "surface settlement[ ] of less than 0.5 inch."	97
Tunneling engineers retained by the School District have determined that combine surface settlements of greater than 0.5 inch on the High School campus are expected to result from a 0.5 percent volume loss, which is in excess of the acceptable limit that the FTA and Metro established.	99

II. Subway Tunnel Construction Poses Significant Risk of Harm the High School's Modernization Plan and Planned Recreational Facilities

Beverly Hills High School is the only public high school in Beverly Hills. Modernization of the Beverly Hills High School campus is vital to meeting the present and future needs of a growing Beverly Hills community. In August 2008, to address overcrowding on campus and meet the current and long-term public education needs of the city, the School District released a plan for the rehabilitation and modernization of the campus. The modernization plan is now well under way. The next step is to begin excavation for a new gymnasium facility, Building C, which will serve the recreational needs to both students and the greater community. Building C has been designed to include vital underground parking in the center of campus for the specific

purpose of providing the community with access to the High School's recreational facilities, which are located far from any sufficient parking options. Construction of the Westside Purple Line Extension will adversely impact the High School's modernization plan. For the following reasons, the FSEIS does not properly analyze the Westside Purple Line Extension's impacts on Building C and the High School's modernization plan.

Description of Impact	Paragraph
The footings of Building C will pass critically close to Metro's planned subway tunnels and rest approximately 8.5 feet from the tunnels' ceiling at the closest point. Yet, without adequate design or engineering analysis, the FSEIS determines that Building C is compatible with subway tunnels and can be constructed with "up to four floors of underground parking with a mat foundation with approximately 10 feet of clearance to the top of the tunnels." Engineers retained by the School District, however, have identified several problems with using a mat foundation given Building C's relatively large and variable column loads.	85
In August 2017, Metro representatives met with the California Division of State Architect and persuaded the agency that Building C will interfere with Metro's planned tunnel alignment. In response, DSA informed the School District that it put the approval process for Building C on hold. Metro's decision to interfere with the approval process for Building C contradicts the FTA and Metro's official position in the FSEIS that Building C is compatible with the tunnel alignment. The Agencies have clearly concluded, contrary to their public statements, that Building C and the project alignment are not compatible.	88, 89
If Metro proceeds with eminent domain beneath the High School prior to construction of Building C, Metro would dictate whether the School District can build Building C at all. Metro would be empowered to prevent any building it deems would interfere with, damage, or endanger Metro's subway tunnel or its excavation, construction, maintenance, replacement, enjoyment or use.	84
The FSEIS wrongly contends that Section 4(f) does not apply to the entirety of Building C. The Agencies only reach this conclusion by improperly subdividing the building, claiming that the subsurface parking for a property with multiple uses, are not a Section 4(f)-protected feature. Building C as a whole should be treated as a Section 4(f)-protected property. The primary purpose of the underground parking is to allow increased community access to the expanded recreational facilities.	91, 92
The School District is extraordinarily limited in its ability to build on its campus. The School District does not have any viable alternatives to the planned location of Building C. The loss of Building C will have a cascading effect that will undermine the School District's ability to meet the future educational and	94

recreational needs of the community. If Building C cannot be built, the remaining recreational expansion of the campus cannot take place because, as is expected on a tight urban campus, each phase of construction is dependent on the completion of the prior one. If Building C is not constructed, the existing Konheim Gymnasium cannot be demolished, and the School District would be unable to build its planned full-size track and field and Olympic-sized outdoor swimming pool in the location where the Konheim Gymnasium is currently located.	