

## **Local Agency Comments and Responses**

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October 12, 2010

## VIA FIRST CLASS MAIL

Metropolitan Transportation Authority  
One Gateway Plaza  
Los Angeles, CA 90012-2952

## To Whom It May Concern:

During the August 23, 2010 regular meeting of the Beverly Hills Board of Education, an agenda item provided time for Board and community members to discuss the Westside Subway Extension. Representatives from the MTA attended the meeting, spoke to the issue, and answered questions about the project.

The Beverly Hills Board of Education, as part of that discussion, made clear its strong support for the proposed extension of the Westside subway and its agreement with the benefits such a subway will provide to transit riders. It should also be noted, however, that every member of the Board made it very clear that the proposed subway extension should follow the Santa Monica Boulevard route.

Board Members were unanimously and absolutely opposed to the proposed alternative routes that would take the subway extension under Beverly Hills High School (BHHS). Given the reasons outlined below, they were united in their opposition to the alternative routes, stating that the proposed routes under BHHS posed some danger, had no upside, and simply made no sense.

The primary reasons for their opposition focused on the following:

- Student and teacher safety
- Future modernization plans for Beverly Hills High School
- Community attitudes
- Consideration for homeowners

WELL-FORMED REASONING

**851-1**

Your comment in support of the Century City Santa Monica Station and concerns about tunneling beneath homes and schools has been noted. On October 28, 2010, the Metro Board of Directors identified Alternative 2 (Westwood/VA Hospital Extension) as the Locally Preferred Alternative (LPA). As part of the LPA selection, the Metro Board of Directors decided to continue to study both station location options in Century City (Santa Monica Boulevard and Constellation Boulevard) to address concerns raised by the community regarding locating a station directly on a seismic fault and the safety of tunneling under homes and schools. The Metro Board of Directors also decided to not include the Constellation South alignment between the Wilshire/Rodeo and Century City Stations as part of the LPA, but to continue to study the Constellation North and the Santa Monica Boulevard alignments. The Constellation South alignment passed beneath more residential properties than the Constellation North or Santa Monica Boulevard alignments. In addition, the Metro Board of Directors decided to not include the West or Central alignments between Century City and Westwood/UCLA as part of the LPA, but to continue to study the East alignment because the East alignment is the most direct and least expensive route between the two stations.

Safety, both during construction and eventual operations, is one of Metro's highest priorities and is one of the key evaluation criteria in selection of the Locally Preferred Alternative (LPA). In response to the Metro Board of Director's request for more information, further analysis was undertaken to focus on the engineering and environmental aspects of the two options during the preparation of the Final EIS/EIR to expand on the studies conducted in preparation of the Draft EIS/EIR. It should be noted that prior to conducting the comparative study, the Santa Monica Boulevard Station location was shifted slightly to the east from the location in the Draft EIS/EIR to avoid the Santa Monica Fault zone.

On most transit tunnel projects, significant portions of the alignment are constructed adjacent to or beneath buildings. The LPA passes beneath homes and schools in these neighborhoods because the curve radius required for subway tunnels is much wider than that required at a typical surface street intersection. The current alignment minimizes tunneling under buildings to the east and west of both the Century City Stations. The station position on Constellation Boulevard requires the tunnel alignment to be under the south portion of Beverly Hills High School Building B in order to reach the station location. There is no reasonable tunnel alignment that does not pass under homes or structures within the Beverly Hills High School campus.

The geotechnical studies conducted during preparation of the Final EIS/EIR concluded that tunneling can be safely carried out beneath the Beverly Hills High School campus and the West Beverly Hills, Century City, and Westwood neighborhoods. The use of state-of-the-art pressurized closed-face TBMs for soft-ground tunneling has greatly improved the control of ground movements such that tunneling can be done with minimal surface settlements. The presence of the tunnels will neither affect the risk to buildings above them during an

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earthquake nor change the severity of shaking. Finally, tunnels can be constructed and operated safely in gassy grounds and oil wells do not pose an unmitigatable risk to tunneling.

The additional detailed geotechnical studies also assessed soil conditions and determine the potential for noise or vibration impacts on the surface along the refined alignments. These studies concluded that the predicted vibration and noise levels are within the FTA requirements and operation of the subway is not anticipated to have adverse impacts with the implementation of mitigation, including areas where the tunnels pass beneath homes and schools. During construction, low levels of noise and vibration may be experienced for a day or two as each of the two TBMs pass under a given location. In addition, as the tunnels are driven, construction trains bring supplies to and from the tunnel heading. However, these underground construction noises will also be controlled to be within Metro criteria.

The Westside Subway Extension will not reduce the availability of BHHS for use as an emergency shelter or impact the operations of its use as an emergency shelter. Furthermore, tunneling would not prevent future development of the BHHS campus. The vertical alignment of the tunnel would be 55 to 70 feet below the ground surface (to the top of the tunnel), which would allow for construction of an underground structure over the tunnel at a later date.

These geotechnical studies also determined that the Century City Santa Monica Station would cross the West Beverly Hills Lineament, a northern extension of the active Newport-Inglewood Fault, which poses a significant safety risk to passengers at this station location. No evidence of faulting was found at the proposed Century City Constellation Station site. Tunnels to the east and west of Century City pass through at least two active faults. However, there are numerous tools, designs, and construction means and methods that have been used elsewhere that can be used to safely tunnel through these fault zones.

In addition, the Century City Constellation Boulevard Station has the best pedestrian environment, can be expected to attract the most transit riders, and is centrally located to help shape the redevelopment of Century City as an important transit-oriented destination on the Westside Subway Extension. Further refinements to the ridership analysis concluded that the Century City Constellation Station would result in 3,350 more boardings along new Westside Subway Extension stations than the Century City Santa Monica Station due to proximity to jobs and residences within the critical 600-foot and 1/4-mile walksheds.

Based on all of these factors, the *Century City Station Location Report* concluded by recommending that the Century City Station be located along Constellation Boulevard due to seismic safety concerns at the Santa Monica Boulevard Station and higher ridership

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projections with Constellation Boulevard Station.

Please refer to Section 8.8.2 and 8.8.3 of the Final EIS/EIR for more detailed responses to concerns related to the Century City Station and alignments and Section 8.8.4 of the Final EIS/EIR for a more detailed response to geotechnical concerns. Refer to Section 7.3 of the Final EIS/EIR and the *Westside Subway Extension Century City Station Location Report* for a comparison of the two Century City Station locations. The results of further geotechnical investigations in the Century City vicinity can be found in the *Westside Subway Extension Century City Area Fault Investigation Report* and the *Westside Subway Extension Century City Area Tunneling Safety Report*. The results of further ridership studies can be found in the *Westside Subway Extension Technical Report Summarizing the Results of the Forecasted Alternatives* and the *Westside Subway Extension Century City TOD and Walk Access Study*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

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ATTORNEYS AT LAW

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Student and Teacher Safety:

Student and teacher safety, of course, is a number one priority for the Board of Education. With no significant consideration or absolute guarantee as to the impact to school buildings caused by vibrations from the trains, geotechnical considerations, oil wells current and past, and construction and operational defects and accidents, the Board could not possibly accede to any proposed route which requires tunneling under its structures.

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Planned Modernization of Beverly Hills High School:

We hope you recognize that the Beverly Hills Unified School District is currently undergoing a much needed and extensive modernization of its buildings. The community supported this modernization plan by passing a \$334 million dollar bond measure in 2008. The Board is gravely concerned about the tunneling under Beverly Hills High School which would be required by all proposed routes other than the Santa Monica Boulevard route. We are specifically concerned that the underground parking structures and other proposed projects on the BHHS campus could directly conflict with the depth of the subway tunnels. We also cannot overlook the potential risks associated with long term structural safety issues caused by further, and unrelated development underneath District structures. Stated simply, the Board objects to any project that would prevent the District from fully and safely developing its property.

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Community Attitudes:

The Beverly Hills community members who spoke to the Board were strongly supportive of the Santa Monica Boulevard route and were adamant in their opposition to the alternative routes. There was discussion that the alternative routes seem to have been selected in support of a commercial development rather than a well-reasoned decision.

It also cannot be ignored that Beverly Hills High School serves as a designated emergency center for the community. Any subway construction beneath our emergency center is a serious concern for community members and the Board.

We understand that the Beverly Hills City Council is also in support of the Santa Monica Boulevard route.

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Consideration for Homeowners:

The local homeowners association is also very much opposed to the proposed alternative routes. The Board is in agreement with the homeowners that any project that decreases the value of homes in Beverly Hills is absolutely not in the best interests of the homeowners or the District. District revenues are directly tied to the value of the homes and the resulting property taxes.

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Your comment regarding student and teacher safety has been noted. Please see the response above to comment number 851-1 regarding the safety of tunneling beneath homes and schools and geotechnical considerations. Please see responses below to specific concerns raised in your comment.

**Noise and Vibration**

Your comment regarding noise and vibration during operation has been noted. Subway tunnels are typically at least 50 to 70 feet below the surface to the track depth. As a result, noise and vibration are not typically noticeable at the surface. In the Beverly Hills, Century City, and Westwood areas, the proposed subway tunnels would generally be deeper than this in the areas where it would pass beneath homes and schools. For example, at Beverly Hills High School, the track depth would be 75-80 feet below the first floor of the school buildings. In Westwood, the track depth is more than 100 feet deep in most places. Since the first segment of the subway opened in 1993, Metro has received no complaints about noise or vibration due to subway operations. Additional detailed geotechnical studies were conducted during the Final EIS/EIR phase to assess soil conditions and determine the potential for noise or vibration impacts on the surface along the refined alignments. This included measurements at the Beverly Hills High School site and in its buildings, as well as in the residential area between the Century City and Westwood/UCLA Stations.

These studies concluded that the predicted vibration and noise levels are within the FTA requirements, and tunnel operation is not anticipated to have adverse impacts with the implementation of mitigation. Noise from operation of the LPA from such sources as station ventilation system fans, emergency ventilation fans, traction power substations, and emergency generators will be designed to meet the noise-level limits specified in Metro Rail Design Criteria and will not result in any noise impacts. There are no vibration-sensitive receivers along the LPA that are predicted to exceed the FTA ground-borne vibration criteria.

Three locations along the LPA were identified where exceedance of the FTA ground-borne noise criteria will occur due to train operations along tangent track or through crossovers, if mitigation measures are not implemented. These locations are the Wilshire Ebell Theatre, an apartment building on Wilshire Boulevard at Orange Drive, and the Saban Theatre. To mitigate the potential for ground-borne noise impacts at these three locations, the following mitigation measures will be implemented:

- VIB-1—High compliance direct-fixation resilient rail fasteners will be incorporated into the design of the trackwork at the Wilshire Ebell Theatre and the Saban Theatre, which will reduce ground-borne noise by 5 to 7 dBA.
- VIB-2—A low impact crossover such as a moveable point frog or a spring-loaded frog will be used in the design of Wilshire/La Brea No. 10 double crossover for the apartments, which will reduce ground-borne noise by 5 to 6 dBA.

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With these mitigation measures, there are no vibration-sensitive receivers that are predicted to exceed the FTA ground-borne vibration criteria during operation. Mitigation measure VIB-2 was added subsequent to the Draft EIS/EIR due to the additional studies conducted during preparation of this Final EIS/EIR.

Should future underground construction be considered that would place a school building foundation closer to the tunnel, mitigation measures could be implemented to reduce ground-borne noise and vibration impacts. To mitigate such noise impacts, a high-compliance direct-fixation resilient rail fastener can be incorporated into the track work.

**Oil Wells**

Your comment regarding the risks of tunneling near oil wells have been noted. Tunnels, through known oil well fields, have been safely constructed with no adverse incidents with either hazardous gas or oil casings. In recent Los Angeles tunneling history, there have been no oil well incidents related to tunneling, and oil well casings have been safely removed and re-abandoned.

During the Draft EIS/EIR, known oil fields and documented active or abandoned oil wells were identified from published oil well maps. Table 4-45 in the Draft EIS/EIR identifies oil wells (abandoned and active) that may be located within 100 feet of the proposed tunnel or station, as well as those that may be located within the proposed tunnel alignment. The oil fields themselves are much deeper than the potential subway tunnels. Shafts for existing active and abandoned oil wells have been mapped in the vicinity of the project alignment along with other utilities such as sewer, water, gas, and electric lines.

During the preparation of the Final EIS/EIR, a comprehensive study of all available information found that there was one mapped abandoned oil well within the proposed tunnel alignment. According to the state's records, the location of this well is beneath a parking structure on Century Park East and does not lie within the Beverly Hills High School (BHHS) campus. The magnetic survey program indicated that the mapped locations of abandoned oil wells could be inaccurate by 50 to 200 feet.

A geophysical (magnetic) survey was performed on the BHHS campus to detect metal, which would indicate the presence of an abandoned oil well casing. The survey identified only one anomaly on the BHHS campus that is close to the alignment. It is on the west edge of the lacrosse field and is located 5 to 10 feet north of the tunnel envelope. The anomaly may or may not be a well casing, but it will be further investigated and addressed appropriately as described below.

For exploration beneath the BHHS buildings during the next phases of design, horizontal directional drilling (HDD) investigation will be conducted along the alignment at tunnel level. A magnetometer probe survey will be conducted in the drilled hole to detect metal casings so that if found, they can be re-abandoned properly below the tunnel depth prior to tunneling. Moreover, during tunnel construction in Los Angeles, magnetometer surveys have been conducted in probe borings extending in front of the TBM to ensure that obstructions, such as well casings, are detected before they are reached by the TBM. In

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suspected oil field areas, probing of the tunnel zone will be carried out by HDD either before tunneling or ahead of the face during tunneling. To ensure that these additional studies are conducted, the following mitigation is included in the Final EIS/EIR.

- CON-53-Further Research on Oil Well Locations

With implementation of this mitigation measure, oil wells do not pose a risk to tunneling for the project. Abandoned oil wells have been encountered in the past during tunneling in Los Angeles. Procedures have been developed to evaluate the well conditions and safely re-abandon them. Metro has experienced no gas incidents related to encounters with oil well casings during tunnel excavation on other projects.

**Methane and other Subsurface Gas**

Subsurface gas is present throughout much of the Los Angeles area and is often a factor in foundation design and construction of underground structures. While tunneling for transportation has special considerations, other projects have been constructed in subsurface gas zones within the Los Angeles region, including buildings with deep parking garages and basements, storm drains, sewer projects and other utility projects along the Wilshire Corridor. In addition, Metro has safely operated the existing Metro Red/Purple Line subway for over 15 years and has successfully constructed subway tunnels where subsurface gas has been present.

Methane and hydrogen sulfide are present in high concentrations along about a 1.1 mile stretch of the Westside Subway Extension alignment along Wilshire Boulevard from about Burnside Avenue on the east to about La Jolla Avenue on the west. However, the entire LPA alignment passes through an area characterized by oil and gas fields and is within the City's Methane Zone. Therefore, the possibility of encountering gaseous subsurface conditions can be expected for any portion of the alignment, and hazardous subsurface gases pose a significant hazard for construction of the LPA.

During construction, the pressurized face tunnel boring machines isolate gas from workers and the public, while gassy soil and tar sands are handled and disposed of appropriately. Robust underground ventilation and gas monitoring systems provide additional warning and protection. In addition, the state of California's division of Occupational Safety and Health (Cal/OSHA) maintains strict safety orders for tunneling where ground is classified as "Gassy" or "Potentially Gassy." Safety measures include continuous monitoring of the environment, "spark-proof" equipment, and other means to reduce risks to workers and the surroundings. The following mitigation measures will be implemented during construction of the LPA to reduce risks related to the presence of hazardous subsurface gases:

- CON-51-Techniques to Lower the Risk of Exposure to Hydrogen Sulfide
- CON-52-Measures to Reduce Gas Inflows
- CON-53-Further Research on Oil Well Locations
- CON-54-Worker Safety for Gassy Tunnels

The design and operation for tunnels and stations will provide a redundant protection system against gas intrusion. This will include: physical barriers to keep gas out of the



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tunnels and stations; high volume ventilation systems to dilute gases to safe levels; gas detection and monitoring systems with alarms; emergency ventilation triggered by the gas detection systems; additional training of personnel to respond to alarms. The following mitigation measures will be implemented during operation of the LPA to minimize risks related to subsurface hazardous gases:

- GEO-5 - Hazardous Subsurface Gas Operations
- GEO-6-Hazardous Subsurface Gas Structural Design
- GEO-7 - Tunnel Advisory Panel Design Review

With implementation of these mitigation measures, risks associated with hazardous subsurface gases will be reduced to less than significant levels during both construction and operation of the LPA.

**Liquefaction**

Metro has conducted geotechnical and seismic investigations to determine those soil conditions that are subject to liquefaction. Tunnels for the Westside Subway Extension project will be mostly excavated and constructed within consolidated, dense to very dense and stiff to hard soils belonging to older alluvium/Lakewood Formation sediments, which are considered significantly less prone to liquefaction than young alluvial sediments. However, due to the presence of shallow groundwater and young surficial alluvial deposits, there may be potential liquefaction adjacent to the upper portions of some station walls at the Wilshire/La Cienega, Westwood/UCLA, and Westwood/VA Hospital Stations. Lateral spreading is not anticipated in the vicinity of the LPA.

Based on the magnitude of evaluated liquefaction, either structural design or ground improvement techniques or deep foundations to minimize these hazards will be selected. The following mitigation measures will be implemented during operation to reduce risks related to liquefaction:

- GEO 4 - Liquefaction and Seismic Settlement
- GEO 7 - Tunnel Advisory Panel Design Review

With implementation of these mitigation measures, liquefaction risk during operation will be reduced to less than significant.

During construction, designs to minimize risk of liquefaction related damage to the excavation support system include increasing the depth of soldier piles to reach non-liquefiable zones, or ground improvement to densify the soil may be provided prior to the installation of the excavation support system therefore liquefaction is not a significant impact during construction.

**Groundwater**

Tunnels will be excavated to a great extent below the ground water table. Pressurized face tunnel boring machines will be used for excavation of the tunnels, and a gasketed tunnel lining will be installed as the tunnel shield advances, so that inflow of water into the tunnel, and thus, potential for lowering the ground water table above the tunnel route will be

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minimal. Stations will be excavated partially above and below the water table. Local dewatering around the station perimeter may be required to allow for safe and dry conditions during construction. If dewatering is to be implemented, groundwater level monitoring will be performed and impact from dewatering on the ground surface (settlement) and/or adjacent structures will be monitored and evaluated. The following mitigation measures will be implemented during construction to reduce impacts related to dewatering:

- CON-47-Use of Pressurized-face TBMs for Tunnel Construction
- CON-48-Preconstruction Survey, Instrumentation, and Monitoring
- CON-49-Additional Geotechnical Exploration
- CON-50-Additional Methods to Reduce Settlement
- CON-70-Methods to Control Contaminated Groundwater
- CON-71-Plan if Contaminated Groundwater is Encountered

With implementation of these mitigation measures, impacts related to dewatering will be reduced to less than significant.

**Seismic**

The LPA, as with most sites in southern California, is susceptible to strong ground shaking generated during earthquakes by nearby faults. At least one segment of the Santa Monica Fault crosses the LPA. In addition to the Santa Monica Fault, the West Beverly Hills Lineament (WBHL)/Newport-Inglewood Fault Zone crosses the LPA in the vicinity of Moreno Drive in the Century City area. However, many underground facilities-subway tunnels, sewers, and storm drains-have been built in Los Angeles and throughout California near and across active fault lines.

The hazards from an earthquake include fault rupture (cracking/fracturing of the ground where one side of the fault moves relative to the other), shaking, and other secondary effects. While the hazard due to shaking can be designed against, the hazard due to fault rupture is potentially much more severe, but is also much more limited in area, being confined to the specific zone of rupture. Because surface fault rupturing is generally confined to a relative narrow zone of tens to several hundred feet wide, avoidance is often a practical means of avoiding surface fault rupture hazards for facilities such as stations. Furthermore, since subway stations are structures for human occupancy, they should not be built on active fault/deformation zones because of life/safety concerns expressed in state regulations and in Metro Design Criteria.

However, for linear facilities such as tunnels, avoidance may not be possible. Design will allow for the tunnels to cross the faults as perpendicular as possible to the fault line to limit the area of potential damage. Tunneling or building stations along an active fault in a parallel direction is generally not recommended and is in some instances prohibited by State law. Depending on the predicted fault off-set and area over which the movement is distributed, some distortion may be accommodated by the structure. Special designs, such as larger tunnel diameters and enhanced tunnel linings, are employed when crossing fault zones to reduce the risk of damage and allow for a relatively swift return to regular

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operations should fault displacement take place at a tunnel crossing. The Metro Red Line tunnels cross the Hollywood Fault north of the Highland Station and were built to these heightened standards.

During the Final EIS/EIR phase, Metro conducted further geotechnical studies to supplement the studies conducted during the Draft EIS/EIR, which concluded that both the Santa Monica fault zone and the WBHL in the Century City vicinity are active fault zones and each fault zone is capable of generating earthquakes of M7 or greater with average surface displacements of 3 to 6 feet. Moreover, there is no knowledge of where either of these faults resides in their respective seismic cycles.

Santa Monica Boulevard effectively lies within the Santa Monica Fault zone from west of Century Park West to east of Avenue of the Stars. The originally proposed Santa Monica Boulevard Station at Avenue of the Stars would be directly within the fault zone. The WBHL is a wide fault zone with several well-defined strands situated along the eastern margin of Century City. It is the inferred northern extension of the active Newport-Inglewood fault zone. The WBHL terminates the active Santa Monica Fault to the east. The refined location of the Santa Monica Station at Century Park East would straddle the WBHL. No evidence of faulting was found on the Constellation Boulevard Station site.

In summary, both of the Santa Monica Boulevard Station options are located within active fault zones, but the Constellation Boulevard Station site is located outside zones of active faulting and can be considered a viable option. The LPA will cross fault zones and will require special designs to accommodate fault movement. These mitigation measures, which are detailed in Section 4.8 of this Final EIS/EIR include:

- GEO-2-Fault Crossing Tunnel, Fault Rupture, Tunnel Crossing
- GEO 7 - Tunnel Advisory Panel Design Review

With implementation of these mitigation measures, impacts will be reduced to less than significant. During subsequent design phases, explorations will continue to more precisely locate the fault zones with respect to the tunnel alignment selected and the fault characteristics for design.

All tunnels, stations, shafts and all other project facilities and infrastructure are designed and built with due consideration and a strict adherence to earthquake design requirements, building codes and conformance to Metro Design Standards for the ground motions of the design level earthquakes.

- GEO-1-Seismic Ground Shaking
- GEO-3-Operational Procedures During an Earthquake
- GEO 7 - Tunnel Advisory Panel Design Review

By compliance with these regulations and requirements, potential seismic ground shaking impacts will be minimized and impacts will be reduced to less than significant.

**Subsidence and Settlement**

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In recent years, Metro has employed improved tunneling techniques to minimize impacts on adjacent properties. Pressurized face tunnel boring machines developed over the past 30 years now provide reliable control of ground movements around the tunnel and have become a standard throughout the world. Behind the cutting wheel at the front of the tunnel is an enclosed chamber that is filled with the excavated soil. This provides pressure that supports the ground in front of the tunnel face and significantly reduces the risk of surface subsidence. Using this technology, Metro recently completed 1.7-miles of twin tunnel for the Metro Gold Line Eastside Extension project, passing beneath structures with no measurable surface subsidence and no substantiated damage claims from settlement.

With regard to subsidence along the LPA, no current substantial subsidence problems related to petroleum or groundwater extraction have been identified. Therefore, the subsidence related to extraction of petroleum and groundwater is not considered a hazard to the LPA during operations. However, the potential exists for ground subsidence related to construction activities such as tunneling and dewatering at station areas along the full length of the proposed alignment and options. Therefore, construction dewatering induced subsidence poses a potentially adverse impact.

Dewatering is usually not necessary when tunneling with pressure-face TBMs. However, station construction will require excavations that will encounter the groundwater table and/or perched groundwater, dewatering may be required to complete the construction in some areas. Dewatering of the excavations made during construction could result in potentially damaging subsidence adjacent to the construction area. However, experience in much of the corridor is that the soils have previously undergone numerous cycles of ground-water fluctuation, and have therefore previously experienced the settlements associated with lowering of the ground water, and will not be expected to have significant additional settlement.

To minimize risks, prior to construction, structures along the tunnel alignment are assessed and tunneling equipment and operating criteria are selected that will best protect the structures. Ground movements are limited by monitoring and controlling critical operations of the tunnel boring machine, and, if needed, by use of supplemental ground control measures, such as grouting. Ground movements around the tunnel and at the surface are measured and nearby structures are surveyed in order to make timely adjustments and to confirm that ground movements are under control as the tunnel is advanced. The following mitigation measures will be implemented during construction to minimize any potential for ground settlement or subsidence.

- CON-47-Use of Pressurized-face TBMs for Tunnel Construction
- CON-48-Preconstruction Survey, Instrumentation, and Monitoring
- CON-49-Additional Geotechnical Exploration
- CON-50-Additional Methods to Reduce Settlement

With implementation of these mitigation measures, construction risks related to subsidence and settlement will be reduced to less than significant.

Results of these additional noise and vibration analyses and mitigation measures can be

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found in Section 4.6 of this Final EIS/EIR and the *Westside Subway Extension Noise and Vibration Study*. Please refer to Section 4.8 (operations) and Section 4.15 (construction) of the Final EIS/EIR for more detailed discussion of oil wells, methane gas, seismic risk and other geotechnical considerations. The results of further geotechnical investigations conducted during the Final EIS/EIR can be found in the *Westside Subway Extension Century City Area Fault Investigation Report* and the *Westside Subway Extension Century City Area Tunneling Safety Report*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

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Your comments about the planned modernization of Beverly Hills High School (BHHS) have been noted. Tunneling would not prevent future development of the BHHS campus. The vertical alignment of the tunnel would be 55 to 70 feet below the ground surface (to the top of the tunnel), which would allow for construction of an underground structure over the tunnel at a later date. It is not anticipated that any modernization plans including those for subterranean structures would conflict with the subway extension. However, Metro will continue to coordinate with BHHS throughout the design phase to minimize conflict.

**851-4**

Your comments about community attitudes have been noted. Your comment about members of the Beverly Hills community being strongly supportive of the Santa Monica route and adamantly opposed to alternative routes has also been noted. Your comment about the alternative routes being selected in support of commercial development has been noted.

Metro followed FTA's New Starts project planning and development process and carefully considered public input in developing the location of the Century City Station.

The process of determining the location of the Century City Station began with the *Westside Transit Corridor Alternatives Analysis Study in 2007*. At the beginning of the Alternatives Analysis (AA) Study, two general corridors—one along Wilshire Boulevard and the other along Santa Monica Boulevard—were presented to the public at Early Scoping meetings. Some people who spoke at the Early Scoping meetings generally supported the proposed station locations that were presented (Santa Monica Boulevard in Century City being one of them). However, some attendees also suggested additional or alternate station locations, with some commenting that the station in Century City should be south of Santa Monica Boulevard, closer to the center of Century City, which Metro took into consideration.

During scoping for the Draft EIS/EIR in 2009, Metro sought additional public comment on the alignment and station options in the Beverly Hills to Westwood area, including the Century City Station location. During preparation of the Draft EIS/EIR, the alignment and

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station locations were refined to avoid impacts to the natural and built environments where feasible, provide a cost-effective solution to increase east/west mobility in the Study Area, and respond to public and agency input. The analysis and refinement of the station and alignment locations, including the Century City Station location, are described in the *Westside Subway Extension Alternatives Screening and Refinement Following Scoping Report*. Ultimately, the Century City Santa Monica Station and the Century City Constellation Station were carried forward for analysis in the Draft EIS/EIR.

On October 28, 2010, the Metro Board of Directors approved the Draft EIS/EIR and identified Alternative 2 (Westwood/VA Hospital Extension) as the Locally Preferred Alternative (LPA). As part of the LPA selection, the Metro Board of Directors decided to continue to study both station location options in Century City (Santa Monica Boulevard and Constellation Boulevard) to address concerns raised by the community regarding locating a station directly on a seismic fault and the safety of tunneling under homes and schools. The results of these further studies as well as recommendations are described in the response to comment number 851-1. As stated above, the Westside Subway Extension will not reduce the availability of BHHS for use as an emergency shelter or impact the operations of its use as an emergency shelter.

The studies concluded by recommending that the Century City Station be located along Constellation Boulevard due to seismic safety concerns at the Santa Monica Boulevard Station and higher ridership projections with Constellation Boulevard Station. Following the public circulation of the Final EIS/EIR in early 2012, the Metro Board of Directors will certify the Final EIS/EIR and act on the Century City Station location recommendation in the adoption of the Project. In making their decision, the Metro Board of Directors will take into account all of the engineering and environmental factors that were analyzed in the *Century City Station Location Report* as well as public opinion.

The response to all comments received from the community during the circulation of the Draft EIS/EIR are located in Appendix H of the Final EIS/EIR.

Please refer to Section 8.8.2 and 8.8.3 of the Final EIS/EIR for more detailed responses to concerns related to the Century City Station. Refer to Sections 2.3, 2.4, and 2.5 of the Final EIS/EIR for an overview of the development of alternatives, including station locations, and the LPA selection process. The *Westside Subway Extension Alternatives Screening and Refinement Following Scoping Report* provides a more detailed description of the refinements to the Century City Station following Draft EIS/EIR scoping in response to community comments and engineering requirements. Refer to Section 7.3 of the Final EIS/EIR and the *Westside Subway Extension Century City Station Location Report* for a comparison of the two Century City Station locations. The results of further geotechnical investigations in the Century City vicinity can be found in the *Westside Subway Extension Century City Area Fault Investigation Report* and the *Westside Subway Extension Century*

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*City Area Tunneling Safety Report*. The results of further ridership studies can be found in the *Westside Subway Extension Technical Report Summarizing the Results of the Forecasted Alternatives* and the *Westside Subway Extension Century City TOD and Walk Access Study*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**851-5**

Your comment regarding property values has been noted.

Since the LPA will improve transit service in the Study Area, research suggests that it is likely that properties within walking distance of the stations will realize value premiums over similar properties that are farther away. Based on studies of other regions with transit systems (i.e., San Francisco, San Diego, and San Jose, California; New York, New York; and Portland, Oregon), an average home price increase of 6.4 percent within one-half mile of each transit station may be experienced. Although most studies on real estate value impacts from transit show increases in value, they cannot explicitly isolate transit benefits from other market forces that affect real estate values.

Value increases within proximity of a transit station are realized in sales price as well as rent premiums. For residential properties, these increases resulted from potential commute or recreational travel time savings and associated vehicle cost reductions (including both reduced mileage as well as a reduction in the number of cars owned by the household).

Negative impacts on property values from transit (termed "nuisance" effects) also can occur, but are not anticipated to result from this Project. Measurable noise impacts from vehicles, increased foot traffic, adjacent structures, transit-associated parking, and increased bus traffic interfacing with transit stations can reduce the desirability of properties near a fixed guideway station. Such nuisance effects will most likely occur in areas where value is not attributed to the accessibility improvements that transit provides. This does not appear likely within the Study Area, as stations are planned for areas that are already densely developed and near major roads and bus routes.

All residents and businesses displaced as a result of the LPA will be given advance written notice and will be informed of their eligibility for relocation assistance and payments under the Uniform Relocation Assistance and Real Property Acquisition Policies Act. In areas where the subway operates under private property, Metro will work with the property owner to secure a subsurface easement. The following mitigation measures will be implemented to ensure just compensation for acquisitions and easements:

- CN-1-Relocation Assistance and Compensation
- CN-2-Propose Joint-use Agreements
- CN-3-Compensation for Easements

**851-5**

Section 4.2.3 of the Final EIS/EIR assesses the property tax revenue loss anticipated under the LPA. The fiscal impact analysis shows that the LPA, will not lead to property tax losses in excess of 1 percent of the Project's Study Area tax base. Furthermore, property tax losses will not adversely affect any one tax district, including the City of Beverly Hills, within the Study Area. Therefore, no adverse effect will occur from losses in property tax revenues.

Please refer to Sections 4.2.2, 4.2.3, and 4.2.4 of this Final EIS/EIR for a discussion of the economic and fiscal impacts of the Project, including property acquisitions and easements. Refer to the *Westside Subway Extension Economic and Fiscal Impacts Analysis and Mitigation Report* for a more detailed discussion of property value and property tax impacts.



**BEST BEST & KRIEGER**  
ATTORNEYS AT LAW

Metropolitan Transportation Authority  
September 14, 2010  
Page 3

Based on its newly-designed Basic Aid status wherein local property taxes essentially fund the schools, a decrease in these property taxes will directly impact the quality of educational programming the Beverly Hills Unified District can offer to its students.

EIR Considerations:

The Board has obviously not had the opportunity to formally discuss the draft environmental impact statement/report (DEIS/R) which was recently released. However, upon an initial review, we are concerned that there appears to be a significant disconnect between the executive summary and the report data. Beverly Hills High School does not appear to be mentioned at all in the report.

Furthermore, it appears that all aerial maps code BHHS as "Government/Institutional Land" which could lead to a misperception that the site on which Beverly Hills High School is located is merely unoccupied space. The magnitude of the Westside Subway Extension project must require significant consideration of the public entities it impacts so that the best long term solution can be reached for the Westside community and all of the residents it affects.

The Beverly Hills Board of Education hopes that the above stated reasons will resonate with the Metropolitan Transportation Authority. It is also hoped that at the same time the MTA has a clear understanding of the strong support offered by the Board for the Santa Monica Boulevard route for the Westside Subway Extension.

Sincerely,  
  
Cathy S. Holmes  
of BEST BEST & KRIEGER LLP

CSH:tl

cc: Richard R. Douglas, Superintendent, Beverly Hills Unified School District

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851-6

**851-6**

Your comments about the EIR considerations have been noted. With regard to the executive summary and the report data, it should be noted that the summary is intended to provide a synopsis of the entire Draft and Final EIS/EIR, including the purpose and need, project description, environmental impacts, community outreach, costs and benefits, etc. For more detail on any topic addressed in the executive summary, a reader can refer to the full report. The data between the two documents is the same, just the level of detail is different.

The Beverly Hills High School is discussed in Section 4.13 as a community facility. The land use designation of Beverly Hills High School as government/institutional land is discussed in Section 4.1 Land Use of the Draft and Final EIS/EIR. Section 4.13 discusses the parklands and community services and facilities that are currently on a given site, while Section 4.1 discusses the zoning and other land use designations that are based on the land use maps and designations from the local jurisdictions. Beverly Hills High School is not identified as unoccupied space in either section. Additionally, the aerial maps showing land use in Section 4.1 include a separate category for "Parking/Vacant" parcels. In these maps Beverly Hills High School is not identified as a vacant parcel.

Your comment about the strong support of the Santa Monica Boulevard route by the Beverly Hills Board of Education has been noted. Please see response above to comment number 851-1.

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October 27, 2010

**BY HAND DELIVERY**

Honorable Don Knabe  
Chair, Board of Directors  
Metropolitan Transportation Authority  
One Gateway Plaza  
Los Angeles, CA 90012-2952

Re: Legal Inadequacies of the Westside Subway Extension Draft  
Environmental Impact Statement/Environmental Impact Report

Dear Mr. Knabe:

This office has been retained by the Beverly Hills Unified School District (the "District") to represent it with regard to the Westside Subway Extension (the "Project") Draft Environmental Impact Statement/Environmental Impact Report ("EIS/EIR"). As related to you in the District's letter dated October, 18, 2010, the Draft EIS/EIR contains numerous significant flaws that violate basic provisions of the California Environmental Quality Act.

852-1

The District is in total opposition to Alternative 4 in the EIS/EIR, which would locate the subway's tunnel directly underneath Beverly Hills High School (the "High School"), with a subway station nearby. The construction and operation of Alternative 4's tunnel and nearby subway station would result in significant adverse environmental impacts on the High School's children and staff. These significant impacts have not been addressed nor mitigated in the Draft EIS/EIR.

852-2

It is well known that the High School is located on a working oil field approved many years ago, with oil wells located onsite. The process of tunneling through the hazardous area underneath the High School imposes unacceptable explosion and cancer risks to the High School's population, and after construction is completed, these risks will be present in perpetuity. The imposition of these extreme risks on the District's students when the subway can serve Century City by running underneath Santa Monica Boulevard is a violation of state environmental law as well as bad policy.

**852-1**

Your comment about the Beverly Hills Unified School District's letter dated October 18, 2010 has been noted. This letter--and responses to the comments made--is included in Appendix H of the Final EIS/EIR.

Your comment about the District's opposition to Alternative 4 and concerns about tunneling beneath homes and schools has also been noted. On October 28, 2010, the Metro Board of Directors identified Alternative 2 (Westwood/VA Hospital Extension) as the Locally Preferred Alternative (LPA). As part of the LPA selection, the Metro Board of Directors decided to continue to study both station location options in Century City (Santa Monica Boulevard and Constellation Boulevard) to address concerns raised by the community regarding locating a station directly on a seismic fault and the safety of tunneling under homes and schools. The Metro Board of Directors also decided to not include the Constellation South alignment between the Wilshire/Rodeo and Century City Stations as part of the LPA, but to continue to study the Constellation North and the Santa Monica Boulevard alignments. The Constellation South alignment passed beneath more residential properties than the Constellation North or Santa Monica Boulevard alignments. In addition, the Metro Board of Directors decided to not include the West or Central alignments between Century City and Westwood/UCLA as part of the LPA, but to continue to study the East alignment because the East alignment is the most direct and least expensive route between the two stations.

Safety, both during construction and eventual operations, is one of Metro's highest priorities and is one of the key evaluation criteria in selection of the Locally Preferred Alternative (LPA). In response to the Metro Board of Director's request for more information, further analysis was undertaken to focus on the engineering and environmental aspects of the two options during the preparation of the Final EIS/EIR to expand on the studies conducted in preparation of the Draft EIS/EIR. It should be noted that prior to conducting the comparative study, the Santa Monica Boulevard Station location was shifted slightly to the east from the location in the Draft EIS/EIR to avoid the Santa Monica Fault zone.

On most transit tunnel projects, significant portions of the alignment are constructed adjacent to or beneath buildings. The LPA passes beneath homes and schools in these neighborhoods because the curve radius required for subway tunnels is much wider than that required at a typical surface street intersection. The current alignment minimizes tunneling under buildings to the east and west of both the Century City Stations. The station position on Constellation Boulevard requires the tunnel alignment to be under the south portion of Beverly Hills High School Building B in order to reach the station location. There is no reasonable tunnel alignment that does not pass under homes or structures within the Beverly Hills High School campus.

The geotechnical studies conducted during preparation of the Final EIS/EIR concluded that tunneling can be safely carried out beneath the Beverly Hills High School campus and the

**852-1**

West Beverly Hills, Century City, and Westwood neighborhoods. The use of state-of-the-art pressurized closed-face TBMs for soft-ground tunneling has greatly improved the control of ground movements such that tunneling can be done with minimal surface settlements. The presence of the tunnels will neither affect the risk to buildings above them during an earthquake nor change the severity of shaking. Finally, tunnels can be constructed and operated safely in gassy grounds and oil wells do not pose an unmitigatable risk to tunneling.

The additional detailed geotechnical studies also assessed soil conditions and determine the potential for noise or vibration impacts on the surface along the refined alignments. These studies concluded that the predicted vibration and noise levels are within the FTA requirements and operation of the subway is not anticipated to have adverse impacts with the implementation of mitigation, including areas where the tunnels pass beneath homes and schools. During construction, low levels of noise and vibration may be experienced for a day or two as each of the two TBMs pass under a given location. In addition, as the tunnels are driven, construction trains bring supplies to and from the tunnel heading. However, these underground construction noises will also be controlled to be within Metro criteria.

The Westside Subway Extension will not reduce the availability of BHHS for use as an emergency shelter or impact the operations of its use as an emergency shelter. Furthermore, tunneling would not prevent future development of the BHHS campus. The vertical alignment of the tunnel would be 55 to 70 feet below the ground surface (to the top of the tunnel), which would allow for construction of an underground structure over the tunnel at a later date.

These geotechnical studies also determined that the Century City Santa Monica Station would cross the West Beverly Hills Lineament, a northern extension of the active Newport-Inglewood Fault, which poses a significant safety risk to passengers at this station location. No evidence of faulting was found at the proposed Century City Constellation Station site. Tunnels to the east and west of Century City pass through at least two active faults. However, there are numerous tools, designs, and construction means and methods that have been used elsewhere that can be used to safely tunnel through these fault zones.

In addition, the Century City Constellation Boulevard Station has the best pedestrian environment, can be expected to attract the most transit riders, and is centrally located to help shape the redevelopment of Century City as an important transit-oriented destination on the Westside Subway Extension. Further refinements to the ridership analysis concluded that the Century City Constellation Station would result in 3,350 more boardings along new Westside Subway Extension stations than the Century City Santa Monica Station due to proximity to jobs and residences within the critical 600-foot and 1/4-mile walksheds.

**852-1**

Based on all of these factors, the *Century City Station Location Report* concluded by recommending that the Century City Station be located along Constellation Boulevard due to seismic safety concerns at the Santa Monica Boulevard Station and higher ridership projections with Constellation Boulevard Station.

Please refer to Section 8.8.2 and 8.8.3 of the Final EIS/EIR for more detailed responses to concerns related to the Century City Station and alignments and Section 8.8.4 of the Final EIS/EIR for a more detailed response to geotechnical concerns. Refer to Section 7.3 of the Final EIS/EIR and the *Westside Subway Extension Century City Station Location Report* for a comparison of the two Century City Station locations. The results of further geotechnical investigations in the Century City vicinity can be found in the *Westside Subway Extension Century City Area Fault Investigation Report* and the *Westside Subway Extension Century City Area Tunneling Safety Report*. The results of further ridership studies can be found in the *Westside Subway Extension Technical Report Summarizing the Results of the Forecasted Alternatives* and the *Westside Subway Extension Century City TOD and Walk Access Study*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**852-2**

Your comments about tunneling under the Beverly Hills High School relative to oil wells have been noted. Tunnels, through known oil well fields, have been safely constructed with no adverse incidents with either hazardous gas or oil casings. In recent Los Angeles tunneling history, there have been no oil well incidents related to tunneling, and oil well casings have been safely removed and re-abandoned.

During the Draft EIS/EIR, known oil fields and documented active or abandoned oil wells were identified from published oil well maps. Table 4-45 in the Draft EIS/EIR identifies oil wells (abandoned and active) that may be located within 100 feet of the proposed tunnel or station, as well as those that may be located within the proposed tunnel alignment. The oil fields themselves are much deeper than the potential subway tunnels. Shafts for existing active and abandoned oil wells have been mapped in the vicinity of the project alignment along with other utilities such as sewer, water, gas, and electric lines.

During the preparation of the Final EIS/EIR, a comprehensive study of all available information found that there was one mapped abandoned oil well within the proposed tunnel alignment. According to the state's records, the location of this well is beneath a parking structure on Century Park East and does not lie within the Beverly Hills High School (BHHS) campus. The magnetic survey program indicated that the mapped locations of abandoned oil wells could be inaccurate by 50 to 200 feet.

A geophysical (magnetic) survey was performed on the BHHS campus to detect metal,

**852-2**

which would indicate the presence of an abandoned oil well casing. The survey identified only one anomaly on the BHHS campus that is close to the alignment. It is on the west edge of the lacrosse field and is located 5 to 10 feet north of the tunnel envelope. The anomaly may or may not be a well casing, but it will be further investigated and addressed appropriately as described below.

For exploration beneath the BHHS buildings during the next phases of design, horizontal directional drilling (HDD) investigation will be conducted along the alignment at tunnel level. A magnetometer probe survey will be conducted in the drilled hole to detect metal casings so that if found, they can be re-abandoned properly below the tunnel depth prior to tunneling. Moreover, during tunnel construction in Los Angeles, magnetometer surveys have been conducted in probe borings extending in front of the TBM to ensure that obstructions, such as well casings, are detected before they are reached by the TBM. In suspected oil field areas, probing of the tunnel zone will be carried out by HDD either before tunneling or ahead of the face during tunneling. To ensure that these additional studies are conducted, the following mitigation is included in the Final EIS/EIR.

- CON-53-Further Research on Oil Well Locations

With implementation of this mitigation measure, oil wells do not pose a risk to tunneling for the project. Abandoned oil wells have been encountered in the past during tunneling in Los Angeles. Procedures have been developed to evaluate the well conditions and safely re-abandon them. Metro has experienced no gas incidents related to encounters with oil well casings during tunnel excavation on other projects.

Please refer to Section 4.8 and Section 4.15 of the Final EIS/EIR for more detailed discussion of oil wells. The results of further geotechnical investigations conducted during the Final EIS/EIR can be found in the *Westside Subway Extension Century City Area Fault Investigation Report* and the *Westside Subway Extension Century City Area Tunneling Safety Report*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**BEST BEST & KRIEGER**  
ATTORNEYS AT LAW

Hon. Don Knabe  
Board of Directors  
October 27, 2010  
Page 2

852-3 | Additionally, the EIR completely fails to evaluate the potential significant impacts due to the earthquake fault which runs along Santa Monica Boulevard. The EIR speculates regarding possible events yet fails to actually perform the requisite analysis to analyze such impacts nor to mitigate them. Given the potential impacts to school children, this dearth of analysis is unacceptable. BHUSD refers the MTA Board of Directors to the letter from the Southwest Beverly Hills Homeowners Association dated October 20, 2010 for a more complete discussion of the adverse unanalyzed seismic impacts of the Project.

852-4 | The High School serves as the principal disaster center for the City of Beverly Hills. Any subway construction beneath this emergency disaster center could result in the City not having a principal disaster center for its residents and workers. The EIR fails to adequately analyze this serious issue.

852-5 | BHUSD is also bound by stringent Field Act requirements which require that earthquake forces be taken into account when constructing/modernizing school facilities. The EIR fails to appropriately evaluate the impact that the Project may have on the District's ability to complete the planned modernization of the High School as previously approved by voters in 2008.

852-6 | Alternative 4 would also impose significant adverse noise and traffic effects on the High School. Construction activities would significantly impact traffic in the area, which is already among the most congested in the County, and create very high levels of noise. Both of these impacts would severely frustrate the educational mission of the High School, and noise and traffic issues would continue to plague the High School even after the subway begins service, yet the EIS/EIR fails to adequately analyze these issues.

852-7 | Under Alternative 4, these adverse environmental impacts will be unnecessarily inflicted on every succeeding class of freshman at Beverly Hills High School, forever. Given the availability of other alternative routes that meet the needs of the Project and the violation of state environmental laws, the Board of Directors should drop Alternative 4 from further consideration in the Westside Subway Expansion Project.

Sincerely,  
  
Michelle Ouellette  
of BEST BEST & KRIEGER LLP

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**852-3**

Your comments about the EIR failing to evaluate the potential significant impacts due to the earthquake fault have been noted. The LPA, as with most sites in southern California, is susceptible to strong ground shaking generated during earthquakes by nearby faults. At least one segment of the Santa Monica Fault crosses the LPA. In addition to the Santa Monica Fault, the West Beverly Hills Lineament (WBHL)/Newport-Inglewood Fault Zone crosses the LPA in the vicinity of Moreno Drive in the Century City area. However, many underground facilities-subway tunnels, sewers, and storm drains-have been built in Los Angeles and throughout California near and across active fault lines.

The hazards from an earthquake include fault rupture (cracking/fracturing of the ground where one side of the fault moves relative to the other), shaking, and other secondary effects. While the hazard due to shaking can be designed against, the hazard due to fault rupture is potentially much more severe, but is also much more limited in area, being confined to the specific zone of rupture. Because surface fault rupturing is generally confined to a relative narrow zone of tens to several hundred feet wide, avoidance is often a practical means of avoiding surface fault rupture hazards for facilities such as stations. Furthermore, since subway stations are structures for human occupancy, they should not be built on active fault/deformation zones because of life/safety concerns expressed in state regulations and in Metro Design Criteria.

However, for linear facilities such as tunnels, avoidance may not be possible. Design will allow for the tunnels to cross the faults as perpendicular as possible to the fault line to limit the area of potential damage. Tunneling or building stations along an active fault in a parallel direction is generally not recommended and is in some instances prohibited by State law. Depending on the predicted fault off-set and area over which the movement is distributed, some distortion may be accommodated by the structure. Special designs, such as larger tunnel diameters and enhanced tunnel linings, are employed when crossing fault zones to reduce the risk of damage and allow for a relatively swift return to regular operations should fault displacement take place at a tunnel crossing. The Metro Red Line tunnels cross the Hollywood Fault north of the Highland Station and were built to these heightened standards.

During the Final EIS/EIR phase, Metro conducted further geotechnical studies to supplement the studies conducted during the Draft EIS/EIR, which concluded that both the Santa Monica fault zone and the WBHL in the Century City vicinity are active fault zones and each fault zone is capable of generating earthquakes of M7 or greater with average surface displacements of 3 to 6 feet. Moreover, there is no knowledge of where either of these faults resides in their respective seismic cycles.

Santa Monica Boulevard effectively lies within the Santa Monica Fault zone from west of Century Park West to east of Avenue of the Stars. The originally proposed Santa Monica Boulevard Station at Avenue of the Stars would be directly within the fault zone. The WBHL

**852-3**

is a wide fault zone with several well-defined strands situated along the eastern margin of Century City. It is the inferred northern extension of the active Newport-Inglewood fault zone. The WBHL terminates the active Santa Monica Fault to the east. The refined location of the Santa Monica Station at Century Park East would straddle the WBHL. No evidence of faulting was found on the Constellation Boulevard Station site.

In summary, both of the Santa Monica Boulevard Station options are located within active fault zones, but the Constellation Boulevard Station site is located outside zones of active faulting and can be considered a viable option. The LPA will cross fault zones and will require special designs to accommodate fault movement. These mitigation measures, which are detailed in Section 4.8 of this Final EIS/EIR include:

- GEO-2-Fault Crossing Tunnel, Fault Rupture, Tunnel Crossing
- GEO 7 - Tunnel Advisory Panel Design Review

With implementation of these mitigation measures, impacts will be reduced to less than significant. During subsequent design phases, explorations will continue to more precisely locate the fault zones with respect to the tunnel alignment selected and the fault characteristics for design.

All tunnels, stations, shafts and all other project facilities and infrastructure are designed and built with due consideration and a strict adherence to earthquake design requirements, building codes and conformance to Metro Design Standards for the ground motions of the design level earthquakes.

- GEO-1-Seismic Ground Shaking
- GEO-3-Operational Procedures During an Earthquake
- GEO 7 - Tunnel Advisory Panel Design Review

By compliance with these regulations and requirements, potential seismic ground shaking impacts will be minimized and impacts will be reduced to less than significant.

Please refer to Section 4.8 and Section 4.15 of the Final EIS/EIR for more detailed discussion of seismic safety both during operation and construction. The results of further geotechnical investigations conducted during the Final EIS/EIR can be found in the *Westside Subway Extension Century City Area Fault Investigation Report* and the *Westside Subway Extension Century City Area Tunneling Safety Report*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**852-4**

Your comment regarding the emergency disaster shelter has been noted. Please refer to the response to comment number 852-1 above for information on geotechnical studies conducted in preparation of the Final EIS/EIR to determine the safety of tunneling beneath

**852-4**

homes and schools in Beverly Hills and Westwood. These geotechnical studies concluded that tunneling can be safely carried out beneath the Beverly Hills High School campus and the West Beverly Hills, Century City, and Westwood neighborhoods. The Westside Subway Extension will not reduce the availability of BHHS for use as an emergency shelter or impact the operations of its use as an emergency shelter.

Please refer to Section 8.8.2 and 8.8.3 of the Final EIS/EIR for more detailed responses to concerns related to the Century City Station. The results of further geotechnical investigations in the Century City vicinity can be found in the *Westside Subway Extension Century City Area Tunneling Safety Report*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**852-5**

Your comments about the planned modernization of Beverly Hills High School have been noted. Tunneling would not prevent future development of the BHHS campus. The vertical alignment of the tunnel would be 55 to 70 feet below the ground surface (to the top of the tunnel), which would allow for construction of an underground structure over the tunnel at a later date. It is not anticipated that any modernization plans including those for subterranean structures would conflict with the subway extension. However, Metro will continue to coordinate with Beverly Hills High School throughout the design phase to minimize conflict.

The geotechnical studies conducted during preparation of the Final EIS/EIR concluded that tunneling can be safely carried out beneath the Beverly Hills High School campus and the West Beverly Hills, Century City, and Westwood neighborhoods. The use of state-of-the-art pressurized closed-face TBMs for soft-ground tunneling has greatly improved the control of ground movements such that tunneling can be done with minimal surface settlements. The presence of the tunnels will neither affect the risk to buildings above them during an earthquake nor change the severity of shaking.

Please refer to Section 4.8 and Section 4.15 of the Final EIS/EIR for more detailed discussion of seismic safety both during operation and construction. The results of further geotechnical investigations conducted during the Final EIS/EIR can be found in the *Westside Subway Extension Century City Area Fault Investigation Report* and the *Westside Subway Extension Century City Area Tunneling Safety Report*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**852-6**

Your comments regarding noise and traffic impacts during both construction and operation have been noted.



**852-6**

Traffic impacts associated with LPA construction include reduced roadway traffic lanes and temporary street closures that could result in major traffic disruptions and bottlenecks. These impacts are associated with contractor work and storage areas, stations, crossovers, mining entry/exit locations, TBM operations and support activities, truck haul routes, transportation of oversized construction materials, station entrances, station appendages, grout injection, and drop holes for the LPA and are detailed in Section 3.8.2 of this Final EIS/EIR.

Subway stations are built by excavating the site for the station box and then building the station below ground. If the station is built under a street, it is covered over with concrete decking during construction to allow traffic to continue to flow overhead. Traffic will be disrupted at the beginning of station construction to allow for initial excavation and installation of the concrete decking, and again at the end to remove the decking and reconstruct the street. The Traffic-Control Activities during Station Construction table in Section 3.8 details the traffic-control activities during station construction and the duration of each activity.

Anticipated truck haul routes consist of major city arterial streets that trucks will use to transport spoils, muck, material, and equipment between the construction laydown site locations and the offsite disposal location using the nearest freeway interchange. To minimize peak-period traffic disruptions, haul truck activity will occur during off-peak and nighttime periods. These routes generally follow major commercial streets and avoid residential areas to the greatest extent possible. The proposed routes identified are provided in Section 3.8 of this Final EIS/EIR and the Westside Subway Extension Construction Traffic Analysis Report. The routes may be updated and revised once additional information, such as construction sequencing, is finalized. In addition, the proposed routes will be subject to the approval of Metro and appropriate departments at Federal, State, and local agencies. The routes will be finalized in coordination with local jurisdictions and will be located so as to minimize noise, vibration, and other possible impacts to adjacent businesses and neighborhoods.

TBM components will be transported to the tunnel construction site by truck. Several oversize deliveries will be required, some during nights and weekends. However, these large component deliveries are limited to the initial setup period for the TBM, as well as during the removal period. If a TBM is re-used to excavate a subsequent tunnel, the entire machine may be transported by road from one site to the next. This would require full or partial road closures, typically at night.

Following completion of the Project, if physical damage to haul routes was found, affected roads will be treated in a manner that returns affected facilities to pre-construction conditions. This work will restore the street or ground surface to its original condition, or

**852-6**

better. Site restoration operations will closely follow completion of the station structures. To maintain traffic flow, one-half of a street will be restored at a time and/or restoration will occur over weekends to enable an entire street to be temporarily closed to through traffic.

Backfill material will be trucked in, placed, and compacted. During backfilling over stations, utilities will be installed along with new sewer manholes and cable/duct vaults. Sidewalks will be restored, and the permanent street will be constructed, including paving, striping, and signage. Streets, sidewalks, and landscaping will be restored in accordance with City standards.

To minimize impacts to traffic circulation, the following mitigation measures will be implemented during construction:

- TCON-1-Traffic Control Plans
- TCON-2-Designated Haul Routes
- TCON-3-Emergency Vehicle Access
- TCON-4-Transportation Management Plan
- TCON-5-Coordination with Planned Roadway Improvements

TCON-2, TCON-3, TCON-4, TCON-5 were added during this Final EIS/EIR phase based on additional analysis of construction impacts on traffic circulation and concerns raised by the public. With implementation of the mitigation, construction-related adverse effects on traffic circulation will be reduced for adjacent commercial areas and residential neighborhoods. Although the construction impacts on traffic circulation identified will be temporary, impacts and/or residual impacts after mitigation will remain significant and unavoidable during the construction period.

During construction, the greatest noise impacts will occur near stations, tunnel access portals, and construction laydown areas where construction activities at the surface are concentrated. In addition, haul routes will experience increased truck traffic, which could add to traffic noise. With the exception of these areas, all other construction will occur completely below-grade. Section 4.15.3 of this Final EIS/EIR analyzes construction noise impacts and mitigation measures.

When the construction site for the station box is open, noise from construction equipment will be audible at street level and result in an adverse effect. This time period will produce the highest levels of construction noise. The excavation and installation of street decking is expected to last four to five months. As the excavation continues below street level, the noise of construction will be reduced because the sides of the excavated opening will act as a sound barrier. Eventually when the surface opening is covered with temporary decking, construction noise at the surface will no longer be noticeable above the traffic noise. Therefore, the excavation of the station box will result in a temporary adverse noise effect.

To reduce the potential for noise and vibration impacts to schools associated with

**852-6**

construction, Metro's plans, specifications, and estimates (bid) documents will include measures to comply with the City of Los Angeles, City of Beverly Hills, and County of Los Angeles noise ordinances during construction hours. To further reduce noise impacts during construction, the following mitigation measures will be implemented:

- CON-22-Hire or Retain the Services of an Acoustical Engineer
- CON-23-Prepare a Noise Control Plan
- CON-24-Comply with the Provisions of the Nighttime Noise Variance
- CON-25-Noise Monitoring
- CON-26-Use of Specific Construction Equipment at Night
- CON-27-Noise Barrier Walls for Nighttime Construction
- CON-28-Comply with Local Noise Ordinances
- CON-29-Signage
- CON-30-Use of Noise Control Devices
- CON-31-Use of Fixed Noise-Producing Equipment for Compliance
- CON-32-Use of Mobile or Fixed Noise-Producing Equipment
- CON-33-Use of Electrically Powered Equipment
- CON-34-Use of Temporary Noise Barriers and Sound-Control Curtains
- CON-35-Distance from Noise-Sensitive Receivers
- CON-36-Limited Use of Horns, Whistles, Alarms, and Bells
- CON-37-Requirements on Project Equipment
- CON-38-Limited Audibility of Project-Related Public Addresses or Music
- CON-39-Use of Haul Routes with the Least Overall Noise Impact
- CON-40-Designated Parking Areas for Construction-Related Traffic
- CON-41-Enclosures for Fixed Equipment
- TCON-2-Designated Haul Routes

Although mitigation measures will help to reduce noise impacts during construction, an adverse construction noise effect will remain after mitigation in the construction areas.

In addition to noise impacts, construction of the LPA could result in vibration impacts before mitigation is implemented. Impact pile driving at the station boxes will result in adverse vibration impacts. Perceptible vibration levels could be experienced within 200 feet of pile driving operations. Additionally, equipment used for underground construction, such as the TBM and mine trains, could generate vibration levels that could result in audible ground-borne noise levels in buildings at the surface, depending on the depth of the tunnel and soil conditions. Tunneling under residences and schools will occur for a limited time. The TBM tunnels between 30 and 100 feet per day. For an average residence or business, this means that the TBMs would be below the surface of that structure for no more than a day or two. Since underground construction is expected to occur continuously over a 24-hour day, there is the potential for the tunnel boring operation to be audible during nighttime sleep hours when background noise levels inside residential buildings are very low. However, as indicated, the period for this potential disruption would be limited to a few days or less and mitigation measures would be implemented to minimize impacts.

**852-6**

The contractor will be responsible for the protection of vibration-sensitive historic buildings or cultural resource structures within 200 feet of any construction activity. To ensure that noise and vibration impacts associated with construction are below threshold levels, Metro's plans, specifications, and estimates (bid) documents will include the following measures:

- CON-42-Phasing of Ground Impacting Operations
- CON-43-Alternatives to Impact Pile Driving
- CON-44-Alternative Demolition Methods
- CON-45- Restriction on Use of Vibratory Rollers and Packers
- CON-46-Metro Ground-Born Noise and Ground-Born Vibration Limits

If the Metro ground-borne noise limits or ground-borne vibration limits are exceeded during tunneling, the contractor will be required to take action to reduce vibrations to acceptable levels. Such action could include reducing the muck train speed, additional rail and tie isolation, and more frequent rail and wheel maintenance. However, there were no substantiated noise-level complaints made during tunneling for the Metro Gold Line Eastside Extension. Therefore, with mitigation, there will be no construction-related vibration adverse effects due to tunneling activities.

During operations, the LPA is expected to result in a slight decrease in the number of auto trips in the Study Area. Section 3.5 of this Final EIS/EIR includes an intersection-level traffic analysis to determine whether the LPA will result in additional traffic congestion at the local level due to passengers accessing the station. This analysis concluded that the LPA will not negatively impact any analyzed Study Area intersections with the exception of the Wilshire Boulevard and Beverly Drive intersection if the Wilshire/Rodeo Station entrance is located at the Bank of America site. This impact would be significant and unavoidable. However, this is not the recommended location for the Wilshire/Rodeo entrance. The recommended entrance, at Ace Gallery, would not result in any significant traffic impacts.

During operations, the LPA is not expected to result in any significant noise or vibration impacts with the implementation of mitigation. Subway tunnels are typically at least 50 to 70 feet below the surface to the track depth. As a result, noise and vibration are not typically noticeable at the surface. In the Beverly Hills, Century City, and Westwood areas, the proposed subway tunnels would generally be deeper than this in the areas where it would pass beneath homes and schools. For example, at Beverly Hills High School, the track depth would be 75-80 feet below the first floor of the school buildings. In Westwood, the track depth is more than 100 feet deep in most places. Since the first segment of the subway opened in 1993, Metro has received no complaints about noise or vibration due to subway operations.

Additional detailed geotechnical studies were conducted during the Final EIS/EIR phase to assess soil conditions and determine the potential for noise or vibration impacts on the surface along the refined alignments. This included measurements at the Beverly Hills High School site and in its buildings, as well as in the residential area between the Century City and Westwood/UCLA Stations.

**852-6**

These studies concluded that the predicted vibration and noise levels are within the FTA requirements, and tunnel operation is not anticipated to have adverse impacts with the implementation of mitigation. Noise from operation of the LPA from such sources as station ventilation system fans, emergency ventilation fans, traction power substations, and emergency generators will be designed to meet the noise-level limits specified in Metro Rail Design Criteria and will not result in any noise impacts. There are no vibration-sensitive receivers along the LPA that are predicted to exceed the FTA ground-borne vibration criteria.

Three locations along the LPA were identified where exceedance of the FTA ground-borne noise criteria will occur due to train operations along tangent track or through crossovers, if mitigation measures are not implemented. These locations are the Wilshire Ebell Theatre, an apartment building on Wilshire Boulevard at Orange Drive, and the Saban Theatre. To mitigate the potential for ground-borne noise impacts at these three locations, the following mitigation measures will be implemented:

- VIB-1—High compliance direct-fixation resilient rail fasteners will be incorporated into the design of the trackwork at the Wilshire Ebell Theatre and the Saban Theatre, which will reduce ground-borne noise by 5 to 7 dBA.
- VIB-2—A low impact crossover such as a moveable point frog or a spring-loaded frog will be used in the design of Wilshire/La Brea No. 10 double crossover for the apartments, which will reduce ground-borne noise by 5 to 6 dBA.

With these mitigation measures, there are no vibration-sensitive receivers that are predicted to exceed the FTA ground-borne vibration criteria during operation. Mitigation measure VIB-2 was added subsequent to the Draft EIS/EIR due to the additional studies conducted during preparation of this Final EIS/EIR.

Should future underground construction be considered that would place a school building foundation closer to the tunnel, mitigation measures could be implemented to reduce ground-borne noise and vibration impacts. To mitigate such noise impacts, a high-compliance direct-fixation resilient rail fastener can be incorporated into the track work.

Results of these additional noise and vibration analyses and mitigation measures can be found in Section 4.6 of this Final EIS/EIR and the *Westside Subway Extension Noise and Vibration Study*. The results of traffic analysis can be found in Sections 3.5 and 3.8 of the Final EIS/EIR the *Westside Subway Extension Construction Traffic Analysis Report*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**852-7**

Your comments about the environmental impacts affecting succeeding classes at Beverly Hills High School have been noted. Please see responses to comments 852-1, 852-2, 852-3, 852-4, 852-5 and 852-6 that indicate it is not anticipated that the Project would impact the high school.

**852-7**

Your preference for dropping Alternative 4 from further consideration has been noted. On October 28, 2010, the Metro Board of Directors identified Alternative 2 (Westwood/VA Hospital Extension) as the Locally Preferred Alternative (LPA).



255 S. Lasky Drive, Beverly Hills CA 90212 (310) 551-5100

October 18, 2010

## VIA FIRST CLASS MAIL

Mr. David Mieger, Project Director  
Los Angeles County Metropolitan Transportation Authority  
One Gateway Plaza, MS 99-22-5  
Los Angeles, CA 90012-2952

Re: Comments on Westside Subway Extension Draft Environmental Impact Statement/Environmental Impact Report

Dear Mr. Mieger:

The purpose of this letter is to provide the Beverly Hills Unified School District's ("BHUSD") comments on the Westside Subway Extension Draft Environmental Impact Statement/Environmental Impact Report ("Draft EIS/EIR"), as well as some of the District's overall concerns regarding the environmental impacts associated with the proposed Westside Subway Extension project ("Proposed Project").

During the August 23, 2010 regular meeting of the BHUSD Board of Education ("Board"), representatives from the Los Angeles County Metropolitan Transportation Authority ("MTA") spoke and answered questions about the Proposed Project. The Board made clear its strong support for the proposed extension of the Westside subway and the benefits such a subway would provide to transit riders. However, the Board also made it clear that BHUSD cannot support a proposed subway extension that does not follow the Santa Monica Boulevard route. Specifically, the proposed Option 4 alignment, which would take the subway extension directly under Beverly Hills High School ("BHHS"). The District's legal counsel has already submitted a letter to MTA setting forth BHUSD's general opposition to the Option 4 alignment.

Board of Education (773) President: Steven Fenton, Vice President: Lisa Korotkov, Brian David Goldberg, Ph.D., Myro S. Lurie, Jacob (Jesse) Matarazzo  
Administrative Staff: Superintendent: Richard R. Douglas, Assistant Superintendent, Business Services: Alex Charanis, Ed.D.  
Assistant Superintendent, Educational Services: K-12: Irene W. Straus, Ed.D., Director of Human Resources: Dawnalyn Murakami-Leopard, Ed.D.

**608-1**

Your comment in support of the Westside Subway Extension has been noted.

Your comment in support of the Century City Santa Monica Station location has been noted. On October 28, 2010, the Metro Board of Directors identified Alternative 2 (Westwood/VA Hospital Extension) as the Locally Preferred Alternative (LPA). As part of the LPA selection, the Metro Board of Directors decided to continue to study both station location options in Century City (Santa Monica Boulevard and Constellation Boulevard) to address concerns raised by the community regarding locating a station directly on a seismic fault and the safety of tunneling under homes and schools.

In response to the Metro Board of Director's request for more information, further analysis was undertaken to focus on the engineering and environmental aspects of the two options during the preparation of the Final EIS/EIR to expand on the studies conducted in preparation of the Draft EIS/EIR. It should be noted that prior to conducting the comparative study, the Santa Monica Boulevard Station location was shifted slightly to the east from the location in the Draft EIS/EIR to avoid the Santa Monica Fault zone.

The geotechnical studies conducted during preparation of the Final EIS/EIR concluded that tunneling can be safely carried out beneath the Beverly Hills High School campus and the West Beverly Hills, Century City, and Westwood neighborhoods. However, these studies also determined that the Century City Santa Monica Station would cross the West Beverly Hills Lineament, a northern extension of the active Newport-Inglewood Fault, which poses a significant safety risk to passengers at this station location. No evidence of faulting was found at the proposed Century City Constellation Station site.

In addition, the Century City Constellation Boulevard Station has the best pedestrian environment, can be expected to attract the most transit riders, and is centrally located to help shape the redevelopment of Century City as an important transit-oriented destination on the Westside Subway Extension. Further refinements to the ridership analysis concluded that the Century City Constellation Station would result in 3,350 more boardings along new Westside Subway Extension stations than the Century City Santa Monica Station due to proximity to jobs and residences within the critical 600-foot and 1/4-mile walksheds.

Based on all of these factors, the *Century City Station Location Report* concluded by recommending that the Century City Station be located along Constellation Boulevard due to seismic safety concerns at the Santa Monica Boulevard Station and higher ridership projections with Constellation Boulevard Station.

Please refer to Section 8.8.2 and 8.8.3 of the Final EIS/EIR for more detailed responses to concerns related to the Century City Station. Refer to Section 7.3 of the Final EIS/EIR and the *Westside Subway Extension Century City Station Location Report* for a comparison of the two Century City Station locations. The results of further geotechnical investigations in

608-1

**608-1**

the Century City vicinity can be found in the *Westside Subway Extension Century City Area Fault Investigation Report* and the *Westside Subway Extension Century City Area Tunneling Safety Report*. The results of further ridership studies can be found in the *Westside Subway Extension Technical Report Summarizing the Results of the Forecasted Alternatives* and the *Westside Subway Extension Century City TOD and Walk Access Study*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).



608-2

As a follow-up to the letter submitted by the District's legal counsel, this letter provides the BHUSD's specific comments and concerns regarding the Draft EIS/EIR. As described more fully below, BHUSD is primarily concerned with the following environmental impacts associated with the Proposed Project:

- Student and teacher safety
- Noise from construction and the completed project;
- Traffic from construction and the completed project;
- Air quality impacts during construction;
- BHHS' status as a historical resource and the Proposed Project's impacts to future modernization plans for BHHS; and
- The alternatives analysis in the Draft EIS/EIR

We have reviewed the Draft EIR/EIS for the Proposed Project, and have concerns regarding the sufficiency of the analysis and proposed mitigation measures for the Option 4 alignment as it relates to these issues. Beyond these environmental concerns, BHUSD also questions the need for an alignment that would have such significant environmental impacts and create such potential risks/negative impacts to sensitive receptors including schools and hospitals, especially when BHUSD understands that this alignment costs \$60.4 million more than an alignment that would avoid these impacts. Our specific comments on the Draft EIS/EIR are as follows:

#### COMMENTS

608-3

#### STUDENT AND TEACHER SAFETY

Student and teacher safety is the number one priority for BHUSD. With no significant consideration or absolute guarantee as to the impact to school buildings caused by vibrations from the trains, geotechnical considerations, oil wells current and past, as well as construction, operational defects and potential accidents, the BHUSD cannot agree to any proposed route which requires tunneling under its school facilities.

BHUSD has particular concerns regarding the safety of its students during the course of construction of the Proposed Project. These include the potential for tunnel collapse during construction, the potential for gas release, and equipment failures that could place students or teachers at BHHS at risk. The Draft EIS/EIR does not adequately analyze these impacts as they would apply to BHHS, and only proposes general mitigation measures that are not specific to BHHS and sensitive receptors such as students, and thus are insufficient to prevent these impacts from occurring.

Of greatest concern is the potential that tunneling, in what the Draft EIS/EIR terms "gassy areas", could lead to an explosion and potential injuries on the surface and/or in the construction area. The Draft EIR/EIS does not adequately analyze such potential impacts to sensitive areas such as BHHS. While the Draft EIR/EIS states that MTA will implement some basic mitigation measures to reduce the risk of explosion during construction, given

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#### 608-2

Your comments with regards to the following issues are addressed in the responses below to comments number 608-3, 608-4, 608-5, 608-6, 608-7, and 608-8.

Your comment questioning the need for an alignment under the high school has been noted. Metro followed FTA's New Starts project planning and development process and carefully considered public input in developing the location of the Century City Station. The process of determining the location of the Century City Station began with the *Westside Transit Corridor Alternatives Analysis Study in 2007*. At the beginning of the Alternatives Analysis (AA) Study, two general corridors-one along Wilshire Boulevard and the other along Santa Monica Boulevard-were presented to the public at Early Scoping meetings. Some people who spoke at the Early Scoping meetings generally supported the proposed station locations that were presented (Santa Monica Boulevard in Century City being one of them). However, some attendees also suggested additional or alternate station locations, with some commenting that the station in Century City should be south of Santa Monica Boulevard, closer to the center of Century City, which Metro took into consideration.

During scoping for the Draft EIS/EIR in 2009, Metro sought additional public comment on the alignment and station options in the Beverly Hills to Westwood area, including the Century City Station location. During preparation of the Draft EIS/EIR, the alignment and station locations were refined to avoid impacts to the natural and built environments where feasible, provide a cost-effective solution to increase east/west mobility in the Study Area, and respond to public and agency input. The analysis and refinement of the station and alignment locations, including the Century City Station location, are described in the *Westside Subway Extension Alternatives Screening and Refinement Following Scoping Report*. Ultimately, the Century City Santa Monica Station and the Century City Constellation Station were carried forward for analysis in the Draft EIS/EIR.

On October 28, 2010, the Metro Board of Directors approved the Draft EIS/EIR and identified Alternative 2 (Westwood/VA Hospital Extension) as the Locally Preferred Alternative (LPA). As part of the LPA selection, the Metro Board of Directors decided to continue to study both station location options in Century City (Santa Monica Boulevard and Constellation Boulevard) to address concerns raised by the community regarding locating a station directly on a seismic fault and the safety of tunneling under homes and schools. The results of these studies are described above in the response to comment number 608-1 and are in the *Century City Station Location Report*.

Based on the further analysis, the *Century City Station Location Report* concluded by recommending that the Century City Station be located along Constellation Boulevard due to seismic safety concerns at the Santa Monica Boulevard Station and higher ridership projections with Constellation Boulevard Station. Following the public circulation of the Final EIS/EIR in early 2012, the Metro Board of Directors will certify the Final EIS/EIR and act on the Century City Station location recommendation in the adoption of the Project. In making

**608-2**

their decision, the Metro Board of Directors will take into account all of the engineering and environmental factors that were analyzed in the *Century City Station Location Report* as well as public opinion.

Please refer to Section 8.8.2 and 8.8.3 of the Final EIS/EIR for more detailed responses to concerns related to the Century City Station. Refer to Sections 2.3, 2.4, and 2.5 of the Final EIS/EIR for an overview of the development of alternatives, including station locations, and the LPA selection process. The *Westside Subway Extension Alternatives Screening and Refinement Following Scoping Report* provides a more detailed description of the refinements to the Century City Station following Draft EIS/EIR scoping in response to community comments and engineering requirements. Refer to Section 7.3 of the Final EIS/EIR and the *Westside Subway Extension Century City Station Location Report* for a comparison of the two Century City Station locations. The results of further geotechnical investigations in the Century City vicinity can be found in the *Westside Subway Extension Century City Area Fault Investigation Report* and the *Westside Subway Extension Century City Area Tunneling Safety Report*. The results of further ridership studies can be found in the *Westside Subway Extension Technical Report Summarizing the Results of the Forecasted Alternatives* and the *Westside Subway Extension Century City TOD and Walk Access Study*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**608-3**

Your concerns regarding student and teacher safety at Beverly Hills High School have been noted. Safety, both during construction and eventual operations, is one of Metro's highest priorities and is one of the key evaluation criteria in selection of the Locally Preferred Alternative (LPA). In response to the Metro Board of Director's request for more information, further analysis was undertaken to focus on the engineering and environmental aspects of the two options during the preparation of the Final EIS/EIR to expand on the studies conducted in preparation of the Draft EIS/EIR. It should be noted that prior to conducting the comparative study, the Santa Monica Boulevard Station location was shifted slightly to the east from the location in the Draft EIS/EIR to avoid the Santa Monica Fault zone.

On most transit tunnel projects, significant portions of the alignment are constructed adjacent to or beneath buildings. The LPA passes beneath homes and schools in these neighborhoods because the curve radius required for subway tunnels is much wider than that required at a typical surface street intersection. The current alignment minimizes tunneling under buildings to the east and west of both the Century City Stations. The station position on Constellation Boulevard requires the tunnel alignment to be under the south portion of Beverly Hills High School Building B in order to reach the station location. There is no reasonable tunnel alignment that does not pass under homes or structures within the Beverly Hills High School campus.

**608-3**

The geotechnical studies conducted during preparation of the Final EIS/EIR concluded that tunneling can be safely carried out beneath the Beverly Hills High School campus and the West Beverly Hills, Century City, and Westwood neighborhoods. The use of state-of-the-art pressurized closed-face TBMs for soft-ground tunneling has greatly improved the control of ground movements such that tunneling can be done with minimal surface settlements. The presence of the tunnels will neither affect the risk to buildings above them during an earthquake nor change the severity of shaking. Finally, tunnels can be constructed and operated safely in gassy grounds and oil wells do not pose an unmitigatable risk to tunneling.

The additional detailed geotechnical studies also assessed soil conditions and determine the potential for noise or vibration impacts on the surface along the refined alignments. These studies concluded that the predicted vibration and noise levels are within the FTA requirements and operation of the subway is not anticipated to have adverse impacts with the implementation of mitigation, including areas where the tunnels pass beneath homes and schools. During construction, low levels of noise and vibration may be experienced for a day or two as each of the two TBMs pass under a given location. In addition, as the tunnels are driven, construction trains bring supplies to and from the tunnel heading. However, these underground construction noises will also be controlled to be within Metro criteria.

The Westside Subway Extension will not reduce the availability of BHHS for use as an emergency shelter or impact the operations of its use as an emergency shelter. Furthermore, tunneling would not prevent future development of the BHHS campus. The vertical alignment of the tunnel would be 55 to 70 feet below the ground surface (to the top of the tunnel), which would allow for construction of an underground structure over the tunnel at a later date.

These geotechnical studies also determined that the Century City Santa Monica Station would cross the West Beverly Hills Lineament, a northern extension of the active Newport-Inglewood Fault, which poses a significant safety risk to passengers at this station location. No evidence of faulting was found at the proposed Century City Constellation Station site. Tunnels to the east and west of Century City pass through at least two active faults. However, there are numerous tools, designs, and construction means and methods that have been used elsewhere that can be used to safely tunnel through these fault zones.

In addition, the Century City Constellation Boulevard Station has the best pedestrian environment, can be expected to attract the most transit riders, and is centrally located to help shape the redevelopment of Century City as an important transit-oriented destination on the Westside Subway Extension. Further refinements to the ridership analysis concluded that the Century City Constellation Station would result in 3,350 more boardings

**608-3**

along new Westside Subway Extension stations than the Century City Santa Monica Station due to proximity to jobs and residences within the critical 600-foot and 1/4-mile walksheds.

Based on all of these factors, the *Century City Station Location Report* concluded by recommending that the Century City Station be located along Constellation Boulevard due to seismic safety concerns at the Santa Monica Boulevard Station and higher ridership projections with Constellation Boulevard Station.

Your comment regarding methane gas and other subsurface hazardous gases has been noted. Please see the response below to comment number 608-6 regarding tunneling in gassy grounds.

Your comment regarding security at the Century City Station has been noted. Metro continues to work through its Transit Services Bureau (TSB) with the local law enforcement agencies from the jurisdictions that host the Metro system to reduce crime risk to its passengers, employees, and staff at and near Metro properties. The TSB and designated Metro staff are working to identify future resources and other security requirements for the proposed stations along the subway extension. The Metro TSB will evaluate their resources to identify appropriate staffing levels for the subway extension as stations are designed, built, and opened for service. To determine the most effective security design for stations and the extended system, a security assessment to identify potential vulnerabilities will be performed. Typically, the assessment will be developed based on crime report information from Metro, local law enforcement agencies, and various other vulnerability information. These and other assessment findings will be analyzed and used by Metro to develop security protection designs for each station along the subway extension.

Mitigation measure SS-6 in the Final EIS/EIR states that Metro will incorporate security features, including lighting, communication devices (e.g., passenger telephones), closed circuit television, signs and other design features, and law enforcement officers to reduce criminal activities. With implementation of this mitigation, no adverse impacts related to crime at stations is anticipated.

Please refer to Section 8.8.2 and 8.8.3 of the Final EIS/EIR for more detailed responses to concerns related to the Century City Station and alignments and Section 8.8.4 of the Final EIS/EIR for a more detailed response to geotechnical concerns. Refer to Section 7.3 of the Final EIS/EIR and the *Westside Subway Extension Century City Station Location Report* for a comparison of the two Century City Station locations. Please refer to Section 4.8 (operations) and Section 4.15 (construction) of the Final EIS/EIR for more detailed discussion of methane gas and other subsurface hazardous gases. The results of further geotechnical investigations in the Century City vicinity can be found in the *Westside Subway Extension Century City Area Fault Investigation Report* and the *Westside Subway*

**608-3**

*Extension Century City Area Tunneling Safety Report*. The results of further ridership studies can be found in the *Westside Subway Extension Technical Report Summarizing the Results of the Forecasted Alternatives* and the *Westside Subway Extension Century City TOD and Walk Access Study*. An assessment of security at stations is provided in Section 4.12 of the Final EIS/EIR. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

recent events in the Bay area, it would seem that when it comes to schools (and adjacent hospitals) any risk is too high. At a minimum, that risk needs to be adequately presented, analyzed, and demonstrably mitigated in the Draft EIS/EIR.

The potential safety impacts from tunneling also extend to long term damage to the structural safety of current and/or future school facilities including, but not limited to, the existing historical structures on BHHS campus. The long term effects of vibrations from passing trains could have structural implications for all structures on the property. During construction, the risk of tunnel collapse places sensitive properties such as the BHHS campus at extreme risk. As with the risk of gas leaks and explosion, these risks need to be adequately presented and analyzed in the Draft EIS/EIR.

BUHSD also has concerns regarding the location of the Century City station under the Option 4 alignment. The station would be located in close proximity to BHHS. The Draft EIS/EIR discusses the potential negative security impacts that stations can have on a community, but does not mention (and therefore consider) BHHS, and the potential negative impacts that the Century City station could have on the high school. The Draft EIS/EIR also needs to be revised to consider these impacts on BHHS.

#### NOISE

In addition to safety issues, BHUSD has significant concerns about the noise impacts associated with the Option 4 alignment. During construction, this alignment will require tunneling under BHHS. The Draft EIS/EIR states that during construction, noise levels from construction will be adverse. Table 4-55 in the Draft EIR/EIS indicates that decibel levels from construction will exceed an acceptable level for school operations. Although MTA plans to comply with the City of Beverly Hills Noise Ordinance during construction, daytime, school-hour noise levels will still potentially interfere with classroom programs and instruction. For that reason alone, it appears that the only suitable mitigation measure to prevent such impacts is to abandon the Option 4 alignment.

Operational noise impacts to BHHS are also a potential problem and are estimated to be near the upper thresholds for what the FTA determines to be acceptable for underground rail projects. However, even if such levels are within the FTA threshold, these levels are likely still too high for sensitive receptors like BHHS. In order for students to excel, an appropriately quiet school environment is required. The ground level noise associated with the Option 4 alignment threatens to irreparably alter BHHS' campus conditions, educational programs, and classroom instruction.

The Draft EIS/EIR does include some general mitigation measures to ensure that ground level noise does not interfere with above ground activities at other locations on the proposed track alignment. However, these appear to only include theater, residential, and hotel uses. At a minimum, similar mitigation measures should be incorporated with regard to BHHS, even though these measures alone may not be sufficient to prevent adverse impacts to BHHS' environment. In order to ensure that BHHS students and staff are not disturbed by operation of the Option 4 alignment, additional mitigation measures are likely necessary.

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#### 608-4

Your comment regarding noise and vibration during construction has been noted.

During construction, the greatest noise impacts will occur near stations, tunnel access portals, and construction laydown areas where construction activities at the surface are concentrated. In addition, haul routes will experience increased truck traffic, which could add to traffic noise. With the exception of these areas, all other construction will occur completely below-grade. Section 4.15.3 of this Final EIS/EIR analyzes construction noise impacts and mitigation measures.

When the construction site for the station box is open, noise from construction equipment will be audible at street level and result in an adverse effect. This time period will produce the highest levels of construction noise. The excavation and installation of street decking is expected to last four to five months. As the excavation continues below street level, the noise of construction will be reduced because the sides of the excavated opening will act as a sound barrier. Eventually when the surface opening is covered with temporary decking, construction noise at the surface will no longer be noticeable above the traffic noise. Therefore, the excavation of the station box will result in a temporary adverse noise effect.

To reduce the potential for noise and vibration impacts to schools associated with construction, Metro's plans, specifications, and estimates (bid) documents will include measures to comply with the City of Los Angeles, City of Beverly Hills, and County of Los Angeles noise ordinances during construction hours. To further reduce noise impacts during construction, the following mitigation measures will be implemented:

- CON-22-Hire or Retain the Services of an Acoustical Engineer
- CON-23-Prepare a Noise Control Plan
- CON-24-Comply with the Provisions of the Nighttime Noise Variance
- CON-25-Noise Monitoring
- CON-26-Use of Specific Construction Equipment at Night
- CON-27-Noise Barrier Walls for Nighttime Construction
- CON-28-Comply with Local Noise Ordinances
- CON-29-Signage
- CON-30-Use of Noise Control Devices
- CON-31-Use of Fixed Noise-Producing Equipment for Compliance
- CON-32-Use of Mobile or Fixed Noise-Producing Equipment
- CON-33-Use of Electrically Powered Equipment
- CON-34-Use of Temporary Noise Barriers and Sound-Control Curtains
- CON-35-Distance from Noise-Sensitive Receivers
- CON-36-Limited Use of Horns, Whistles, Alarms, and Bells
- CON-37-Requirements on Project Equipment
- CON-38-Limited Audibility of Project-Related Public Addresses or Music

**608-4**

- CON-39-Use of Haul Routes with the Least Overall Noise Impact
- CON-40-Designated Parking Areas for Construction-Related Traffic
- CON-41-Enclosures for Fixed Equipment
- TCON-2-Designated Haul Routes

Although mitigation measures will help to reduce noise impacts during construction, an adverse construction noise effect will remain after mitigation in the construction areas. In addition to noise impacts, construction of the LPA could result in vibration impacts before mitigation is implemented. Impact pile driving at the station boxes will result in adverse vibration impacts. Perceptible vibration levels could be experienced within 200 feet of pile driving operations. Additionally, equipment used for underground construction, such as the TBM and mine trains, could generate vibration levels that could result in audible ground-borne noise levels in buildings at the surface, depending on the depth of the tunnel and soil conditions. Tunneling under residences and schools will occur for a limited time. The TBM tunnels between 30 and 100 feet per day. For an average residence or business, this means that the TBMs would be below the surface of that structure for no more than a day or two. Since underground construction is expected to occur continuously over a 24-hour day, there is the potential for the tunnel boring operation to be audible during nighttime sleep hours when background noise levels inside residential buildings are very low. However, as indicated, the period for this potential disruption would be limited to a few days or less and mitigation measures would be implemented to minimize impacts.

The contractor will be responsible for the protection of vibration-sensitive historic buildings or cultural resource structures within 200 feet of any construction activity. To ensure that noise and vibration impacts associated with construction are below threshold levels, Metro's plans, specifications, and estimates (bid) documents will include the following measures:

- CON-42-Phasing of Ground Impacting Operations
- CON-43-Alternatives to Impact Pile Driving
- CON-44-Alternative Demolition Methods
- CON-45- Restriction on Use of Vibratory Rollers and Packers
- CON-46-Metro Ground-Born Noise and Ground-Born Vibration Limits

If the Metro ground-borne noise limits or ground-borne vibration limits are exceeded during tunneling, the contractor will be required to take action to reduce vibrations to acceptable levels. Such action could include reducing the muck train speed, additional rail and tie isolation, and more frequent rail and wheel maintenance. However, there were no substantiated noise-level complaints made during tunneling for the Metro Gold Line Eastside Extension. Therefore, with mitigation, there will be no construction-related vibration adverse effects due to tunneling activities. During operation, the LPA is not anticipated to result in noise or vibration impacts following the implementation of mitigation. Subway tunnels are typically at least 50 to 70 feet below the surface to the track depth. As a result, noise and vibration are not typically noticeable at the surface. In the Beverly Hills, Century City, and Westwood areas, the proposed subway tunnels would generally be deeper than this in the areas where it would pass beneath homes and schools. For

**608-4**

example, at Beverly Hills High School, the track depth would be 75-80 feet below the first floor of the school buildings. In Westwood, the track depth is more than 100 feet deep in most places. Since the first segment of the subway opened in 1993, Metro has received no complaints about noise or vibration due to subway operations. Additional detailed geotechnical studies were conducted during the Final EIS/EIR phase to assess soil conditions and determine the potential for noise or vibration impacts on the surface along the refined alignments. This included measurements at the Beverly Hills High School site and in its buildings, as well as in the residential area between the Century City and Westwood/UCLA Stations.

These studies concluded that the predicted vibration and noise levels are within the FTA requirements, and tunnel operation is not anticipated to have adverse impacts with the implementation of mitigation. Noise from operation of the LPA from such sources as station ventilation system fans, emergency ventilation fans, traction power substations, and emergency generators will be designed to meet the noise-level limits specified in Metro Rail Design Criteria and will not result in any noise impacts. There are no vibration-sensitive receivers along the LPA that are predicted to exceed the FTA ground-borne vibration criteria.

Three locations along the LPA were identified where exceedance of the FTA ground-borne noise criteria will occur due to train operations along tangent track or through crossovers, if mitigation measures are not implemented. These locations are the Wilshire Ebell Theatre, an apartment building on Wilshire Boulevard at Orange Drive, and the Saban Theatre. To mitigate the potential for ground-borne noise impacts at these three locations, the following mitigation measures will be implemented:

- VIB-1—High compliance direct-fixation resilient rail fasteners will be incorporated into the design of the trackwork at the Wilshire Ebell Theatre and the Saban Theatre, which will reduce ground-borne noise by 5 to 7 dBA.
- VIB-2—A low impact crossover such as a moveable point frog or a spring-loaded frog will be used in the design of Wilshire/La Brea No. 10 double crossover for the apartments, which will reduce ground-borne noise by 5 to 6 dBA.

With these mitigation measures, there are no vibration-sensitive receivers that are predicted to exceed the FTA ground-borne vibration criteria during operation. Mitigation measure VIB-2 was added subsequent to the Draft EIS/EIR due to the additional studies conducted during preparation of this Final EIS/EIR. Should future underground construction be considered that would place a school building foundation closer to the tunnel, mitigation measures could be implemented to reduce ground-borne noise and vibration impacts. To mitigate such noise impacts, a high-compliance direct-fixation resilient rail fastener can be incorporated into the track work.

Refer to Section 4.15 of the Final EIS/EIR for more detailed information on construction noise and vibration impacts. Results of the additional noise and vibration analyses conducted during the preparation of the Final EIS/EIR and mitigation measures can be found in Section 4.6 of this Final EIS/EIR and the *Westside Subway Extension Noise and*



**608-4**

*Vibration Study*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

608-5

**TRAFFIC**

BHUSD also has concerns regarding the traffic impacts associated with construction of the Option 4 alignment. According to the Draft EIS/EIR, the Century City area has zero available public parking spaces. As stated in the Draft EIR/EIS, the lack of parking means that more people will drive to the area to be dropped off, or will search for available parking beyond the 1/2 mile threshold studied in the Draft EIR/EIS. BHUSD is concerned that this lack of parking in close proximity to the Option 4 alignment's Century City station will cause more traffic to come to the area, and may place BHHS students at greater risk. More traffic means more accidents, and more risk to BHHS students and other pedestrians in the area. The BHHS area is already highly congested, MTA needs to incorporate additional mitigation measures to ensure that BHHS students are not put at risk by the additional traffic that would be generated from the Option 4 alignment's Century City station.

BHUSD has similar concerns with regard to traffic generated during construction of the Project. The construction will result in road closures and other delays that will heighten traffic problems in the vicinity of BHHS. BHUSD also notes that the Draft EIR/EIS appears internally inconsistent with regard to mitigation measures for construction traffic. The Draft EIR/EIS states that road closures required for construction would occur at night, or during off peak hours. This contradicts one of the proposed noise impact mitigation measures which states that construction will take place in compliance with local noise ordinances – e.g. during business hours.

608-6

**AIR QUALITY**

The Proposed Project will have significant adverse air quality impacts during construction. BHUSD has concerns regarding the proximity of the construction, and adverse air quality impacts to BHHS under the Option 4 alignment. Of greatest concern to BHUSD, however, is the potential for construction in "gassy areas" to result in releases of methane gas beneath or near the BHHS campus. The Draft EIS/EIR states that despite mitigation measures, subsurface construction in gassy areas will remain a risk. While the Draft EIS/EIR also states that the probability of an explosion or other gas related incident is low, it is BHUSD's position that even if that is the case, running a tunnel under a school in a manner that could create any risk of explosion or poisonous gas release creates an unacceptable risk for its students. For that reason, the only appropriate alignment for the Proposed Project would be under Santa Monica Boulevard rather than BHHS.

608-7

**IMPACTS TO BHHS AS A HISTORIC RESOURCE**

The Draft EIS/EIR does not adequately analyze the Proposed Project's impacts to BHHS as a historical resource. The report acknowledges that the BHHS campus is a historic resource but claims the Proposed Project would not impact the property. This is not the case. BHUSD is currently undergoing a much needed and extensive modernization of its buildings. The modernization was designed to preserve the historical character of the BHHS campus, and will be consistent with the historical character of the BHHS campus. Tunneling from the Option 4 alignment under BHHS could interfere with or impede such planned

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**608-5**

Traffic impacts associated with LPA construction include reduced roadway traffic lanes and temporary street closures that could result in major traffic disruptions and bottlenecks. These impacts are associated with contractor work and storage areas, stations, crossovers, mining entry/exit locations, TBM operations and support activities, truck haul routes, transportation of oversized construction materials, station entrances, station appendages, grout injection, and drop holes for the LPA and are detailed in Section 3.8.2 of this Final EIS/EIR.

Subway stations are built by excavating the site for the station box and then building the station below ground. If the station is built under a street, it is covered over with concrete decking during construction to allow traffic to continue to flow overhead. Traffic will be disrupted at the beginning of station construction to allow for initial excavation and installation of the concrete decking, and again at the end to remove the decking and reconstruct the street. The Traffic-Control Activities during Station Construction table in Section 3.8 details the traffic-control activities during station construction and the duration of each activity.

Anticipated truck haul routes consist of major city arterial streets that trucks will use to transport spoils, muck, material, and equipment between the construction laydown site locations and the offsite disposal location using the nearest freeway interchange. To minimize peak-period traffic disruptions, haul truck activity will occur during off-peak and nighttime periods. These routes generally follow major commercial streets and avoid residential areas to the greatest extent possible. The proposed routes identified are provided in Section 3.8 of this Final EIS/EIR and the Westside Subway Extension Construction Traffic Analysis Report. The routes may be updated and revised once additional information, such as construction sequencing, is finalized. In addition, the proposed routes will be subject to the approval of Metro and appropriate departments at Federal, State, and local agencies. The routes will be finalized in coordination with local jurisdictions and will be located so as to minimize noise, vibration, and other possible impacts to adjacent businesses and neighborhoods.

TBM components will be transported to the tunnel construction site by truck. Several oversized deliveries will be required, some during nights and weekends. However, these large component deliveries are limited to the initial setup period for the TBM, as well as during the removal period. If a TBM is re-used to excavate a subsequent tunnel, the entire machine may be transported by road from one site to the next. This would require full or partial road closures, typically at night.

Following completion of the Project, if physical damage to haul routes was found, affected roads will be treated in a manner that returns affected facilities to pre-construction conditions. This work will restore the street or ground surface to its original condition, or better. Site restoration operations will closely follow completion of the station structures. To

**608-5**

maintain traffic flow, one-half of a street will be restored at a time and/or restoration will occur over weekends to enable an entire street to be temporarily closed to through traffic.

Backfill material will be trucked in, placed, and compacted. During backfilling over stations, utilities will be installed along with new sewer manholes and cable/duct vaults. Sidewalks will be restored, and the permanent street will be constructed, including paving, striping, and signage. Streets, sidewalks, and landscaping will be restored in accordance with City standards.

To minimize impacts to traffic circulation, the following mitigation measures will be implemented during construction:

- TCON-1-Traffic Control Plans
- TCON-2-Designated Haul Routes
- TCON-3-Emergency Vehicle Access
- TCON-4-Transportation Management Plan
- TCON-5-Coordination with Planned Roadway Improvements

TCON-2, TCON-3, TCON-4, TCON-5 were added during this Final EIS/EIR phase based on additional analysis of construction impacts on traffic circulation and concerns raised by the public. With implementation of the mitigation, construction-related adverse effects on traffic circulation will be reduced for adjacent commercial areas and residential neighborhoods. Although the construction impacts on traffic circulation identified will be temporary, impacts and/or residual impacts after mitigation will remain significant and unavoidable during the construction period.

For noise impacts during construction, as described in Section 4.15 of this Final EIS/EIR, spillover traffic as a result of temporary street closures due to construction activities and haul truck routes have the potential to affect the residential character of the neighborhoods north and south of Wilshire and Santa Monica Boulevards. As mitigation, Metro will develop site-specific traffic-control plans, an overall transportation management plan, and designated haul routes that will use arterial streets and avoid residential neighborhoods (where feasible) during noise restriction hours and special events.

Your comment about neighborhood spillover parking at the Century City Station has been noted. Section 3.6 of this Final EIS/EIR estimates the demand for parking at the stations and determines whether surrounding neighborhoods would experience any spillover parking impacts due to subway riders looking for free, unrestricted parking within one-half mile of stations. The one-half mile threshold was established because this is the longest distance most transit riders are willing to walk to reach a station. Therefore, it is assumed that transit riders would not seek parking beyond one-half mile from a station. This analysis concluded that neither the Century City Constellation Station nor the Century City Santa Monica Station are anticipated to result in parking spillover impacts within one-half mile of the station. To further ensure no spillover parking impacts, the following mitigation measures will be implemented:

**608-5**

- T-2-Parking Monitoring and Community Outreach
- T-3-Residential Permit Parking Districts
- T-4-Consideration of Shared Parking Program

As a means of potentially using off-street parking in the vicinity of stations, Metro will consider developing a shared parking program with operators of off-street parking facilities to accommodate the Project's parking demand, thereby allowing subway riders to use excess capacity in these facilities. The revised off-street parking analysis conducted for this Final EIS/EIR determined that more than 100,000 off-street parking spaces serve commercial land uses within a one-half mile walking distance of the seven LPA station locations. As part of the analysis, a sampling of parking facility operators for each station location was contacted to determine availability of public parking in their facility on weekdays and weekends, daily parking rate, facility occupancy, and interest in partnering with Metro to make parking available to riders of the Westside Subway Extension. Based on a sample of operators at each station area, some shared parking potential for subway riders exists. However, this potential may be limited at individual facilities because many are near their capacity during weekdays.

For six months following the opening of service, Metro will monitor off-street parking activity in station areas through communication with parking operators to qualitatively gauge the effects on parking demand as a result of the Project and revisit their interest in participating in a shared parking program. It is anticipated that the Project will reduce parking demand in station areas, as some employees will use the subway to commute to work rather than driving. Because the development of a shared parking program will be contingent on the willingness of parking facility operators to participate, as well as the availability of parking supply at their facilities, it may be infeasible to implement this measure at some or all station areas where spillover parking impacts have been identified.

With implementation of the mitigation measures, spillover parking is not anticipated to be an adverse effect to neighborhoods surrounding the stations.

Since transit riders will not be driving to stations to park, traffic during operation is not anticipated to be an impact in station areas. Section 3.5 of this Final EIS/EIR includes an intersection-level traffic analysis to determine whether the LPA will result in additional traffic congestion at the local level, including in the vicinity of the Century City Station, due to passengers accessing the station. This analysis concluded that the LPA, including the Century City Station, will not negatively impact any analyzed Study Area intersections in the immediate vicinity of the Century City Station with either the Santa Monica or Constellation location.

Please refer to the *Westside Subway Extension Parking Impacts and Policy Plan* and the *Westside Subway Extension Updated Off-Street Parking Analysis Memorandum* for an analysis of parking impacts at stations. Please refer to the *Westside Subway Extension Construction Traffic Analysis Report* for a discussion of traffic impacts anticipated during construction. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports)

**608-6**

Your comment regarding methane gas and other subsurface hazardous gases has been noted.

Safety, both during construction and eventual operations, is one of Metro's highest priorities. It was also one of the key evaluation criteria during the Draft EIS/EIR, and has been further considered in the Final EIS/EIR phase. In 2005, an American Public Transportation Association Peer Review Panel determined that "It is possible to tunnel and operate a subway along the Wilshire Corridor safely." This conclusion was reached given the newer technology now used for tunneling, including pressurized face tunnel boring machines.

Subsurface gas is present throughout much of the Los Angeles area and is often a factor in foundation design and construction of underground structures. While tunneling for transportation has special considerations, other projects have been constructed in subsurface gas zones within the Los Angeles region, including buildings with deep parking garages and basements, storm drains, sewer projects and other utility projects along the Wilshire Corridor. In addition, Metro has safely operated the existing Metro Red/Purple Line subway for over 15 years and has successfully constructed subway tunnels where subsurface gas has been present.

Methane and hydrogen sulfide are present in high concentrations along about a 1.1 mile stretch of the Westside Subway Extension alignment along Wilshire Boulevard from about Burnside Avenue on the east to about La Jolla Avenue on the west. However, the entire LPA alignment passes through an area characterized by oil and gas fields and is within the City's Methane Zone. Therefore, the possibility of encountering gaseous subsurface conditions can be expected for any portion of the alignment, and hazardous subsurface gases pose a significant hazard for construction of the LPA.

During construction, the pressurized face tunnel boring machines isolate gas from workers and the public, while gassy soil and tar sands are handled and disposed of appropriately. Robust underground ventilation and gas monitoring systems provide additional warning and protection. In addition, the state of California's division of Occupational Safety and Health (Cal/OSHA) maintains strict safety orders for tunneling where ground is classified as "Gassy" or "Potentially Gassy." Safety measures include continuous monitoring of the environment, "spark-proof" equipment, and other means to reduce risks to workers and the surroundings. The following mitigation measures will be implemented during construction of the LPA to reduce risks related to the presence of hazardous subsurface gases:

- CON-51—Techniques to Lower the Risk of Exposure to Hydrogen Sulfide
- CON-52—Measures to Reduce Gas Inflows
- CON-53—Further Research on Oil Well Locations
- CON-54—Worker Safety for Gassy Tunnels

**608-6**

The design and operation for tunnels and stations will provide a redundant protection system against gas intrusion. This will include: physical barriers to keep gas out of the tunnels and stations; high volume ventilation systems to dilute gases to safe levels; gas detection and monitoring systems with alarms; emergency ventilation triggered by the gas detection systems; additional training of personnel to respond to alarms. The following mitigation measures will be implemented during operation of the LPA to minimize risks related to subsurface hazardous gases:

- GEO-5 – Hazardous Subsurface Gas Operations
- GEO-6—Hazardous Subsurface Gas Structural Design
- GEO-7 – Tunnel Advisory Panel Design Review

With implementation of these mitigation measures, risks associated with hazardous subsurface gases will be reduced to less than significant levels during both construction and operation of the LPA.

Please refer to Section 4.8 (operations) and Section 4.15 (construction) of the Final EIS/EIR for more detailed discussion of methane gas and other subsurface hazardous gases. The results of further geotechnical investigations conducted during the Final EIS/EIR can be found in the *Westside Subway Extension Century City Area Tunneling Safety Report*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**608-7**

Project construction will not have an effect on the Beverly Hills High School (BHHS) campus. Section 4.14 of the Final EIS/EIR identifies BHHS as historic property and concludes that a No Adverse Effect Determination under Section 106 was made for BHHS. Construction of the Project will not cause physical destruction or damage to the BHHS campus, and will not change the character of the use of the property or physical features within the setting of the property that contributes to its significance. Also, the Project will not result in indirect visual, atmospheric, or audible elements that will diminish the integrity of significant features of the BHHS campus.

Your comments about the planned modernization of Beverly Hills High School have been noted. Tunneling would not prevent future development of the BHHS campus. The vertical alignment of the tunnel would be 55 to 70 feet below the ground surface (to the top of the tunnel), which would allow for construction of an underground structure over the tunnel at a later date. It is not anticipated that any modernization plans including those for subterranean structures would conflict with the subway extension. However, Metro will continue to coordinate with Beverly Hills High School throughout the design phase to minimize conflict.

The geotechnical studies conducted during preparation of the Final EIS/EIR concluded that tunneling can be safely carried out beneath the Beverly Hills High School campus and the

**608-7**

West Beverly Hills, Century City, and Westwood neighborhoods. The use of state-of-the-art pressurized closed-face TBMs for soft-ground tunneling has greatly improved the control of ground movements such that tunneling can be done with minimal surface settlements. The presence of the tunnels will neither affect the risk to buildings above them during an earthquake nor change the severity of shaking.

Please refer to Section 4.8 and Section 4.15 of the Final EIS/EIR for more detailed discussion of seismic safety both during operation and construction. The results of further geotechnical investigations conducted during the Final EIS/EIR can be found in the *Westside Subway Extension Century City Area Fault Investigation Report* and the *Westside Subway Extension Century City Area Tunneling Safety Report*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

608-8

District improvements by placing underground parking structures and other proposed improvements on the BHHS campus in conflict with the proposed subway tunnels. This could prevent BHUSD from upgrading the campus consistent with the historical nature of the existing structures. Additionally, as stated above, tunneling and the long term effects of vibrations from passing trains could have structural implications for any current or future structures on the property. These impacts need to be thoroughly considered in the Draft EIS/EIR.

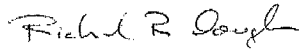
#### ALTERNATIVES ANALYSIS

The alternatives analysis for the Option 4 alignment does not appear to fully describe or analyze the impacts associated with the Proposed Project, and that particular alignment. The track locations for the different Century City alternatives will have vastly different environmental impacts. These need to be compared in a more comprehensive user-friendly format. At present, the alternatives analysis only provides a brief comparison of costs, travel, and the number of subsurface easements required for project completion. This is insufficient to allow the public and decision makers to consider the full range of environmental impacts associated with each alternative.

#### CONCLUSION

The Beverly Hills Unified School District hopes that the above stated comments and concerns will resonate with the Metropolitan Transportation Authority. It is also hoped that at the same time the MTA has a clear understanding of the strong support offered by the Board for the Santa Monica Boulevard route for the Westside Subway Extension.

Sincerely,



Richard R. Douglas  
Superintendent of Schools

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#### 608-8

An Alternatives Analysis is the first step in the FTA's New Starts Project Planning and Development process. The purpose of an AA Study is to focus on a specific transportation need (or set of needs) in a given corridor, identify alternative actions to address these needs, and generate the information needed to select a preferred project for implementation, or a smaller set of viable alternatives for further study. To that end, preliminary alternatives were identified from early scoping, these alternatives were evaluated, and a set of alternatives were recommended for further consideration in the Draft EIS/EIR. "Option 4" was part of Alternative 1 and Alternative 11 that were carried forward into the Draft EIS/EIR. A thorough and detailed environmental analysis was then conducted on all alternatives in the Draft EIS/EIR, including Option 4, and all alternatives were analyzed on an equal basis. In many impact categories, the impacts for all alternatives were discussed under the category "Build Alternatives," as in those cases there were no differences in the options considered for that particular impact. In the instances where differences did occur between options, these were identified.

Additionally as discussed in response to comment 608-2, further analysis was undertaken to focus on the engineering and environmental aspects of the two Century City Station options during the preparation of the Final EIS/EIR to expand on the studies conducted in preparation of the Draft EIS/EIR. Please refer to the response for comment number 608-2 for details about this additional analysis and resulting recommendations.



RESOLUTION OF THE BOARD OF EDUCATION OF THE  
BEVERLY HILLS UNIFIED SCHOOL DISTRICT  
WESTSIDE SUBWAY EXTENSION

RESOLUTION 2010-2010-012


- WHEREAS, The Governing Board of the Beverly Hills Unified School District provided time during the regular Board Meeting of August 23, 2010 to allow time for Board and community members to discuss the Westside Subway Extension; and
- WHEREAS, The Governing Board of the Beverly Hills Unified School District made it very clear that they supported the proposed subway extension route along the Santa Monica corridor; and
- WHEREAS, The Governing Board of the Beverly Hills Unified School District were unanimous in their absolute opposition to any proposed alternative route that would take the subway extension under Beverly Hills High School and the School District Offices; and
- WHEREAS, The Governing Board of the Beverly Hills Unified School District were unanimous in their concern that any subway extension under Beverly Hills High School and the District Offices would have a negative impact on student and teacher safety, the ability of the District to fully and safely develop school property, and the ability of Beverly Hills High School to continue to act as a designated emergency center for the entire community;


NOW, THEREFORE, The Governing Board of the Beverly Hills Unified School District does hereby resolve to request that for the reasons stated above the Metro Board not approve under any circumstances a proposed subway route under Beverly Hills High School or the District Offices.


Adopted by the Governing Board of the Beverly Hills Unified School District on October 18, 2010, in Beverly Hills, County of Los Angeles, California, by the following vote:

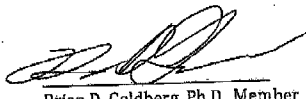
AYES: 5  
NAYS: 0  
ABSENTIONS: 0  
ABSENCES: 0

BOARD OF EDUCATION OF  
THE BEVERLY HILLS UNIFIED SCHOOL DISTRICT


  
Steven Fenton  
Board President

  
Richard R. Douglas,  
Superintendent

  
Lisa Korbatov, Vice President

  
Brian D. Goldberg, Ph.D., Member

  
Myra B. Lurie, Member

  
Jake Manaster, Member

-----Original Message-----

From: Lisa Korbato [mailto:korbato@mindspring.com]  
 Sent: Thursday, October 14, 2010 2:34 PM  
 To: Jackson, Michelle  
 Cc: Steven Fenton; Dick Douglas  
 Subject: Lisa korbato, vp board of education beverly hills  
 Importance: High

Hello Ms Jackson,  
 I received your contact information from Mr. Michael Cano, the transportation deputy for Supervisor Antonovich. I will be attending the next 3 MTA meetings, scheduled for October 20, 21, and 28. I will be in attendance with a sizeable cadre of fellow residents and Beverly Hills City Council elected Members, and fellow School Board members. We will come in advance to fill out speaking slips, so as to address the panel. The purpose of our attendance is to inform and educate the supervisors and MTA Board members as to the perils of the "direct route" for the Subway to the Sea that will tunnel under our ONLY high school, Beverly Hills High School, our District Office building and many residential properties in the south west area of our city. We have made it abundantly clear that the preferred route and alignment is Santa Monica Blvd. I have cc'd the President of my Board as well as the Superintendent of our school district. Thank you in advance for your cooperation.

Regards,  
 Lisa Korbato  
 Vice President, Board of Education  
 BHUSD  
 310 413 3223 mobile  
[korbato@mindspring.com](mailto:korbato@mindspring.com)

#### 452-1

Your comment in support of the Century City Santa Monica Station and concerns about tunneling beneath homes and schools has been noted. On October 28, 2010, the Metro Board of Directors identified Alternative 2 (Westwood/VA Hospital Extension) as the Locally Preferred Alternative (LPA). As part of the LPA selection, the Metro Board of Directors decided to continue to study both station location options in Century City (Santa Monica Boulevard and Constellation Boulevard) to address concerns raised by the community regarding locating a station directly on a seismic fault and the safety of tunneling under homes and schools. The Metro Board of Directors also decided to not include the Constellation South alignment between the Wilshire/Rodeo and Century City Stations as part of the LPA, but to continue to study the Constellation North and the Santa Monica Boulevard alignments. The Constellation South alignment passed beneath more residential properties than the Constellation North or Santa Monica Boulevard alignments. In addition, the Metro Board of Directors decided to not include the West or Central alignments between Century City and Westwood/UCLA as part of the LPA, but to continue to study the East alignment because the East alignment is the most direct and least expensive route between the two stations.

Safety, both during construction and eventual operations, is one of Metro's highest priorities and is one of the key evaluation criteria in selection of the Locally Preferred Alternative (LPA). In response to the Metro Board of Director's request for more information, further analysis was undertaken to focus on the engineering and environmental aspects of the two options during the preparation of the Final EIS/EIR to expand on the studies conducted in preparation of the Draft EIS/EIR. It should be noted that prior to conducting the comparative study, the Santa Monica Boulevard Station location was shifted slightly to the east from the location in the Draft EIS/EIR to avoid the Santa Monica Fault zone.

On most transit tunnel projects, significant portions of the alignment are constructed adjacent to or beneath buildings. The LPA passes beneath homes and schools in these neighborhoods because the curve radius required for subway tunnels is much wider than that required at a typical surface street intersection. The current alignment minimizes tunneling under buildings to the east and west of both the Century City Stations. The station position on Constellation Boulevard requires the tunnel alignment to be under the south portion of Beverly Hills High School Building B in order to reach the station location. There is no reasonable tunnel alignment that does not pass under homes or structures within the Beverly Hills High School campus.

The geotechnical studies conducted during preparation of the Final EIS/EIR concluded that tunneling can be safely carried out beneath the Beverly Hills High School campus and the West Beverly Hills, Century City, and Westwood neighborhoods. The use of state-of-the-art pressurized closed-face TBMs for soft-ground tunneling has greatly improved the control of ground movements such that tunneling can be done with minimal surface settlements. The presence of the tunnels will neither affect the risk to buildings above them during an

452-1

**452-1**

earthquake nor change the severity of shaking. Finally, tunnels can be constructed and operated safely in gassy grounds and oil wells do not pose an unmitigatable risk to tunneling.

The additional detailed geotechnical studies also assessed soil conditions and determine the potential for noise or vibration impacts on the surface along the refined alignments. These studies concluded that the predicted vibration and noise levels are within the FTA requirements and operation of the subway is not anticipated to have adverse impacts with the implementation of mitigation, including areas where the tunnels pass beneath homes and schools. During construction, low levels of noise and vibration may be experienced for a day or two as each of the two TBMs pass under a given location. In addition, as the tunnels are driven, construction trains bring supplies to and from the tunnel heading. However, these underground construction noises will also be controlled to be within Metro criteria.

The Westside Subway Extension will not reduce the availability of BHHS for use as an emergency shelter or impact the operations of its use as an emergency shelter. Furthermore, tunneling would not prevent future development of the BHHS campus. The vertical alignment of the tunnel would be 55 to 70 feet below the ground surface (to the top of the tunnel), which would allow for construction of an underground structure over the tunnel at a later date.

These geotechnical studies also determined that the Century City Santa Monica Station would cross the West Beverly Hills Lineament, a northern extension of the active Newport-Inglewood Fault, which poses a significant safety risk to passengers at this station location. No evidence of faulting was found at the proposed Century City Constellation Station site. Tunnels to the east and west of Century City pass through at least two active faults. However, there are numerous tools, designs, and construction means and methods that have been used elsewhere that can be used to safely tunnel through these fault zones.

In addition, the Century City Constellation Boulevard Station has the best pedestrian environment, can be expected to attract the most transit riders, and is centrally located to help shape the redevelopment of Century City as an important transit-oriented destination on the Westside Subway Extension. Further refinements to the ridership analysis concluded that the Century City Constellation Station would result in 3,350 more boardings along new Westside Subway Extension stations than the Century City Santa Monica Station due to proximity to jobs and residences within the critical 600-foot and 1/4-mile walksheds.

Based on all of these factors, the *Century City Station Location Report* concluded by recommending that the Century City Station be located along Constellation Boulevard due to seismic safety concerns at the Santa Monica Boulevard Station and higher ridership

**452-1**

projections with Constellation Boulevard Station.

Please refer to Section 8.8.2 and 8.8.3 of the Final EIS/EIR for more detailed responses to concerns related to the Century City Station and alignments and Section 8.8.4 of the Final EIS/EIR for a more detailed response to geotechnical concerns. Refer to Section 7.3 of the Final EIS/EIR and the *Westside Subway Extension Century City Station Location Report* for a comparison of the two Century City Station locations. The results of further geotechnical investigations in the Century City vicinity can be found in the *Westside Subway Extension Century City Area Fault Investigation Report* and the *Westside Subway Extension Century City Area Tunneling Safety Report*. The results of further ridership studies can be found in the *Westside Subway Extension Technical Report Summarizing the Results of the Forecasted Alternatives* and the *Westside Subway Extension Century City TOD and Walk Access Study*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).



Susan Healy Keene, AICP, Director  
Community Development Department

September 27, 2010

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Mr. David Mieger, Project Director  
Los Angeles Metropolitan Transportation Authority  
One Gateway Plaza, MS99-22-5  
Los Angeles, California 90012-2952  
E-Mail: miegerd@metro.net

**VIA Electronic Transmittal and First Class Mail**

Re: Public Review Period for Draft EIS/EIR for Westside Subway Extension Transit Corridor

Gentlemen,

The City of Beverly Hills is aware of the Notice of Availability for the Westside Subway Extension Transit Corridor Draft EIS/EIR. That notice, issued on September 3, 2010, states that the Draft EIS/EIR will be available for a 45-day public review period commencing on that date, and ending on October 18, 2010.

City of Beverly Hills 455 N. Bedford Drive, Beverly Hills, California 90210 T (310) 285-1120 F (310) 858-5966 BeverlyHills.org

552-1

As you surely know, the Draft EIS/EIR, including the various technical studies and appendices, is rather voluminous. Therefore, the City of Beverly Hills requests that it, and other reviewers of the Draft EIS/EIR, be accorded a full 45-day period in which to review the complete document, pursuant to State of California CEQA Guidelines Section 15105(a) and 40 Code of Federal Procedures Sec. 1506.10(c).

City staff has been monitoring the availability of various components of the Draft EIS/EIR on Metro's website (<http://www.metro.net/projects/westside/draft-eis-eir-sept-2010/>), and found that:

- the Traffic Analysis Impact Report was not available on September 10, 2010, but was available on September 13, 2010;
- the Transportation Impacts Report was not available on September 10, 2010, but was available on September 13, 2010;
- the Parklands and Other Community Facilities Technical Report was not available on September 10, 2010, but was available on September 13, 2010; and,
- the Historic Resources study was not available on September 13, 2010, but was available on September 16, 2010.

Based on the foregoing, the City of Beverly Hills requests extension of the public review period such that all reviewing agencies have a full 45 days in which to review the documents and compile comments. In other words, comments should be accepted until the expiration of a 45-day period from the last date on which any part of the Draft EIR/EIS, including technical studies, were made available to the public. As noted above, the earliest date on which all documents could have been available is September 14, 2010, because the Historic Resources study was not available on September 13, 2010.

Thank you for your attention to this matter, and we request a written response at your earliest convenience to inform the City of the revised date by which comments must be submitted.

Best regards,



Susan Healy Keene, AICP  
Director of Community Development

cc: Mayor Delshad and City Council members  
Jeffrey Kolin, City Manager  
David Gustavson, Director of Public Works and Transportation  
David Snow, Assistant City Attorney

### 552-1

Your request for an extension of the public review period has been noted. Metro provided the City of Beverly Hills an extension as requested and received the official comment letter from the City of Beverly Hills on October 19, 2010. Please refer to submission #824 for responses to Beverly Hills comments.



October 19, 2010

David Mieger  
Los Angeles County Metropolitan Transportation Authority - Metro  
One Gateway Plaza, MS 99-22-3  
Los Angeles, CA 90012-2952

Subject: Comments on the Metro Westside Subway Extension Draft Environmental Impact Statement/Draft Environmental Impact Report, State Clearing House No. 2009031083

Dear Mr. Mieger,

824-1 | The City of Beverly Hills City Council strongly supports the Westside Subway Extension and has, on every opportunity, formally endorsed extension of the subway through the City of Beverly Hills under Wilshire Boulevard and Santa Monica Boulevards. Although strongly supportive of the Westside Subway Extension, the City has significant concerns about and strongly opposes the "Constellation North" and "Constellation South" alignment alternatives outlined in the Draft Environmental Impact Statement/Draft Environmental Impact Report (DEIS/DEIR) that would tunnel under residential properties and Beverly Hills High School.

824-3 | The City of Beverly Hills also expresses support for the 30/10 plan that would provide for construction of the entire Westside Subway Extension in one phase. This plan would bring critical mass transit to the entire Westside within a reasonable timeframe, promote job creation, and minimize construction impacts.

824-4 | On August 4, 2009, the City Council, by Resolution No. 12692, unanimously adopted the recommendations of the citizen based Beverly Hills Mass Transit Committee supporting the Westside Subway Extension, including:

- Support of the Wilshire alignment, with the alignment at the west end of Beverly Hills continuing under Wilshire Boulevard and then veering southwest under Santa Monica Boulevard to Century City rather than under commercial or residential properties.
- Support of two stations within Beverly Hills near Beverly Drive and Wilshire Boulevard and near La Cienega Boulevard

City of Beverly Hills 455 N. Rexford Drive Beverly Hills, California 90210 t(310)285-1014 f(310)275-8159

BeverlyHills.org

#### **824-1**

Your comment in support of the Westside Subway Extension Project has been noted. On October 28, 2010, the Metro Board of Directors identified Alternative 2 (Westwood/VA Hospital Extension) as the Locally Preferred Alternative. Only Alternatives 1 and 2 are affordable within the adopted Long Range Transportation Plan, and between them, Alternative 2 provides higher ridership and improved cost effectiveness. Additionally, Alternative 2 serves the VA Hospital and other communities west of the I-405 more effectively.

Please refer to Sections 2.3, 2.4, and 2.5 of the Final EIS/EIR for an overview of the development of alternatives and the LPA selection process.

#### **824-2**

Your comment in opposition of the Constellation North and Constellation South alignments and concerns about tunneling beneath homes and schools has been noted. On October 28, 2010, the Metro Board of Directors identified Alternative 2 (Westwood/VA Hospital Extension) as the Locally Preferred Alternative (LPA). As part of the LPA selection, the Metro Board of Directors decided to continue to study both station location options in Century City (Santa Monica Boulevard and Constellation Boulevard) to address concerns raised by the community regarding locating a station directly on a seismic fault and the safety of tunneling under homes and schools. The Metro Board of Directors also decided to not include the Constellation South alignment between the Wilshire/Rodeo and Century City Stations as part of the LPA, but to continue to study the Constellation North and the Santa Monica Boulevard alignments. The Constellation South alignment passed beneath more residential properties than the Constellation North or Santa Monica Boulevard alignments. In addition, the Metro Board of Directors decided to not include the West or Central alignments between Century City and Westwood/UCLA as part of the LPA, but to continue to study the East alignment because the East alignment is the most direct and least expensive route between the two stations.

Safety, both during construction and eventual operations, is one of Metro's highest priorities and is one of the key evaluation criteria in selection of the Locally Preferred Alternative (LPA). In response to the Metro Board of Director's request for more information, further analysis was undertaken to focus on the engineering and environmental aspects of the two options during the preparation of the Final EIS/EIR to expand on the studies conducted in preparation of the Draft EIS/EIR. It should be noted that prior to conducting the comparative study, the Santa Monica Boulevard Station location was shifted slightly to the east from the location in the Draft EIS/EIR to avoid the Santa Monica Fault zone.

On most transit tunnel projects, significant portions of the alignment are constructed adjacent to or beneath buildings. The LPA passes beneath homes and schools in these neighborhoods because the curve radius required for subway tunnels is much wider than that required at a typical surface street intersection. The current alignment minimizes



**824-2**

tunneling under buildings to the east and west of both the Century City Stations. The station position on Constellation Boulevard requires the tunnel alignment to be under the south portion of Beverly Hills High School Building B in order to reach the station location. There is no reasonable tunnel alignment that does not pass under homes or structures within the Beverly Hills High School campus.

The geotechnical studies conducted during preparation of the Final EIS/EIR concluded that tunneling can be safely carried out beneath the Beverly Hills High School campus and the West Beverly Hills, Century City, and Westwood neighborhoods. The use of state-of-the-art pressurized closed-face TBMs for soft-ground tunneling has greatly improved the control of ground movements such that tunneling can be done with minimal surface settlements. The presence of the tunnels will neither affect the risk to buildings above them during an earthquake nor change the severity of shaking. Finally, tunnels can be constructed and operated safely in gassy grounds and oil wells do not pose an unmitigatable risk to tunneling.

The additional detailed geotechnical studies also assessed soil conditions and determine the potential for noise or vibration impacts on the surface along the refined alignments. These studies concluded that the predicted vibration and noise levels are within the FTA requirements and operation of the subway is not anticipated to have adverse impacts with the implementation of mitigation, including areas where the tunnels pass beneath homes and schools. During construction, low levels of noise and vibration may be experienced for a day or two as each of the two TBMs pass under a given location. In addition, as the tunnels are driven, construction trains bring supplies to and from the tunnel heading. However, these underground construction noises will also be controlled to be within Metro criteria.

The Westside Subway Extension will not reduce the availability of BHHS for use as an emergency shelter or impact the operations of its use as an emergency shelter. Furthermore, tunneling would not prevent future development of the BHHS campus. The vertical alignment of the tunnel would be 55 to 70 feet below the ground surface (to the top of the tunnel), which would allow for construction of an underground structure over the tunnel at a later date.

These geotechnical studies also determined that the Century City Santa Monica Station would cross the West Beverly Hills Lineament, a northern extension of the active Newport-Inglewood Fault, which poses a significant safety risk to passengers at this station location. No evidence of faulting was found at the proposed Century City Constellation Station site. Tunnels to the east and west of Century City pass through at least two active faults. However, there are numerous tools, designs, and construction means and methods that have been used elsewhere that can be used to safely tunnel through these fault zones.

**824-2**

In addition, the Century City Constellation Boulevard Station has the best pedestrian environment, can be expected to attract the most transit riders, and is centrally located to help shape the redevelopment of Century City as an important transit-oriented destination on the Westside Subway Extension. Further refinements to the ridership analysis concluded that the Century City Constellation Station would result in 3,350 more boardings along new Westside Subway Extension stations than the Century City Santa Monica Station due to proximity to jobs and residences within the critical 600-foot and 1/4-mile walksheds.

Based on all of these factors, the *Century City Station Location Report* concluded by recommending that the Century City Station be located along Constellation Boulevard due to seismic safety concerns at the Santa Monica Boulevard Station and higher ridership projections with Constellation Boulevard Station.

Please refer to Section 8.8.2 and 8.8.3 of the Final EIS/EIR for more detailed responses to concerns related to the Century City Station and alignments and Section 8.8.4 of the Final EIS/EIR for a more detailed response to geotechnical concerns. Refer to Section 7.3 of the Final EIS/EIR and the *Westside Subway Extension Century City Station Location Report* for a comparison of the two Century City Station locations. The results of further geotechnical investigations in the Century City vicinity can be found in the *Westside Subway Extension Century City Area Fault Investigation Report* and the *Westside Subway Extension Century City Area Tunneling Safety Report*. The results of further ridership studies can be found in the *Westside Subway Extension Technical Report Summarizing the Results of the Forecasted Alternatives* and the *Westside Subway Extension Century City TOD and Walk Access Study*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**824-3**

Your comment expressing support for the 30/10 Plan has been noted.

**824-4**

Your comment in support of the Wilshire Boulevard and the Santa Monica Boulevard alignment has been noted. Please see the response above to comment number 824-2 regarding the further analysis of the Century City Stations and associated alignments conducted during the preparation of the Final EIS/EIR.

The unanimous adoption of resolution number 12692 has been noted.

**824-5**

Your comment in support of the Wilshire/Rodeo and the Wilshire/La Cienega Stations has

**824-5**

been noted. Both stations were included in the LPA identified by the Metro Board of Directors in October 2010.

The unanimous adoption of resolution number 10-R-12725 has also been noted.

On January 12, 2010, the City Council, by Resolution No. 10-R-12725, unanimously adopted amendments to the City's General Plan which included policies to support extension of the subway through Beverly Hills along the Wilshire Boulevard/Santa Monica Boulevard alignment with stations at La Cienega Boulevard and Beverly/Rodeo Drive.

The City of Beverly Hills with the assistance of its consultant, the firm Shannon & Wilson, Inc., has reviewed the DEIS/DEIR and is providing the following broad comments on the options studied in the document. In addition to these comments, a list of specific comments and technical questions is attached.

#### Alignment to Century City

Of critical importance to the City of Beverly Hills is that the "Base" alignment from the Wilshire/Rodeo station (which tunnels under Wilshire and Santa Monica Boulevards) be selected as the preferred route.

The Westside Subway Extension alignment only deviates from Wilshire Boulevard to specifically provide transit service to Century City. The City of Beverly Hills agrees that the Westside Subway Extension should have a station to serve the employment densities of Century City but not at the expense or risk of tunneling under Beverly Hills High School and residential properties. According to the DEIS/DEIR, a "Constellation station" would cost \$56 million more than the "Base" Santa Monica Boulevard Century City station. We find no evidence in the DEIS/DEIR that a "Constellation" station would result in significantly higher ridership than the "Base" Santa Monica Boulevard station.

The alternative alignments in the DEIS/DEIR deviate from tunneling under Wilshire and Santa Monica Boulevards to provide mass transit to Century City. The City of Beverly Hills believes that the "Base" Santa Monica Boulevard station accomplishes the goal of providing a station to Century City. A station would provide a direct transit link to buses that operate along Santa Monica Boulevard. Pedestrian amenities and/or transit circulators could provide connections to the employment centers in Century City.

The two "Constellation" alignments would involve tunneling under residential properties, the Beverly Hills High School, and the site of the Beverly Hills Oil Field. Of paramount importance is the safety and well being of the High School's students and faculty. There has not been adequate identification of 'wild cat' or 'capped' oil wells at this site. The attached comments address the City's specific concerns, request additional studies and identification of all mitigations required for this tunneling, before any further consideration of these alternate alignments. The City Council of Beverly Hills is unanimous in its strong opposition to tunneling under Beverly Hills High School when Century City can be provided a "Base" station on Santa Monica Boulevard. In reviewing the DEIS/DEIR, the City finds no conclusive evidence that proves the Santa Monica alignment not to be feasible because of seismic impact. If, however, the identified location of the "Base" Santa Monica Boulevard station is indeed determined to be problematic after further seismic study, the City of Beverly Hills strongly requests that Metro explore alternatives that do not involve tunneling under Beverly Hills High School or residential properties.

#### Station Locations

The City of Beverly Hills finds the DEIS/DEIR consistent with the City of Beverly Hills formally adopted recommendations with respect to the station locations at La Cienega Boulevard and Beverly/Rodeo Drives.

#### 824-6

Your comment regarding the alignment to the Century City Station and safety of tunneling beneath Beverly Hills High School has been noted. Please see above response to comment number 824-2 regarding further study of the two Century City station locations and their associated alignments, including safety concerns.

Regarding station access and ridership projections for the Century City Station, during preparation of the Final EIS/EIR, the ridership model from the Draft EIS/EIR was further refined to assess the LPA and incorporate any changes between the Draft EIS/EIR and the Final EIS/EIR. More than ten model runs were conducted to respond to changes, perform additional analysis, and answer questions that were raised during the project development process in the Final EIS/EIR phase. The main types of refinement included feeder bus service, balanced headways and some coding refinement, to determine what changes should be included in the Final EIS/EIR model runs. The refined model predicted boardings along the new Westside Subway Extension stations are approximately 49,300 with the Century City Constellation Station, which is about 3,350 more than the predicted 45,986 boardings with the Century City Santa Monica Station. The main difference in boardings at the Century City Station is the increased walk access trips in the Constellation Station over the Santa Monica Station. The walking time between the TAZ 738 (Century City)'s centroid node and the Century City subway station is 3 minutes in the Constellation Option and 13 minutes in the Santa Monica Option. The number of jobs and jobs per square mile in the ¼ mile and ½ mile area around the Century City Stations is much higher in the Constellation Option than in the Santa Monica Option.

In addition to the refined ridership model, a supplemental ridership study was prepared to evaluate the relative accessibility of the Century City Station locations to surrounding commercial and residential development within a 1/2-mile walking distance. This data was then used to estimate the number of Westside Subway Extension riders who would walk to and from the stations. It should be noted that these ridership projections only consider those riders who walk to the station and these projections are intended to supplement the ridership forecasts. This analysis concluded that the Century City Constellation Boulevard Station attracts more Westside Subway riders compared to the station location along Santa Monica Boulevard. Based on both existing and projected future development in Century City, the Constellation Station has the highest concentration of jobs and residents within the critical 600-foot and 1/4-mile walksheds. As a consequence, the 14,005 riders estimated to walk to the Century City Station along Constellation Boulevard is approximately 72% greater than the approximately 8,145 riders expected to walk to the Santa Monica Boulevard Station. The Constellation Boulevard Station has the best pedestrian environment, can be expected to attract the most transit riders, and is centrally located to help shape the redevelopment of Century City as an important transit-oriented destination on the Westside Subway Extension.

Please refer to Section 8.8.2 and 8.8.3 of the Final EIS/EIR for more detailed responses to

824-6

**824-6**

concerns related to the Century City Station. Refer to Section 7.3 of the Final EIS/EIR and the *Westside Subway Extension Century City Station Location Report* for a comparison of the two Century City Station locations. The results of further ridership studies can be found in the *Westside Subway Extension Technical Report Summarizing the Results of the Forecasted Alternatives* and the *Westside Subway Extension Century City TOD and Walk Access Study*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).


824-7 | The City agrees that the "Base" station on the east side of La Cienega Boulevard is the preferred location to facilitate transfers to the north/south bus lines on La Cienega Boulevard. Also, the east side of La Cienega Boulevard is preferred because it is closer to the multiple family residential areas and has more viable staging and portal locations than the west side. To reduce pedestrian crossings at the highly congestion intersection at La Cienega/Wilshire Boulevard, the City requests that portals be placed both on the north and south sides of the street.

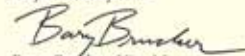
824-8 | The City also concurs with the "Wilshire/Rodeo" station proposed in the DEIS/DEIR. Due to the large concentration of commercial businesses on both sides of Wilshire Boulevard, including South Beverly Drive, it is essential that portals be located both on the north and south sides of Wilshire Boulevard.

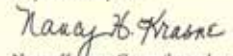
**Conclusion**

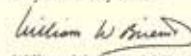
Thank you for the opportunity to comment on the Westside Subway Extension DEIS/DEIR. The City of Beverly Hills continues to strongly support the Westside Subway Extension along Santa Monica Boulevard and will work actively with Metro to resolve these critical issues.

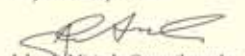
Sincerely,

  
Jimmy Delshad, Mayor  
City of Beverly Hills

  
Barry Brucker, Vice Mayor  
City of Beverly Hills

  
Nancy Kravne, Councilmember  
City of Beverly Hills

  
William W. Brien, M.D., Councilmember  
City of Beverly Hills

  
John A. Mirisch, Councilmember  
City of Beverly Hills

Attachment A: City staff comments

Attachment B: Shannon & Wilson comments

**824-7**

Your preference for the East location for the Wilshire/La Cienega Station has been noted. On October 28, 2010, the Metro Board approved Alternative 2 (Westwood/VA Hospital Extension) as the Locally Preferred Alternative (LPA). At Wilshire/La Cienega, the Board selected the East Station location without a West Hollywood connection structure for inclusion in the LPA. This is the preferred station entrance location for the City of Beverly Hills because it would be located in a denser, more commercial area than the other station location to the west of La Cienega. This entrance location also would provide excellent connections to two major north-south arterials - La Cienega and San Vicente Boulevards.

The number of entrances -at each station was based on the ridership projections for that station. Based on these projections, Metro would construct one entrance at each of the proposed stations, including the Wilshire/La Cienega Station, with the exception of two entrances at the Westwood/UCLA Station due to high ridership projections. The station entrance at Wilshire/La Cienega will be located on the northeast corner of Wilshire Boulevard and La Cienega Boulevard.

Please refer to Sections 2.3, 2.4, and 2.5 of the Final EIS/EIR for an overview of the development of alternatives and the LPA selection process.

**824-8**

Your support of the Wilshire/Rodeo Station location has been noted.

The number of entrances at each station was based on the ridership projections for that station. Based on these projections, Metro will construct one station entrance at each of the proposed stations, including the Wilshire/Rodeo Station. The one exception is two station entrances at the Westwood/UCLA Station due to high ridership projections.

Three station entrance locations for the Wilshire/Rodeo Station were considered in the Final EIS/EIR - the Ace Gallery site, the Union Bank site, and the Bank of America site. The recommendation is to locate the entrance at the Ace Gallery site, on the southwest corner of Wilshire Boulevard and Reeves Drive. Please refer to Section 7.4 of the Final EIS/EIR for an evaluation of the station entrance locations under consideration.



City of Beverly Hills  
Attachment A – Specific Comments on the Metro Westside Subway Extension DEIS/DEIR  
October 18, 2010

The City of Beverly Hills has reviewed the Draft Environmental Impact Statement/ Draft Environmental Impact Report (DEIS/DEIR) and is providing the following comments to be addressed in the Final report along with the comments provided in the cover letter.

- 824-9
- 1) **CONSISTENCY WITH EXISTING ENVIRONMENTAL REPORTS**- Environmental Impact Reports were conducted for projects near Santa Monica Boulevard and Avenue of the Stars, and near Avenue of the Stars and Constellation Boulevard in 2006 and 2004 respectively. The environmental findings in this report should not be inconsistent with the findings in those reports, and if inconsistencies do exist, a full explanation regarding the inconsistent conclusions should be provided. Specific information regarding the EIRs follows:
- a. Environmental Impact Report for the New Century City Plan associated with properties located at 10250 Santa Monica Blvd, 1801 Avenue of the Stars, and 1930 Century Park West (City of Los Angeles: ENV-2006-1914-EIR)
  - b. Environmental Impact Report for properties located at 10131 Constellation Blvd (City of Los Angeles: ENV-2004-6269-EIR)
- 824-10
- 2) **LOCATION OF THE BEVERLY HILLS LINEAMENT** – The Alternatives Screening and Refinement Following Environmental Scoping Report (page 4-15) suggests that the location of the West Beverly Hills lineament has been identified. However, prior to concluding that the location of this lineament is understood, additional analysis is necessary including the analysis recommendations provided by the City of Beverly Hills' Geological/ Geotechnical Consultant (Attachment B).
- 824-11
- 3) **CENTURY CITY STATION AND ALIGNMENT** –
- a. **Santa Monica Station** - If the Century City Station were to be located on Santa Monica Boulevard with an alignment along Wilshire and Santa Monica Boulevards, additional geological and geotechnical study is necessary, as has been detailed in the attached geological/ geotechnical comments.
  - b. **Constellation Station** - If the Century City Station were to be located on Constellation Boulevard, further study of the a "Constellation North" and "Constellation South" alignments as described in the report including additional geological and geotechnical study would be required and must include the following:
    - i. Location of the Beverly Hills Lineament –
      1. Additional geologic and geotechnical studies must be conducted as required above for the Santa Monica Blvd. station and alignment.
    - ii. Study of Abandoned Oil Wells –
      1. The location of abandoned oil wells on the Beverly Hills High School property, and other properties near the alignment must be exhaustively researched and analyzed, with all potential impacts fully disclosed and mitigated to the extent feasible. Nonetheless, the City strongly maintains that an alignment that goes under the High School is unacceptable.
      2. Means and methods of addressing abandoned wells within and near the potential subway tunneling area must be fully disclosed.
- 824-12
- 824-13

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### **824-9**

The Draft EIS/EIR and Final EIS/EIR for the Westside Extension Transit project were prepared using thorough and comprehensive analysis and in accordance with the requirements of CEQA and NEPA. The New City Plan EIR (ENV-2006-1914-EIR) proposed amending the Century City North Specific Plan and approving demolition of 360, 964 square feet of office at 1801 Avenue of the Stars and 1930 Century Park West. This proposal includes constructing a new 49 story building with a new shopping center, office space, and residential units. The 10131 Constellation Boulevard EIR (ENV-2004-6269-EIR) proposed development of 483 condominium units in three separate buildings at the northeast corner of Avenue of the Stars and Constellation Boulevard. The West Los Angeles Community Plan and General Plan for the City of Los Angeles provide that Century City develop as one of several high-intensity centers. The LPA would support this goal as well as serving both development projects. The station entrance proposed at the northeast corner of Avenue of the Stars and Constellation Boulevard could be integrated into future development on that site and use of the property for a construction staging area would be temporary. The Century City station would help accommodate existing and future transportation needs of the area by reducing automobile usage and providing opportunities for joint development, and enhancing regional connectivity. The LPA would not result in adverse indirect effects associated with land use compatibility. Please refer to Section 4.1 Land Use of this Final EIS/EIR for further discussion of potential impacts of the Project related to land use and development.

### **824-10**

Your comment about the Beverly Hills Lineament has been noted. During the Final EIS/EIR phase, Metro conducted further geotechnical studies to supplement the studies conducted during the Draft EIS/EIR. These studies concluded that both the Santa Monica fault zone and the WBHL in the Century City vicinity are active fault zones and each fault zone is capable of generating earthquakes of M7 or greater with average surface displacements of 3 to 6 feet. Moreover, there is no knowledge of where either of these faults resides in their respective seismic cycles.

Santa Monica Boulevard effectively lies within the Santa Monica Fault zone from west of Century Park West to east of Avenue of the Stars. The originally proposed Santa Monica Boulevard Station at Avenue of the Stars would be directly within the fault zone. The WBHL is a wide fault zone with several well-defined strands situated along the eastern margin of Century City. It is the inferred northern extension of the active Newport-Inglewood fault zone. The WBHL terminates the active Santa Monica Fault to the east. The refined location of the Santa Monica Station at Century Park East would straddle the WBHL. No evidence of faulting was found on the Constellation Boulevard Station site.

In summary, both of the Santa Monica Boulevard Station options are located within active fault zones, but the Constellation Boulevard Station site is located outside zones of active faulting and can be considered a viable option.

**824-10**

The results of further geotechnical investigations conducted during the Final EIS/EIR can be found in the *Westside Subway Extension Century City Area Fault Investigation Report* and Section 4.8 of the Final EIS/EIR. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**824-11**

Your comment requesting addition geological and geotechnical studies has been noted. As described in the response to comment number 842-2, extensive geotechnical studies were conducted during the preparation of the Final EIS/EIR. The studies were conducted for both the Century City Santa Monica Station and the Century City Constellation Station as well as the associated alignments for each station.

Please refer to Section 4.8 of the Final EIS/EIR for a discussion of geotechnical analysis. The results of further geotechnical investigations conducted during the Final EIS/EIR can be found in the *Westside Subway Extension Century City Area Fault Investigation Report* and the *Westside Subway Extension Century City Area Tunneling Safety Report*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**824-12**

Your comment requesting additional geotechnical studies for the Beverly Hills Lineament has been noted. Please see the above response to comment number 824-10 regarding the Beverly Hills lineament.

**824-13**

Your comment regarding the risks of tunneling near oil wells have been noted. Tunnels, through known oil well fields, have been safely constructed with no adverse incidents with either hazardous gas or oil casings. In recent Los Angeles tunneling history, there have been no oil well incidents related to tunneling, and oil well casings have been safely removed and re-abandoned.

During the Draft EIS/EIR, known oil fields and documented active or abandoned oil wells were identified from published oil well maps. Table 4-45 in the Draft EIS/EIR identifies oil wells (abandoned and active) that may be located within 100 feet of the proposed tunnel or station, as well as those that may be located within the proposed tunnel alignment. The oil fields themselves are much deeper than the potential subway tunnels. Shafts for existing active and abandoned oil wells have been mapped in the vicinity of the project alignment along with other utilities such as sewer, water, gas, and electric lines.

During the preparation of the Final EIS/EIR, a comprehensive study of all available



**824-13**

information found that there was one mapped abandoned oil well within the proposed tunnel alignment. According to the state's records, the location of this well is beneath a parking structure on Century Park East and does not lie within the Beverly Hills High School (BHHS) campus. The magnetic survey program indicated that the mapped locations of abandoned oil wells could be inaccurate by 50 to 200 feet.

A geophysical (magnetic) survey was performed on the BHHS campus to detect metal, which would indicate the presence of an abandoned oil well casing. The survey identified only one anomaly on the BHHS campus that is close to the alignment. It is on the west edge of the lacrosse field and is located 5 to 10 feet north of the tunnel envelope. The anomaly may or may not be a well casing, but it will be further investigated and addressed appropriately as described below.

For exploration beneath the BHHS buildings during the next phases of design, horizontal directional drilling (HDD) investigation will be conducted along the alignment at tunnel level. A magnetometer probe survey will be conducted in the drilled hole to detect metal casings so that if found, they can be re-abandoned properly below the tunnel depth prior to tunneling. Moreover, during tunnel construction in Los Angeles, magnetometer surveys have been conducted in probe borings extending in front of the TBM to ensure that obstructions, such as well casings, are detected before they are reached by the TBM. In suspected oil field areas, probing of the tunnel zone will be carried out by HDD either before tunneling or ahead of the face during tunneling. To ensure that these additional studies are conducted, the following mitigation is included in the Final EIS/EIR.

- CON-53—Further Research on Oil Well Locations

With implementation of this mitigation measure, oil wells do not pose a risk to tunneling for the project. Abandoned oil wells have been encountered in the past during tunneling in Los Angeles. Procedures have been developed to evaluate the well conditions and safely re-abandon them. Metro has experienced no gas incidents related to encounters with oil well casings during tunnel excavation on other projects.

Please refer to Section 4.8 and Section 4.15 of the Final EIS/EIR for more detailed discussion of oil wells. The results of further geotechnical investigations conducted during the Final EIS/EIR can be found in the *Westside Subway Extension Century City Area Fault Investigation Report* and the *Westside Subway Extension Century City Area Tunneling Safety Report*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

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- 824-14 iii. Further, the Final EIS/ EIR should analyze the effect on property values in and near the potential subway alignment during construction and thereafter.
- 824-15 iv. Further study of potential noise and vibration impacts from operation of the subway underneath residences and the High School is necessary to fulfill CEQA's mandate to disclose the Project's potential impacts.
- 824-16 v. The EIS/EIR, at page 2-4, states that seven goals were established to screen out alternatives and identify those carried forward into the Draft EIS/EIR. The Alternatives that would traversed under Beverly Hills residential neighborhoods and the Beverly Hills High School do not meet several of these goals including Goals C and D (Cost effectiveness and Project Feasibility): These alternatives would have increased costs due to the need to acquire easements under private property, and invite additional risks in the event of any subsidence or damage to existing development. Further, as to Goal G (Public Acceptance), the City of Beverly Hills, the Beverly Hills Unified School District, and hundreds, if not thousands, of Beverly Hills residents and property owners oppose the alignments under the Beverly Hills High School site.
- 824-17 vi. While the City of Beverly Hills strongly objects to any alignments that traverse under its residential neighborhoods and High School, the City is not opposed to the Constellation station location, provided the alignment from the Wilshire/Rodeo station stays under Wilshire and Santa Monica Boulevards in Beverly Hills.
- 824-18 4) **ROBERTSON CONNECTION BOX** -The Final Noise and Vibration Technical Report indicates that the connection structure would be located west of the Wilshire/ Robertson intersection (page 5-14); however Appendix A indicates that the structure may be located within the intersection itself. If the connection box is to be constructed, the box should be located on either side of the Wilshire/ Robertson intersection but not located within the intersection, to avoid closing both Wilshire and Robertson during initial construction. Additionally, please provide more information about the connection box with respect to the following:
- 824-19 a. Venting. The potential ventilation shaft studied in alternatives 1-5 and MOS 2 (temporary termination at Century City) for the connection structure, including the vent's location, purpose, and potential air emissions resulting.
- 824-20 b. Property acquisitions. Appendix C "Acquisitions" indicates that properties at the northeasterly corner of the Wilshire and Robertson intersection would be acquired (page C-3). These properties have been identified as "Acquisitions 34 and 35". The report indicates that these properties are currently under construction. Given that a new building with subterranean parking is being constructed on the sites, alternative sites should be identified in the event that the West Hollywood alignment is considered and the link between the West Hollywood line to the Wilshire line is located near Robertson Blvd.
- 824-21 c. If the Robertson Connection Box is installed, it would likely foreclose consideration of alternate locations in the future, such as a connection at the La Cienega station location, which would provide better ability for transfer between future rail lines. The City prefers

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**824-14**

Your comment regarding property values has been noted.

Since the LPA will improve transit service in the Study Area, research suggests that it is likely that properties within walking distance of the stations will realize value premiums over similar properties that are farther away. Based on studies of other regions with transit systems (i.e., San Francisco, San Diego, and San Jose, California; New York, New York; and Portland, Oregon), an average home price increase of 6.4 percent within one-half mile of each transit station may be experienced. Although most studies on real estate value impacts from transit show increases in value, they cannot explicitly isolate transit benefits from other market forces that affect real estate values.

Value increases within proximity of a transit station are realized in sales price as well as rent premiums. For residential properties, these increases resulted from potential commute or recreational travel time savings and associated vehicle cost reductions (including both reduced mileage as well as a reduction in the number of cars owned by the household).

Negative impacts on property values from transit (termed "nuisance" effects) also can occur but are not anticipated to result from this Project. Measurable noise impacts from vehicles, increased foot traffic, adjacent structures, transit-associated parking, and increased bus traffic interfacing with transit stations can reduce the desirability of properties near a fixed guideway station. Such nuisance effects will most likely occur in areas where value is not attributed to the accessibility improvements that transit provides. This does not appear likely within the Study Area, as stations are planned for areas that are already densely developed and near major roads and bus routes.

All residents and businesses displaced as a result of the LPA will be given advance written notice and will be informed of their eligibility for relocation assistance and payments under the Uniform Relocation Assistance and Real Property Acquisition Policies Act. In areas where the subway operates under private property, Metro will work with the property owner to secure a subsurface easement. The following mitigation measures will be implemented to ensure just compensation for acquisitions and easements:

- CN-1—Relocation Assistance and Compensation
- CN-2—Propose Joint-use Agreements
- CN-3—Compensation for Easements

Please refer to Sections 4.2.2, 4.2.3, and 4.2.4 of this Final EIS/EIR for a discussion of the economic and fiscal impacts of the Project, including property acquisitions and easements. Refer to the *Westside Subway Extension Economic and Fiscal Impacts Analysis and Mitigation Report* for a more detailed discussion of property value impacts.

**824-15**

Your comment regarding noise and vibration during operation has been noted.

Subway tunnels are typically at least 50 to 70 feet below the surface to the track depth. As a result, noise and vibration are not typically noticeable at the surface. In the Beverly Hills, Century City, and Westwood areas, the proposed subway tunnels would generally be deeper than this in the areas where it would pass beneath homes and schools. For example, at Beverly Hills High School, the track depth would be 75-80 feet below the first floor of the school buildings. In Westwood, the track depth is more than 100 feet deep in most places. Since the first segment of the subway opened in 1993, Metro has received no complaints about noise or vibration due to subway operations.

Additional detailed geotechnical studies were conducted during the Final EIS/EIR phase to assess soil conditions and determine the potential for noise or vibration impacts on the surface along the refined alignments. This included measurements at the Beverly Hills High School site and in its buildings, as well as in the residential area between the Century City and Westwood/UCLA Stations.

These studies concluded that the predicted vibration and noise levels are within the FTA requirements, and tunnel operation is not anticipated to have adverse impacts with the implementation of mitigation. Noise from operation of the LPA from such sources as station ventilation system fans, emergency ventilation fans, traction power substations, and emergency generators will be designed to meet the noise-level limits specified in Metro Rail Design Criteria and will not result in any noise impacts. There are no vibration-sensitive receivers along the LPA that are predicted to exceed the FTA ground-borne vibration criteria.

Three locations along the LPA were identified where exceedance of the FTA ground-borne noise criteria will occur due to train operations along tangent track or through crossovers, if mitigation measures are not implemented. These locations are the Wilshire Ebell Theatre, an apartment building on Wilshire Boulevard at Orange Drive, and the Saban Theatre. To mitigate the potential for ground-borne noise impacts at these three locations, the following mitigation measures will be implemented:

- VIB-1—High compliance direct-fixation resilient rail fasteners will be incorporated into the design of the trackwork at the Wilshire Ebell Theatre and the Saban Theatre, which will reduce ground-borne noise by 5 to 7 dBA.
- VIB-2—A low impact crossover such as a moveable point frog or a spring-loaded frog will be used in the design of Wilshire/La Brea No. 10 double crossover for the apartments, which will reduce ground-borne noise by 5 to 6 dBA.

With these mitigation measures, there are no vibration-sensitive receivers that are predicted to exceed the FTA ground-borne vibration criteria during operation. Mitigation

**824-15**

measure VIB-2 was added subsequent to the Draft EIS/EIR due to the additional studies conducted during preparation of this Final EIS/EIR.

Should future underground construction be considered that would place a school building foundation closer to the tunnel, mitigation measures could be implemented to reduce ground-borne noise and vibration impacts. To mitigate such noise impacts, a high-compliance direct-fixation resilient rail fastener can be incorporated into the track work.

Results of these additional noise and vibration analyses and mitigation measures can be found in Section 4.6 of this Final EIS/EIR and the *Westside Subway Extension Noise and Vibration Study*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**824-16**

The evaluation of the Alternatives and Options in the Draft EIS/EIR took into consideration all of the goals and objectives listed in Chapter 2. Cost effectiveness, feasibility, and public acceptance are only some of the numerous goals that the project was evaluated for. All of the goals and objectives including consideration of environmental impacts were balanced to identify the Alternatives to carry forward or eliminate. Please refer to Chapter 7 of the Draft EIS/EIR for detailed evaluation of Alternatives and Options.

**824-17**

Your comment stating that you do not oppose the Century City Constellation Station provided the alignment from Wilshire/Rodeo stays under Wilshire and Santa Monica Boulevards has been noted.

On most transit tunnel projects, significant portions of the alignment are constructed adjacent to or beneath buildings. The LPA passes beneath homes and schools in these neighborhoods because the curve radius required for subway tunnels is much wider than that required at a typical surface street intersection. The current LPA alignment minimizes tunneling under buildings to the east and west of both the Century City Stations. The station position on Constellation Boulevard requires the tunnel alignment to be under the south portion of Beverly Hills High School Building B in order to reach the station location. There is no reasonable tunnel alignment that does not pass under homes in Beverly Hills or structures within the Beverly Hills High School campus.

**824-18**

As part of the LPA selection, the Metro Board of Directors did not include the West Hollywood connection structure in the LPA. Therefore, this structure was not analyzed in the Final EIS/EIR and the requests for additional information is not necessary.

**824-19**

Your comment about the vent shaft near the connection structure has been noted. The vent shafts, as discussed in the Draft EIS/EIR, are emergency ventilation shafts with dampers, fans, and sound attenuators generally placed at both ends of a station box for primarily for exhausting smoke in the case of a fire. The vent shafts are also required in tunnel segments with more than 6,000 feet between stations to meet fire/life safety requirements.

The Project, if the LPA is implemented, would be electrically powered. As such, the Project is not anticipated to increase diesel traffic within the study area and is considered a project not of air quality concern. Since the Project is electrically-powered, there would also be no air quality emission impacts related to the vent shafts.

At the time of the Draft EIS/EIR preparation, vent shafts were identified as project elements that might be needed due to fire/life safety procedures in accordance with National Fire Protection Association 130 (Standard for Fixed Guideway Transit and Passenger Rail Systems) and operating policies. They were identified as such in certain areas to maintain train throughput for increased headways of 24 to 30 trains per hour. During the preparation of the Final EIS/EIR, it was determined that mid-line vent shafts would not be required.

**824-20**

Please see the above response to comment number 824-18 regarding the connection structure. No acquisitions related to the connection structure would be required as part of the LPA, and Metro no longer plans on acquiring the properties identified in the comment.

**824-21**

Please see the above response to comment number 824-18 regarding the connection structure.

The Draft EIS/EIR showed that there is a market for transit improvements serving West Hollywood, and this corridor is included in the Strategic Element of the 2009 Long Range Transportation Plan. Should funding be identified and secured, further study could be done to identify a project that would be competitive under Federal funding criteria. These additional studies could include further analysis of the best location and approach to connecting the West Hollywood branch and the Wilshire branch. Furthermore, the Metro Board of Directors determined that the cost of the connection structure is not sufficiently justified when there may be alternative, less costly solutions to serve the West Hollywood transit market, such as a light rail line.

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that the connection occur at La Cienega rather than installing the stand-alone connection box at Robertson. Before any final decision is made as to the Robertson Connection box, further study of the potential future connection in this area must be undertaken because the decision would likely foreclose other options.

5) **MITIGATION MONITORING PLAN** - The mitigation monitoring plan needs to include the following:

- 824-22 a. Additional study and analysis is needed for economic losses during construction, potential construction related impacts and specific effective mitigation measures to address potential construction related effects on visual quality, air quality, noise and vibration, exposure to hazardous substances and other construction related aspects.
- 824-23 b. The Final Construction and Mitigation Technical Report should not be considered final at this time. Estimations for construction related impacts cannot be truly validated 20 plus years in advance of actual construction; therefore, construction impacts and mitigation need to be revisited and be re-certified within 4 or 5 years prior to the actual start of construction. Impacted intersections (both en-route and diverted), arterial street segments and local street segments should be identified at that time and re-counted for latest volume and speed data. Local thresholds and calculation methods in effect at that future time should be used to conduct the analysis. Further, potential mitigation measures proposed to address potential impacts that could occur within the City of Beverly Hills should be identified, designed in coordination with the City of Beverly Hills staff, and eventually be approved by the Beverly Hills City Council. This process shall continue when the actual date and schedule of construction is identified and a construction task force for Beverly Hills is formed.
- 824-24 c. The DEIS/DEIR must identify a means of maintaining the state of residential neighborhoods, and addressing any economic or operational impacts to the human environment that may occur in the commercial/ retail areas during construction of the station boxes. Of particular concern to the City of Beverly Hills are impacts that would result in unnecessarily high traffic volume in residential neighborhoods, or impacts that cause substantial business interruptions or closures, and thus result in a substantial loss of revenue for local businesses. Careful consideration of potential impacts must occur along with coordination with the City of Beverly Hills, in the development of construction phase planning and project design, including the location of construction management plans and implementation of various mitigation measures intended to address construction impacts. Related activities such as staging areas, haul routes, generators, construction parking and other necessary activities during the construction phase must be considered in subsequent plans.
- 824-25 d. Groundwater in the Hollywood basin is not contaminated and every effort should be taken to preserve water quality. The City of Beverly Hills has reverse osmosis treatment plant and processes water from the basin for beneficial use. Ground water needs to be addressed in one of three ways: 1. Pay the City for replacement water, 2. Inject the water back into the basin, or 3. Make beneficial use of the water. For further information please refer to the Beverly Hills Municipal Code Title 9, Chapter 4, Section 610.

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#### **824-22**

Your comment regarding additional analysis of construction impacts has been noted. Section 4.15 and Section 3.8 of the Final EIS/EIR includes supplemental analysis of the construction impacts of the LPA.

Your comment regarding construction impacts to local businesses and communities has been noted. Construction will have temporary impacts on communities, including commercial and industrial businesses, particularly those near or adjacent to construction sites. Street closures are expected to impact mobility and access to community facilities, as much of the construction activity will be centered on Wilshire Boulevard, which is a central point of access for the neighborhoods. Sidewalk space may be obstructed temporarily for station and alignment construction, thereby reducing business access but additional access will be maintained to businesses and residences at all times. In addition to temporary street and sidewalk closures, construction activities will also reduce on-street and off-street parking. This could affect access to and profitability of existing businesses as customers may choose to avoid ongoing construction. Business impacts could also include reduced visibility of commercial signs and business locations. These construction impacts to neighborhoods and communities will be temporary adverse impacts, but the following mitigation measures will reduce the adverse effects for all adjacent neighborhoods:

- CON-1-Signage
- TCON-1-Traffic Control Plans
- TCON-2-Designated Haul Routes
- TCON-3-Emergency Vehicle Access
- TCON-4-Transportation Management Plan
- TCON-7-Parking Management
- TCON-8-Parking Monitoring and Community Outreach
- TCON-10-Pedestrian Routes and Access
- TCON-11-Bicycle Paths and Access

With implementation of these mitigation measures, there will be no adverse effect to communities or neighborhoods during construction.

The construction staging and laydown areas are identified in Section 2.6 and Appendix C of the Final EIS/EIR. It is noted that The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act), mandates that certain relocation services and payments be made available to eligible residents, businesses, and nonprofit organizations displaced as a direct result of projects undertaken by a Federal agency or with Federal financial assistance. The Uniform Act provides for uniform and equitable treatment for persons displaced from their homes and businesses and establishes uniform and equitable land acquisition policies. For more information refer to Section 4.2.2.

Refer to Section 4.15 and Section 3.8 of the Final EIS/EIR for more detailed information on construction impacts and a complete list of mitigation measures to reduce visual quality, air

**824-22**

quality, noise and vibration, and hazardous materials impacts during construction. All mitigation measures are also listed in Appendix I - Mitigation Monitoring and Reporting Plan.

**824-23**

Your comment about the construction mitigation needing to be revisited is correct. The report you cite was labeled "final" in terms of this phase but updated and new reports will be required as the project moves into implementation. Construction mitigation was identified as part of the Final EIS/EIR (please see Section 4.15 and Section 3.8 for these mitigations). These mitigation measures identify ongoing coordination with local jurisdictions as mitigation. The mitigation is compiled into a Mitigation Monitoring Plan that would be prepared prior to the start of construction. The Mitigation Monitoring Plan is then revisited on a quarterly basis by the Federal Transit Administration during the entire period of construction. The ongoing coordination with agencies is an important component of the project.

**824-24**

Your comment regarding construction impacts to residential neighborhoods has been noted. Please refer above to response to comment number 824-22 for information on economic losses during construction and proposed mitigation.

Metro has always been committed to maintaining business and residential access during construction. Construction impacts will be temporary and limited in areas as construction proceeds along the length of the Locally Preferred Alternative. Metro will coordinate with affected residents and businesses prior to construction. A detailed survey of community stakeholders and businesses will be conducted. A construction safety campaign will be developed and community response protocols (notification of construction activities, hot lines, etc.) will be produced. A public involvement plan will be developed prior to each construction phase and will be tailored to the construction phase. Metro will maintain the Project website, which will provide information to the public regarding construction phasing. Metro will develop a program tailored for different locations and needs. The program will involve signage and marketing to assistance to businesses, identification of parking alternatives, and other measures.

Metro also considers the cumulative impact of multiple projects in the Study Area under construction at the same time as the subway extension. Careful coordination will occur with local jurisdictions to ensure that potential impacts from the simultaneous construction of multiple projects are addressed and mitigated to the extent feasible.

Traffic impacts associated with LPA construction include reduced roadway traffic lanes and temporary street closures that could result in major traffic disruptions and bottlenecks. These impacts are associated with contractor work and storage areas, stations, crossovers,



**824-24**

mining entry/exit locations, TBM operations and support activities, truck haul routes, transportation of oversized construction materials, station entrances, station appendages, grout injection, and drop holes for the LPA and are detailed in Section 3.8.2 of this Final EIS/EIR.

Subway stations are built by excavating the site for the station box and then building the station below ground. If the station is built under a street, it is covered over with concrete decking during construction to allow traffic to continue to flow overhead. Traffic will be disrupted at the beginning of station construction to allow for initial excavation and installation of the concrete decking, and again at the end to remove the decking and reconstruct the street. The Traffic-Control Activities during Station Construction table in Section 3.8 details the traffic-control activities during station construction and the duration of each activity.

Anticipated truck haul routes consist of major city arterial streets that trucks will use to transport spoils, muck, material, and equipment between the construction laydown site locations and the offsite disposal location using the nearest freeway interchange. To minimize peak-period traffic disruptions, haul truck activity will occur during off-peak and nighttime periods. These routes generally follow major commercial streets and avoid residential areas to the greatest extent possible. The proposed routes identified are provided in Section 3.8 of this Final EIS/EIR and the Westside Subway Extension Construction Traffic Analysis Report. The routes may be updated and revised once additional information, such as construction sequencing, is finalized. In addition, the proposed routes will be subject to the approval of Metro and appropriate departments at Federal, State, and local agencies. The routes will be finalized in coordination with local jurisdictions and will be located so as to minimize noise, vibration, and other possible impacts to adjacent businesses and neighborhoods.

TBM components will be transported to the tunnel construction site by truck. Several oversize deliveries will be required, some during nights and weekends. However, these large component deliveries are limited to the initial setup period for the TBM, as well as during the removal period. If a TBM is re-used to excavate a subsequent tunnel, the entire machine may be transported by road from one site to the next. This would require full or partial road closures, typically at night.

Following completion of the Project, if physical damage to haul routes was found, affected roads will be treated in a manner that returns affected facilities to pre-construction conditions. This work will restore the street or ground surface to its original condition, or better. Site restoration operations will closely follow completion of the station structures. To maintain traffic flow, one-half of a street will be restored at a time and/or restoration will occur over weekends to enable an entire street to be temporarily closed to through traffic.



**824-24**

Backfill material will be trucked in, placed, and compacted. During backfilling over stations, utilities will be installed along with new sewer manholes and cable/duct vaults. Sidewalks will be restored, and the permanent street will be constructed, including paving, striping, and signage. Streets, sidewalks, and landscaping will be restored in accordance with City standards.

To minimize impacts to traffic circulation, the following mitigation measures will be implemented during construction:

- TCON-1-Traffic Control Plans
- TCON-2-Designated Haul Routes
- TCON-3-Emergency Vehicle Access
- TCON-4-Transportation Management Plan
- TCON-5-Coordination with Planned Roadway Improvements

TCON-2, TCON-3, TCON-4, TCON-5 were added during this Final EIS/EIR phase based on additional analysis of construction impacts on traffic circulation and concerns raised by the public. With implementation of the mitigation, construction-related adverse effects on traffic circulation will be reduced for adjacent commercial areas and residential neighborhoods. Although the construction impacts on traffic circulation identified will be temporary, impacts and/or residual impacts after mitigation will remain significant and unavoidable during the construction period.

Please refer to the *Westside Subway Extension Construction Traffic Analysis Report*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports)

**824-25**

Your comment about groundwater contamination has been noted. Tunnels will be excavated to a great extent below the ground water table. Pressurized face tunnel boring machines will be used for excavation of the tunnels, and a gasketed tunnel lining will be installed as the tunnel shield advances, so that inflow of water into the tunnel, and thus, potential for lowering the ground water table above the tunnel route will be minimal. Stations will be excavated partially above and below the water table. Local dewatering around the station perimeter may be required to allow for safe and dry conditions during construction. If dewatering is to be implemented, groundwater level monitoring will be performed and impact from dewatering on the ground surface (settlement) and/or adjacent structures will be monitored and evaluated. The following mitigation measures will be implemented during construction to reduce impacts related to dewatering:

- CON-47-Use of Pressurized-face TBMs for Tunnel Construction
- CON-48-Preconstruction Survey, Instrumentation, and Monitoring

**824-25**

- CON-49-Additional Geotechnical Exploration
- CON-50-Additional Methods to Reduce Settlement
- CON-70-Methods to Control Contaminated Groundwater
- CON-71-Plan if Contaminated Groundwater is Encountered

With implementation of these mitigation measures, impacts related to dewatering and groundwater contamination will be reduced to less than significant.

Please refer to Section 4.8 (operations) and Section 4.15 (construction) of the Final EIS/EIR for more detailed discussion of groundwater. The results of further geotechnical investigations conducted during the Final EIS/EIR can be found in the *Westside Subway Extension Century City Area Tunneling Safety Report*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

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- 824-26 | 6) **CONSTRUCTION PHASE** - The DEIS/DEIR includes draft design details for station location and design, track alignment and design, ancillary equipment and facilities, and construction related temporary facilities and operations. As the project proceeds into the preliminary engineering phase and forward to final engineering plans, the City requests the opportunity to review and comment on all design and engineering drawings and plans, construction plans and operational plans including but not limited to the following:
- 824-27 | a. All construction activity; truck routes, tunnel/dig activity, detours, lighting, and timing (p.3-69) in the City of Beverly Hills.
- 824-28 | b. All lane closures, detour routes and means of local access, closure timing and length of closures, in the City of Beverly Hills.
- 824-29 | c. Construction hours, work schedules and ancillary support requirements (lighting, materials delivery, hauling), for work in the City of Beverly Hills
- 824-30 | d. Community outreach and notification alerting residents and businesses within and near the construction zone of land closures, timing of construction activity, etc., for work in the City of Beverly Hills.
- 824-31 | e. Any plans for other construction related activities and facilities that may be planned for within the City and all necessary information on related environmental effects, such as traffic delays. Such construction related activities and facilities would include a slurry plant if planned within the City.
- The intent of the requested City review is to allow City input on ways to minimize impact on the City's residences, businesses, and circulation systems.
- 824-32 | 7) **STAGING LOCATIONS** - The City acknowledges the challenges of identifying suitable staging locations at the two locations within the City of Beverly Hills. The City will work with Metro to select the most appropriate staging location. A mitigation plan will need to be developed to reduce the impact of station construction and operation to neighboring businesses, including hotels adjacent to the Beverly Rodeo station. Mitigation plans should address noise, times of construction, and economic impacts, including compensation for businesses directly impacted during the construction phase.
- 824-33 | 8) **OPERATION** -
- a. A number of ancillary equipment and facilities would be installed or constructed to support the subway. In the Final Noise and Vibration Technical Report, the Wilshire/ La Cienega station is not included on the list of stations that would have an emergency electrical power generator (page 5-13); however the Final Traffic Impact Analysis Report indicates that the station would have a generator (page 2-5). Please clarify if this station would have a generator or not. If the station would have a generator, please provide additional information on the generator, as well as any other generators that may be contemplated in the Beverly Hills segment. The Final Traffic Impact Analysis Report indicates that an emergency generator is proposed at the Wilshire/La Cienega station requiring approximately 50'x100' of off-street space (page 2.5, section 2.5.2). The report indicates that this would require property acquisition. Where is this generator planned? Is it to be located within the station space, or is additional land required? Please define

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**824-26**

Your comment has been noted. Continuous coordination with the City of Beverly Hills will take place throughout the design process. Metro will share design and engineering drawings and plans, construction plans, and operational plans with the City of Beverly Hills. Once construction lay down areas, site ingress/egress access points and construction sequencing of activities are identified and refined, truck haul routes, off-peak period road closures, detour routes, and worksite traffic control plans will be developed and submitted to the City staff for review and comment to ensure consistency with their guidelines governing traffic flow and closure requirements during construction activities.

**824-27**

Please see the above response to comment number 824-26 regarding continued coordination with the City of Beverly Hills on construction activities.

**824-28**

Please see the above response to comment number 824-26 regarding continued coordination with the City of Beverly Hills on construction activities.

**824-29**

Please see the above response to comment number 824-26 regarding continued coordination with the City of Beverly Hills on construction activities.

**824-30**

Please see the above response to comment number 824-26 regarding continued coordination with the City of Beverly Hills on construction activities.

**824-31**

Please see the above response to comment number 824-26 regarding continued coordination with the City of Beverly Hills on construction activities.

**824-32**

Contractor staging areas (also referred to as "laydown areas") will be necessary for tunnel construction, stations, and ancillary facilities. Off-street space will be needed for setup, insertion, operation, and extraction of equipment and materials to the tunnel and station excavations. Approximately one acre is necessary for each station construction staging area and up to three acres is necessary for a typical tunnel-boring machine launch site.

Work areas will be needed to support tunnel excavation operations, including processing and removing tunnel spoils (excavated materials), handling precast concrete tunnel-lining segments, and tunnel utilities (such as ventilation, water supply and return, and power supply). In-street workareas will only be used when no off-street alternatives exists. Temporary easements, typically a portion of the sidewalk, traffic lanes, and/or parking

**824-32**

areas, may be required at various locations for staging.

The proposed staging areas were addressed as part of the Draft EIS/EIR in the *Westside Subway Extension Real Estate and Acquisitions Technical Report*, in Chapter 2 and Appendix C of the Draft EIS/EIR. These proposed areas were refined and/or eliminated from further consideration for staging during the preparation of the Final EIS/EIR. The staging areas under consideration for the LPA in the Final EIS/EIR are identified in the *Westside Subway Extension Acquisitions and Displacement Supplemental Report*, and Section 2.6 and Appendix C of the Final EIS/EIR.

It is important to note that several construction staging site alternatives are under consideration at a few station locations in this Final EIS/EIR. Selection of the construction staging site will consider where the station entrances could be co-located, environmental impacts, and cost, as well as other factors. The decision will be made by the Metro Board of Directors following circulation and public review of this Final EIS/EIR.

Please refer to the response above to comment number 824-22 regarding construction mitigation measures.

All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**824-33**

Revisions were made to the operational plans associated with the Westside Subway Extension during the preparation of the Final EIS/EIR. As part of those revisions, emergency generators were identified for two station locations: at the Wilshire/La Brea Station and the Westwood/VA Hospital Station. An emergency generator will not be located at the Wilshire/La Cienega Station--or anywhere else within Beverly Hills--and therefore there would be no impacts at this station associated with an emergency generator. Please refer to Section 2.6 of the Final EIS/EIR for a description and locations of the emergency generators.

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- 824-34 the location, and potential air quality, noise and vibration effects on any potential sensitive receptors in the area. If mitigation is necessary, please include any necessary mitigation in the mitigation monitoring program.
- 824-35 b. The West Los Angeles area has not constructed one new fire station in 60 years, while the regional population has increased geometrically over that time. The DEIR/DEIS needs to study the ability for local emergency responders to effectively triage, transport and treat patients in the event of an accident or disaster on the subway system in the context of this increased population, lack of increase in emergency protection facilities and with consideration to the closure of nearby regional hospitals (Century City and Midway Hospitals). Additionally, the DEIS/DEIR and project must address fire suppression within the subway and protecting passengers from hazardous toxic fumes as a result of a fire.
- 824-36 c. The DEIR/DEIS should provide information on how Metro will ensure that there is sufficient liability coverage to recover costs and damages incurred by persons, property, businesses and other entities in the event of a subway disaster
- 824-37 d. Emergency Response. The Parklands and Other Community Facilities Technical Report (page 4-2) considers typical response times for local jurisdictions emergency responders (police and fire). The report, however, does not indicate if the local jurisdictions would be the first responders. Please clarify if local jurisdictions would be the first responders, or if this a function of county emergency services.
- 824-38 e. Emergency Response Times. Typical response times are provided for the local jurisdictions in the Parklands and Other Community Facilities Technical Report (page 4-2), however if the local jurisdictions are the first responders (police and fire) the report needs to study any potential for increases in the number of calls that may affect the current response times and local work force needed to maintain current response times.

9) **NOISE AND VIBRATION.** Please confirm that the analyses and conclusions presented in the Final Noise and Vibration Technical Report (page 6.2) are consistent with the City of Beverly Hills General Plan standards. The Beverly Hills General Plan establishes the following noise level standards:

**N 1.5 Noise Mitigation Measures.** Require noise mitigation measures for noise-sensitive receptors when a significant noise impact is identified. A significant noise impact occurs when there is an increase in CNEL, as shown in the table below. (Imp. 1.3, 2.1, 2.2)

CNEL (dBA)	dBA Increase
55	3
60	2
65	1
70	1
Over 75	1

**824-34**

Your comments on local emergency responders and fire suppression within the subway have been noted. The police and fire protection services are generally regulated by local agencies. In the study area these services will be regulated primarily by the policies and agencies of the Cities of Los Angeles, Beverly Hills, and Los Angeles County. There are 3 police facilities in the study area; Los Angeles County Sheriff's Department West Hollywood Station is located approximately at Santa Monica Boulevard and North San Vicente Boulevard is immediately adjacent to the Westside Corridor. There are 9 fire stations located in the study area; City of Los Angeles Fire Department Station 29 and Los Angeles County Fire Department Station 8 are immediately adjacent to the Westside Corridor. There are approximately 32 hospitals and health centers located in the study area. Of these, the Cedars Sinai Medical Center, Century City Hospital, the Veterans Administration Hospital, St. John's Hospital and Health Center, and the Santa Monica Hospital are located immediately adjacent to the Project.

Mitigation measure SS-8 in the Final EIS/EIR states that Metro will develop and implement a comprehensive emergency preparedness plan, employee and emergency responders training, and system design features. To ensure that the emergency responders can respond effectively in emergency situations, emergency procedures will be developed in the Standard Operating Procedures (SOP's) of the operating rail system. A committee will be established consisting of representatives from Metro and the participating agencies which serve the areas traversed by the system. The committee will be charged with the responsibility of guiding Metro and the participating agencies in developing and following the necessary emergency procedures in the areas of fire and life safety that require immediate response. Metro and participating agency personnel will be trained to function efficiently during an emergency. They will be knowledgeable of all aspects of the SOP's and the incident command system. Before opening of the system for revenue operation exercises and drills will be conducted to prepare Metro and participating agency personnel for emergencies. This will ensure that the first responders can respond to all anticipated emergency situations safely and effectively.

Please refer to Section 4.12, Safety and Security, of the Final EIS/EIR for an analysis of emergency response for the Westside Subway Extension and proposed mitigation measures.

**824-35**

During the course of construction, Metro's contractor will carry in excess of \$100 million in liability insurance to cover bodily injury and property damage to third parties resulting from the contractor's negligent acts. After construction, Metro will maintain a package of commercial insurance and self-insurance sufficient to pay for bodily injury and property damage to third parties related to Metro's negligent operations.

**824-36**

Your comment on emergency response has been noted. The Metro Transit Security Bureau has the primary responsibility for police services for the system. This service is currently provided by contract by the Los Angeles County Sheriff's Department. Also, as necessary, assistance may be requested from the local jurisdiction's police force, but these incidents would be rare and would not require the local police forces to hire additional staff. Local fire departments would provide fire protection for the Project and would serve as the first responders in the event of a fire on the Metro system. In addition to fire suppression, the local fire department would also be the first response agency for medical treatment.

Please refer to response above to comment number 824-34 regarding emergency preparedness plan and employee and emergency responders training.

**824-37**

Your comment on emergency response times has been noted. For all public services, response time during emergencies is critical and, for most cases, access to the sites of emergencies requires the use of public roadways. Overall, the Project will improve the operation of the roadway network by reducing congestion, which will improve emergency response times. The comprehensive Emergency Preparedness Plan (EPP) has been developed and integrated with Metro's existing EPP procedures. The overall objective of emergency preparedness and planning is to ensure fast and efficient response to emergencies or disasters in a manner that minimizes the risk to the safety and health of passengers, employees, and emergency response personnel as well as unnecessary property loss. The EPP will establish the roles and responsibilities that will be carried out not only by Metro personnel, but also by various emergency response agencies in the event of a fire or security emergency. A Fire Life Safety Report has been developed to educate emergency responders of safety features in the proposed tunnels and stations, the design specifics related to emergency access and egress, and the security and fire suppression systems. During the testing phase of the Project, special training for emergency response personnel will be required. Metro will provide training to local emergency responders for practice of emergency procedures. Training will include how to access vehicles under various conditions, how to work around the direct current electrical power, and how to access stations and tunnels.

**824-38**

For the Westside Subway Extension, the noise and vibration impact criterion was applied as the CEQA threshold for determining significant noise impacts. The criterion used to assess these potential impacts was defined by the Federal Transit Administration. The FTA noise criteria and mitigation measures are generally consistent with the Beverly Hills General Plan standards.

Results of additional noise and vibration analyses conducted during the preparation of the

**824-38**

Final EIS/EIR and mitigation measures can be found in Section 4.6 of this Final EIS/EIR and the *Westside Subway Extension Noise and Vibration Study*. All reports are available on the Metro Westside Subway Extension Project website:  
[www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).



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*Community Noise Equivalent Level (CNEL)—A 24-hour average  $L_{eq}$  with a 10 dBA "weighting" added to noise during the hours of 10:00 P.M. to 7:00 A.M. and an additional 5 dBA weighting during the hours of 7:00 P.M. to 10:00 P.M. to account for noise sensitivity in the evening and nighttime.*

- 824-39 10) **VENTING** - According to the DEIS/DEIR (page s-23), mid-segment venting will be required for segments that exceed 6,000 feet. At present, it appears that there will be no need for mid-segment vent shafts in Beverly Hills, since segment lengths are less than 6,000 feet. (See. Final Construction and Mitigation Technical Report (page 4-50). In the event that there are changes that require vent shafts, full disclosure an analysis of any potential impacts would need to be undertaken.
- 824-40 11) **TRAFFIC ANALYSIS** - The Traffic Impact Analysis Report analyzes potential traffic effects during construction and once the subway extension is operating. The following analysis should be conducted and the results addressed in the final report:
- 824-41 a. Thresholds (page 5-2). New Traffic Threshold of Significance criteria have been developed for the City of Beverly Hills for estimating impacts on traffic. The estimation of traffic impacts should be reanalyzed using these new criteria (Attachment C).
- 824-42 b. Review any changes resulting from changes to LOS "D" at signalized intersections and changes to residential ADT ranges. Of the 192 intersections studied, only one intersection produces any impacts along the proposed subway corridor. The Final Traffic Analysis Impact Report (page 3-15, section 3.2.2) states "the affected jurisdictions for the Westside...consider LSO D the minimum acceptable LOS. Therefore, LOS D will serve as the minimum acceptable standard for the Westside Extension Transit Corridor project." The City recently changed the criteria at signalized intersections from 4% to a 3% threshold, thus approximately 19 intersections operating at LOS D, E and F with the Beverly Hills project area should be analyzed for impacts. Additionally, the criteria for residential streets impacts was also amended and require application of the new threshold levels (1-2,000 volume per day (vpd): 16% daily and peak hour; 2,001-4,000vpd: 12% daily and peak hour; 4,001-6,750vpd: 8% daily and peak hour; greater than 6,750vpd: 6.25% daily and peak hour.
- c. The Level of Service (LOS) Analysis for selected intersections is based on using the HCM signalized intersection Capacity analysis software. City of Beverly Hills uses the ICU method for the LOS calculations. Basic assumptions are different in these two methods. For example, ideal flow per lane is assumed to be 1700 (vphpl) for HCM method and 1600 for ICU method. This yields different results for the LOS calculations. However, this is an inter-jurisdictional project and it is not appropriate to use the same method of the LOS calculations for the entire study area. Particularly, when the future (2035) LOS for the project is only compared with the "No Built" scenario of year 2035. In that perspective the HCM method of the LOS calculations for the purpose of the project impact evaluations as presented. But for evaluation of potential construction impacts which would be a primarily a local issue, staff requests that the ICU method of the LOS calculations be provided for Beverly Hills intersections and City's thresholds of

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**824-39**

There will be no mid-line vent shaft constructed along the Westside Subway Extension, including in Beverly Hills.

**824-40**

The commonly accepted operational analysis methodology from the 2000 Highway Capacity Manual (HCM) (Transportation Research Board, 2000) was used to estimate delay and corresponding level of service at each study intersection. Thresholds of significance used to assess impacts were adopted based on previous transit infrastructure projects. New thresholds adopted by the City of Beverly Hills would not affect the traffic impact analysis conclusions, due in part to the overall beneficial impacts of the Project on traffic and the different level of service methodology used in the study.

Metro discussed the HCM methodology with the City of Beverly Hills at the beginning of this study and Beverly Hills agreed to this methodology for determining level of service.

**824-41**

Please see the above response to comment number 824-40 regarding traffic impact methodology. The revised impact criteria adopted by the City of Beverly Hills would not change the results of the traffic impact analysis. For traffic impacts, the HCM methodology was used and, overall, the project resulted in a beneficial impact on traffic operations in the Study Area.

**824-42**

Please see the above response to comment number 824-40 regarding traffic impact analysis methodology. Metro used the HCM methodology to determine all traffic related impacts. Please refer to the *Westside Subway Extension Construction Traffic Analysis Report* and Section 3.8 of the Final EIS/EIR for a detailed analysis of all construction related traffic impacts.



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significance criteria be used for such evaluations. Further, certain residential streets shall be evaluated for potential construction impacts. (Page 5-2)

- 824-43 d. The report refers to a forecasting process used to develop Year 2035 AM and PM hour VISUM models for the No Build and each Build Alternative based on the Existing Conditions calibrated/validated VISUM model. It is not clear what assumptions were used in the development of this model. For example, what growth factor was used for the next 25 plus years? Did the Metro Regional Travel Demand Model that was used for origin-destination trips prove to be accurate of the study area, or did its trend disagree with the original assumptions? Although, the assumptions may have been noted here and there in the DEIS/DEIR, a collective and clear explanation of the basic assumptions used for developing the year 2035 model needs to be included. (page 4.3)
- 824-44 e. The report states (Chapter 3, page 3.1.4 - Programmed Roadway Improvements), that "local jurisdictions are not planning any major roadway expansion projects through 2035" due to build-out conditions and high density. Although the City does not plan any widening efforts, the Santa Monica Blvd Improvement project will involve a major street reconstruction within the next 3 years to improve the physical road conditions and traffic signals/synchronization; the improved conditions will contribute to improved (existing and future) bus transit and connectivity at the SMB/Ave of the Stars in Century City, thus supporting the SMB station location. Consider any potential construction issues (street level and underground) if the 30/10 plan is pursued.
- 824-45 f. The Final Traffic Impact Analysis Report (page 3-2) should include Burton Way/S Santa Monica Boulevard as an arterial street, even though it is not technically classified as an arterial. The street functions as an arterial, carrying over 30,000 vehicles daily. The traffic analysis should take into account Burton Way/ S. Santa Monica Boulevard.
- 824-46 g. In the Final Traffic Impact Analysis Report (page 3-8), the traffic impact analysis must be revised to include the N Santa Monica Boulevard Improvement project and improved public transit/bus interface on N Santa Monica Boulevard between Century City, Beverly Hills, and West Hollywood. The analysis should include benefits to regional connectivity on Santa Monica Blvd, thus retaining the Santa Monica Boulevard alignment and station in Century City.

12) **GENERAL COMMENTS** - The following corrections and clarifications should be made to the final report:

- 824-47 a. The DEIS/DEIR indicates that the City of Beverly Hills does not have a bicycle plan, however, the City adopted a preliminary bicycle plan in 1977 and is currently in the process for updating and formalizing that plan for implementation. (Chapter 3, pages 3-19, 3-21).
- 824-48 b. It should be noted both in the text on page 3-19 and on the map on 3-20 that these are "existing" volumes of pedestrian activity. (Chapter 3, pages 3-19, 3-20).
- 824-49 c. Please clarify what is meant by "A majority of the new trips would come from autos." (Chapter 3, page 3-30). Is this for all scenarios tested?
- 824-50 d. Population - Beverly Hills - The DEIS/DEIR states the City of Beverly Hills population to be 35,000. This is the resident population. The City of Beverly Hills General Plan

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**824-43**

Your comments about transit ridership have been noted. Transit ridership projections for the forecast year of 2035 were developed using the travel forecasting model developed by Metro and the Southern California Association of Governments, which followed Federal Transit Administration (FTA) guidance and meets FTA's goals: to have the model tell a coherent story about travel behavior, reliably reproduce current travel patterns, and ensure a rational response to change. Metro's travel demand model is a resident model stratified by three income levels and includes the three standard trip purposes of Home-Based Work, Home-Based Other, and Non-Home Based, plus the additional trip purpose of Home-Based University. The model does not include tourism or special events. The modeling effort included FTA's participation throughout the process and a final review was held in September 2009 during which FTA concurred that the model was ready for application to this Project. The model was calibrated with 2001 and 2006 on-board survey data and then validated against transit ridership information to ensure it properly represents travel activity for the Los Angeles County and regional transportation system.

The Metro forecasting model uses "best practices" for urban travel models in the U.S. and reflects changes in land use, socioeconomic conditions, trip flows and transportation network improvements. The model is based on a set of realistic input assumptions regarding land use and demographic changes between now and 2035 and expected transportation levels-of-service on both the highway and public transit system. Key data used by the model include the following:

- Southern California Association of Government (SCAG) forecasts of population and employment densities
- SCAG-forecasted socio-demographic characteristics of travelers
- Person-trip flows
- Characteristics of the roadway and transit systems, including travel times, costs, and capacity reflective of No Build, TSM, and Build Alternatives

A sub-area validation was performed on the base year VISUM model to ensure the model produced traffic forecasts that reasonably resemble observed traffic counts obtained in the project Study Area in 2009. Traffic forecasting models are typically calibrated by adjusting model parameters until they are validated by applying a set of criteria that compare model volumes to actual counts. In order to more accurately forecast future traffic volumes, the base year VISUM model was calibrated and validated to 1,391 intersection approach and departure link volumes as well as to 1,211 intersection turning movement volumes.

Please refer to Section 3.2.1 of the Final EIS/EIR for more information on ridership forecasting methodology. In addition, the *Los Angeles Mode Choice Model: Calibration/Validation Report* provide detailed information about the ridership model and the *Westside Subway Extension Technical Report Summarizing the Results of the Forecasted Alternatives* provides a summary of the updated results prepared for the Final EIS/EIR. The *Technical Report Summarizing the Results of the Forecasted Alternatives* is available on the Metro Westside Subway Extension Project website:

**824-43**

[www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**824-44**

The comment has been noted and continuous coordination with the City of Beverly Hills will take place throughout the design process. As construction lay down areas, site ingress/egress access points and construction sequencing of activities are identified and refined, programmed roadway improvements such as the Santa Monica Boulevard improvement project will be reviewed and taken into consideration. It is anticipated that this roadway improvement project will be in place prior to the beginning of construction activities on the Westside Subway Extension Project even under the 30/10 Plan.

**824-45**

Your comment regarding Burton Way/S Santa Monica Boulevard has been noted. This street is not currently classified as an arterial but is recognized as a major thoroughfare. Metro coordinated with the City of Beverly Hills in identifying which intersections within Beverly Hills were analyzed for traffic impacts in the Final EIS/EIR. Three of the intersections analyzed in Beverly Hills are along Burton Way/S Santa Monica Boulevard and these intersections are identified in Section 3.5 of the Final EIS/EIR.

**824-46**

The N Santa Monica Boulevard Improvement project is a TSM measure and has the potential to improve traffic flow conditions on Santa Monica Boulevard between Century City and West Hollywood in Beverly Hills. No new traffic impact analysis is needed due to the potential benefits of the project. The project has the potential to improve transit operations along the corridor and provide enhanced connecting/feeder service to the Century City Station.

**824-47**

Section 3.7.1 of the Final EIS/EIR has been updated to indicate that the City of Beverly Hills is in the process of preparing a bike plan for implementation.

**824-48**

Your comment has been noted. Pedestrian and bicycle facilities listed in Section 3.4.6 of the Draft EIS/EIR are part of the Affected Environment which is the existing conditions assessment of the Study Area. The text has been revised in Section 3.7.1 of the Final EIS/EIR.

**824-49**

Rail would attract trips from various modes but the largest shift would come from auto trips. This would apply to the all the Build Alternatives in the Draft EIS/EIR and the LPA in the

**824-49**

Final EIS/EIR.

**824-50**

The population figures provided in Chapter 4 of the Draft EIS/EIR are from the U.S. Census Bureau and are used to describe the existing residential make up of each community in the Study Area. Each community experiences daily fluctuations in population as people travel to destinations throughout the area.

824-51

Technical Background Report (2005) estimated the City's daytime population to be as high as approximately 294,000 people, with up to an additional 46,000 people in transit through the City during the evening peak commute hours (Chapter 4, page 4-27).

e. The Community and Neighborhood Technical Report (page 3.3, section 3.3.3), provides a summary of the Beverly Hills general plan. That summary should be corrected to state that: "Amendments to the city's general plan were adopted on January 12, 2010. The city's amended general plan includes the required elements for Land Use, Open Space, Circulation, Conservation, Noise, Safety, and housing and also includes optional elements for Historic Preservation, Economic Sustainability and Public Services. The City's bicycle master plan has been made free standing to facilitate future updating. Applicable policies from the City of Beverly Hills General Plan are:

- **LU 3.1 Conservation.** Conserve existing residential neighborhoods, and non-residential areas where new development builds on and enhances the viability of existing business sectors that are the City's strengths, promotes transit accessibility, is phased to coincide with infrastructure funding and construction, and designed to assure transitions and compatibility with adjoining residential neighborhoods. (Imp. 1.3, 2.1, 2.2)
- **LU 14.1 City Form.** Accommodate a balanced mix of land uses and encourage development to be located and designed to enable residents access by walking, bicycling, or taking public transit to jobs, shopping, entertainment, services, and recreation, thereby reducing automobile use, energy consumption, air pollution, and greenhouse gases. (Imp. 1.2, 2.1)
- **LU 17.2 Regional Coordination.** Cooperate with adjoining and regional agencies to jointly plan land uses, transportation, and infrastructure that provide a cohesive and integrated strategy to accommodate growth that is environmentally, economically, and socially sustainable. (Imp. 7.1, 7.2)
- **ES 3.3 Multi-modal Transportation.** Encourage and promote the use of existing public transportation to link these areas with the Triangle while developing alternative means of public transportation to ease congestion and facilitate successful, high-quality development throughout the City. (Imp. 3.7)
- **CIR 2.1 Metro Subway Extension.** Support the extension of the Metro subway extension through the City along Wilshire Boulevard with stations at Beverly/Rodeo and La Cienega to enhance transit service and increase transit ridership within the City and the West LA region. Explore other stops as appropriate. (Imp. 3.7)
  - **CIR 2.1a Linking Transit and Development.** Encourage appropriate development that may include parking for local transit riders, local-serving retail, high-end retail, restaurant and supporting uses in and around transit stops and stations. (Imp. 3.7)

**824-51**

Your comment has been noted, and an addendum to the Community and Neighborhood Impacts Technical Report has been prepared. The addendum includes the suggested language summarizing the relevant policies from the City of Beverly Hills General Plan adopted on January 12, 2010.

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- **CIR 2.2 Multi-modal Transit.** Consider a variety of transit services including rail, light rail transit, bus rapid transit, trolleys (streetcars), enhanced buses, express buses, local buses, school buses, and neighborhood shuttles to meet the needs of residents, workers, and visitors. (Imp. 3.7)
- **CIR 2.3 Transit Design.** Support a well-designed transit system and stations to meet the mobility needs of residents and visitors, including seniors, the disabled and transit-dependent persons. (Imp. 3.7)
- **CIR 2.4 Inter-jurisdictional Cooperation.** Work collaboratively with regional agencies and adjacent jurisdictions to improve transit service, accessibility, frequency, and connectivity, and to encourage increased ridership and fewer personal automobile trips. (Imp. 7.1)
- **CIR 2.5 Transit Frequency.** Support increased-frequency transit service and capital investments to serve high-density employment, commercial, residential, or mixed-use areas and activity centers. (Imp. 3.7)
- **CIR 2.6 Transit Priority Measures.** Consider improvements in transit efficiency and travel times by implementing transit priority measures to help bypass congested areas. Such measures may include transit signal priority, queue bypass lanes, and exclusive transit lanes. (Imp. 3.7)
- **CIR 2.10 Interconnected Transit System.** Create or collaborate on an interconnected transportation system that allows a shift in travel from private passenger vehicles to alternative modes, including public transit, ride sharing, car-sharing, bicycling, and walking. Before funding transportation improvements that increase vehicle miles traveled, consider alternatives such as increasing public transit or improving bicycle or pedestrian travel routes. (Imp. 3.7)

- 824-52 f. The Final Geotechnical and Hazardous Materials Technical Report includes a reference to the City of Beverly Hills General Plan Technical Background Report and indicates that it was released in 2008. Please correct the reference to list the report as being released in 2005.
- 824-53 g. Headings in the Final Noise and Vibration Technical Report, section 2 and section 5, are illegible. In the same report, Figure 5-4 (Vibration Sensitive Locations) is blurry and the numbered locations presented on the map are difficult to read, especially for numbers located near Beverly Drive and Robertson Drive.
- 824-54 h. The Parklands and Other Community Facilities Technical Report references the City of Beverly Hills general plan (page R-1). Please correct the reference to read as follows. The correct reference is, "The City of Beverly Hills General Plan was amended on 1/12/2010 and is available at: [http://www.beverlyhills.org/services/planning\\_division/general\\_plan/genplan.asp](http://www.beverlyhills.org/services/planning_division/general_plan/genplan.asp)"

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#### **824-52**

Your comment has been noted. The reference to the City of Beverly Hills General Plan has been included in the *Addendum to the Westside Subway Extension Land Use Technical Report*.

#### **824-53**

Your comment on the legibility of the *Westside Subway Extension Noise and Vibration Technical Report* has been noted. During preparation of the Final EIS/EIR, additional noise and vibration analyses were conducted. The results of the further testing can be found in Section 4.6 of this Final EIS/EIR and the *Westside Subway Extension Noise and Vibration Study*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

#### **824-54**

Your comment has been noted. The reference has been updated in the *Westside Subway Extension Parklands and other Community Facilities Supplemental Technical Report*, which is available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).



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824-55

- i. The Parklands and Other Community Facilities Technical Report includes a list of policies (page 3-3) pulled from the City of Beverly Hills general plan. That list should be replaced with the City of Beverly Hills general plan policies as follows:
- LU 2.2 **Public Streetscapes and Landscape.** Maintain and enhance the quality and health of the "green infrastructure" that contributes to the City's identity and quality of life, including its street trees, landscaped medians and parkways, parks, and open spaces, while seeking to conserve water resources. (Imp. 3.1, 3.6)
  - LU 5.4 **Complete Neighborhoods.** Maintain, improve, and, where necessary, expand parklands and community facilities to serve the City's neighborhoods. (Imp. 3.1, 6.1)
  - LU 13.1 **Adequate Community-Supporting Uses.** Seek to ensure that adequate public and private community-supporting facilities and services are located throughout the City. (Imp.3.1, 6.1)
  - LU 13.5 **Expansion of Existing Community Facilities.** Consider opportunities for the expansion of existing, and the development of new, parklands, recreational facilities, schools, lifelong learning, cultural, and other public and quasi-public facilities, provided that such improvements are cohesively integrated with, are complementary to, and are compatible with, existing development and adjoining land uses. (Imp. 3.1, 6.1)
  - LU 13.8 **Residential Care Facilities.** Encourage the development of senior daycare facilities, assisted living facilities, hospice, child care, and other residential care facilities in appropriate areas throughout the City. (Imp. 2.2)
  - LU 13.9 **Assembly Facilities.** Encourage and support the development of assembly facilities for social, cultural, educational, and religious organizations in appropriate locations of the City. (Imp. 2.1, 7.3)
  - LU 13.10 **Parks and Open Spaces.** Seek to expand the City's parklands, greenways, and open spaces as land becomes available or as existing buildings are demolished. Consider alternative prototypes and standards for park development in urban areas where available land is limited. (Imp. 3.1, 6.1)
  - OS 8.1 **Park and Open Space Standards.** Strive to meet National Recreation and Park standards for the provision of parks space based on the community's park needs and the number of residents. (Imp. 2.1)
  - OS 8.4 **Parkland Acquisition Criteria.** Assess opportunities to acquire additional land at appropriate locations for the development or expansion of parks. Use the following criteria when considering acquisition for parkland:
    - a. City's identified current and projected needs for recreation and sports facilities
    - b. City's needs for recreation facilities based on location of existing facilities
    - c. The preservation of natural resources and historic and cultural areas
    - d. Ease of accessibility

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**824-55**

Your comment has been noted. The recommended revisions have been incorporated into the *Westside Subway Extension Parklands and Other Community Facilities Supplemental Technical Report*, which is available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

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- e. Usability of proposed parklands considering topography and other landform constraints
- f. Fiscal impact on the General Fund for any immediately needed refurbishments and ongoing maintenance
- g. The existence of a deficiency in a particular sector of the City.
- h. Potential to improve the aesthetics along a street or in a neighborhood, or to enhance the City's garden quality in general. (Imp. 1.3, 6.1)
- OS 8.5 **Urban Parks.** Encourage and allow opportunities for new development to provide small plazas, pocket parks, civic spaces, and other gathering places that are available to the public to help meet recreational demands. (Imp. 2.1, 2.2)
- OS 8.7 **Recreational Parkland Replacement.** Protect parkland from non-recreational uses that result in loss of acreage used for recreational purposes; any loss of park land shall be replaced with acreage suitable for comparable uses so that the City's current park land acreage is not decreased. (Imp. 1.3, 2.1)
- S 3.3 **Fire Protection Services.** Require that new development and re-development of structures provide adequate fire safety features and responder access so as not to cause a reduction of fire protection services below acceptable, safe levels. (Imp. 2.4)



October 14, 2010

City of Beverly Hills  
345 Foothill Road  
Beverly Hills, California 90210

Attn: Mr. Aaron Kunz

**RE: GEOTECHNICAL ENGINEERING COMMENTS LETTER, WESTSIDE  
SUBWAY EXTENSION (WSE), REVIEW OF DRAFT ENVIRONMENTAL  
IMPACT REPORT (DEIR), BEVERLY HILLS, CALIFORNIA**

We understand the City of Beverly Hills (City) will submit this letter with their DEIR comments to the Los Angeles Metropolitan Transportation Authority (Metro). The purpose of this letter is to summarize our review findings from our Geotechnical Engineering Report dated October 13, 2010 (Report) and provide a brief statement of qualifications regarding our tunneling experience.

**COMMENTS ON WSE DEIR**

The following comments are based on the recommendations provided in our Report. Refer to this Report for details on these comments for the WSE DEIR:

- 824-56 | **General:** The appendices for the DEIR Geotechnical Report were not included on the Metro website. The appendices include subsurface profiles and an environmental database search of the alignment. These appendices should be made available to the public.
- 824-57 | **Fault Rupture:** Given the uncertainty of the Santa Monica Fault and West Beverly Hills Lineament, further evaluation to identify fault traces should be completed prior to final location of the Santa Monica base station. The Santa Monica Fault could have one or more distinct fault traces that could impact the station location. The trace(s) would be identified during the geotechnical investigation of the project using a combination of geophysical techniques, subsurface explorations, and/or trenching (where possible). If a trace is discovered passing through the proposed station, then the station would likely need to be relocated.
- 824-58 | **Ground Shaking:** We noted a discrepancy in the design earthquake probabilities for the Maximum Design Earthquake (MDE). The peak ground acceleration and recurrence interval values stated in the DEIR for the MDE are consistent with a design earthquake having a 2 percent probability of exceedance in 50 years. However, the DEIR defines the MDE as having a

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**824-56**

Metro regrets that you were unable to access the geotechnical appendices along with the Draft EIS/EIR. They were made available and are still on Metro's website. They can be found at: [www.metro.net/projects/westside/draft-eis-eir-sept-2010](http://www.metro.net/projects/westside/draft-eis-eir-sept-2010). All geotechnical or other appendices for the Final EIS/EIR are also available on Metro's website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**824-57**

Your comment regarding fault rupture has been noted. During the Final EIS/EIR phase, Metro conducted further geotechnical studies to supplement the studies conducted during the Draft EIS/EIR, which concluded that both the Santa Monica fault zone and the WBHL in the Century City vicinity are active fault zones and each fault zone is capable of generating earthquakes of M7 or greater with average surface displacements of 3 to 6 feet. Moreover, there is no knowledge of where either of these faults resides in their respective seismic cycles.

Santa Monica Boulevard effectively lies within the Santa Monica Fault zone from west of Century Park West to east of Avenue of the Stars. The originally proposed Santa Monica Boulevard Station at Avenue of the Stars would be directly within the fault zone. The WBHL is a wide fault zone with several well-defined strands situated along the eastern margin of Century City. It is the inferred northern extension of the active Newport-Inglewood fault zone. The WBHL terminates the active Santa Monica Fault to the east. The refined location of the Santa Monica Station at Century Park East would straddle the WBHL. No evidence of faulting was found on the Constellation Boulevard Station site.

In summary, both of the Santa Monica Boulevard Station options are located within active fault zones, but the Constellation Boulevard Station site is located outside zones of active faulting and can be considered a viable option.

Please refer to Section 4.8 and Section 4.15 of the Final EIS/EIR for more detailed discussion of seismic safety both during operation and construction. The results of further geotechnical investigations conducted during the Final EIS/EIR can be found in the *Westside Subway Extension Century City Area Fault Investigation Report* and the *Westside Subway Extension Century City Area Tunneling Safety Report*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**824-58**

Your comment has been noted. The ground and seismic properties for Maximum Earthquake Design have been reviewed and correct and consistent information has been provided in Section 4.8 of the Final EIS/EIR. The Maximum Design Earthquake has a four percent probability of exceedance in 100 years.



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1 percent probability of exceedance in 100 years. Please review and correct the MDE information.

824-59 | **Liquefaction:** Without additional geotechnical studies, we disagree with the DEIR assumption that liquefaction would not impact the tunnels or station foundations. The liquefaction depth should be investigated to at least 20 feet below the lowest expected foundation elevation, in this case the tunnel invert and station foundation. If liquefiable soils are still present at these depths, the explorations should extend at least 10 feet deeper.

824-60 | **Subsidence:** Surface settlement monitoring, with closely spaced survey points on streets, utilities, and buildings, as well as ground deformation monitoring instrumentation placed in boreholes, will be needed to assess ground behavior during and after tunneling. Areas susceptible to potentially large ground losses, resulting in unacceptable settlements, are curved alignment and cross passages. In the City, the West Hollywood Connection alignments and Constellation alignments are curved. Cross passages typically connect the twin tunnel every 700 to 800 feet.

824-61 | **Hazardous Subsurface Gases:** Perhaps the greatest risk of gas infiltration into a tunnel or subsurface station may be associated with earthquakes, either through cracking of liners or walls, offset of gasketed tunnel liner joints, and/or disabling the ventilation system. The earthquake risk should be highlighted and discussed in the final report.

824-62 | **Hazardous Waste and Materials:** We recommend additional research of properties that are in close proximity to the proposed stations and connection structure, as the potential for soil and groundwater contamination would impact these facilities. Additional studies to confirm the presence or absence of known and unknown oil wells should be performed.

824-63 | **Noise and Vibration:** Operational noises and vibrations are generally not noticeable with the exception of businesses requiring precision measuring devices. Special mitigation measures, including vibration isolation measures for foundations, could be needed in these cases. During construction, tunneling and cut-and-cover station excavation-induced vibrations are typically on par with bus and trash truck noise and vibrations. Noise and vibrations are the most noticeable at night, when background noises are at a minimum. Additional mitigation measures, such as utilizing sound walls, sound proofing, mufflers, and modifications to safety warning devices, should be evaluated. Nevertheless, some residents and hotels could notice nighttime noise and vibration during construction. This could sometimes be reduced by installing multiple pane windows, wall insulation, and other sound-reducing measures for affected residences.

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#### **824-59**

Your comments about tunneling and liquefaction risks have been noted.

Metro has conducted geotechnical and seismic investigations to determine those soil conditions that are subject to liquefaction. Tunnels for the Westside Subway Extension project will be mostly excavated and constructed within consolidated, dense to very dense and stiff to hard soils belonging to older alluvium/Lakewood Formation sediments, which are considered significantly less prone to liquefaction than young alluvial sediments. However, due to the presence of shallow groundwater and young surficial alluvial deposits, there may be potential liquefaction adjacent to the upper portions of some station walls at the Wilshire/La Cienega, Westwood/UCLA, and Westwood/VA Hospital Stations. Lateral spreading is not anticipated in the vicinity of the LPA.

Based on the magnitude of evaluated liquefaction, either structural design or ground improvement techniques or deep foundations to minimize these hazards will be selected. The following mitigation measures will be implemented during operation to reduce risks related to liquefaction:

- GEO 4 – Liquefaction and Seismic Settlement
- GEO 7 – Tunnel Advisory Panel Design Review

With implementation of these mitigation measures, liquefaction risk during operation will be reduced to less than significant.

During construction, designs to minimize risk of liquefaction related damage to the excavation support system include increasing the depth of soldier piles to reach non-liquefiable zones, or ground improvement to densify the soil may be provided prior to the installation of the excavation support system therefore liquefaction is not a significant impact during construction.

Please refer to Section 4.8 (operations) and Section 4.15 (construction) of the Final EIS/EIR for more detailed discussion of liquefaction. The results of further geotechnical investigations conducted during the Final EIS/EIR can be found in the *Westside Subway Extension Century City Area Tunneling Safety Report*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

#### **824-60**

Your comments about ground settlement and subsidence have been noted. In recent years, Metro has employed improved tunneling techniques to minimize impacts on adjacent properties. Pressurized face tunnel boring machines developed over the past 30 years now provide reliable control of ground movements around the tunnel and have become a standard throughout the world. Behind the cutting wheel at the front of the tunnel is an enclosed chamber that is filled with the excavated soil. This provides pressure that

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supports the ground in front of the tunnel face and significantly reduces the risk of surface subsidence. Using this technology, Metro recently completed 1.7-miles of twin tunnel for the Metro Gold Line Eastside Extension project, passing beneath structures with no measurable surface subsidence and no substantiated damage claims from settlement.

With regard to subsidence along the LPA, no current substantial subsidence problems related to petroleum or groundwater extraction have been identified. Therefore, the subsidence related to extraction of petroleum and groundwater is not considered a hazard to the LPA during operations. However, the potential exists for ground subsidence related to construction activities such as tunneling and dewatering at station areas along the full length of the proposed alignment and options. Therefore, construction dewatering induced subsidence poses a potentially adverse impact.

Dewatering is usually not necessary when tunneling with pressure-face TBMs. However, station construction will require excavations that will encounter the groundwater table and/or perched groundwater, dewatering may be required to complete the construction in some areas. Dewatering of the excavations made during construction could result in potentially damaging subsidence adjacent to the construction area. However, experience in much of the corridor is that the soils have previously undergone numerous cycles of ground-water fluctuation, and have therefore previously experienced the settlements associated with lowering of the ground water, and will not be expected to have significant additional settlement.

To minimize risks, prior to construction, structures along the tunnel alignment are assessed and tunneling equipment and operating criteria are selected that will best protect the structures. Ground movements are limited by monitoring and controlling critical operations of the tunnel boring machine, and, if needed, by use of supplemental ground control measures, such as grouting. Ground movements around the tunnel and at the surface are measured and nearby structures are surveyed in order to make timely adjustments and to confirm that ground movements are under control as the tunnel is advanced. The following mitigation measures will be implemented during construction to minimize any potential for ground settlement or subsidence.

- CON-47—Use of Pressurized-face TBMs for Tunnel Construction
- CON-48—Preconstruction Survey, Instrumentation, and Monitoring
- CON-49—Additional Geotechnical Exploration
- CON-50—Additional Methods to Reduce Settlement

With implementation of these mitigation measures, construction risks related to subsidence and settlement will be reduced to less than significant.

Please refer to Section 4.8 and Section 4.15 of the Final EIS/EIR for more detailed discussion of ground settlement and subsidence during operation and construction. The

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results of further geotechnical investigations conducted during the Final EIS/EIR can be found in the *Westside Subway Extension Century City Area Fault Investigation Report* and the *Westside Subway Extension Century City Area Tunneling Safety Report*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**824-61**

Your comment regarding methane gas and other subsurface hazardous gases has been noted.

Safety, both during construction and eventual operations, is one of Metro's highest priorities. It was also one of the key evaluation criteria during the Draft EIS/EIR, and has been further considered in the Final EIS/EIR phase. In 2005, an American Public Transportation Association Peer Review Panel determined that "It is possible to tunnel and operate a subway along the Wilshire Corridor safely." This conclusion was reached given the newer technology now used for tunneling, including pressurized face tunnel boring machines.

Subsurface gas is present throughout much of the Los Angeles area and is often a factor in foundation design and construction of underground structures. While tunneling for transportation has special considerations, other projects have been constructed in subsurface gas zones within the Los Angeles region, including buildings with deep parking garages and basements, storm drains, sewer projects and other utility projects along the Wilshire Corridor. In addition, Metro has safely operated the existing Metro Red/Purple Line subway for over 15 years and has successfully constructed subway tunnels where subsurface gas has been present.

Methane and hydrogen sulfide are present in high concentrations along about a 1.1 mile stretch of the Westside Subway Extension alignment along Wilshire Boulevard from about Burnside Avenue on the east to about La Jolla Avenue on the west. However, the entire LPA alignment passes through an area characterized by oil and gas fields and is within the City's Methane Zone. Therefore, the possibility of encountering gaseous subsurface conditions can be expected for any portion of the alignment, and hazardous subsurface gases pose a significant hazard for construction of the LPA.

During construction, the pressurized face tunnel boring machines isolate gas from workers and the public, while gassy soil and tar sands are handled and disposed of appropriately. Robust underground ventilation and gas monitoring systems provide additional warning and protection. In addition, the state of California's division of Occupational Safety and Health (Cal/OSHA) maintains strict safety orders for tunneling where ground is classified as "Gassy" or "Potentially Gassy." Safety measures include continuous monitoring of the environment, "spark-proof" equipment, and other means to reduce risks to workers and the

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surroundings. The following mitigation measures will be implemented during construction of the LPA to reduce risks related to the presence of hazardous subsurface gases:

- CON-51 - Techniques to Lower the Risk of Exposure to Hydrogen Sulfide
- CON-52 - Measures to Reduce Gas Inflows
- CON-53 - Further Research on Oil Well Locations
- CON-54 - Worker Safety for Gassy Tunnels

The design and operation for tunnels and stations will provide a redundant protection system against gas intrusion. This will include: physical barriers to keep gas out of the tunnels and stations; high volume ventilation systems to dilute gases to safe levels; gas detection and monitoring systems with alarms; emergency ventilation triggered by the gas detection systems; additional training of personnel to respond to alarms. The following mitigation measures will be implemented during operation of the LPA to minimize risks related to subsurface hazardous gases:

- GEO-5 - Hazardous Subsurface Gas Operations
- GEO-6 - Hazardous Subsurface Gas Structural Design
- GEO-7 - Tunnel Advisory Panel Design Review

With implementation of these mitigation measures, risks associated with hazardous subsurface gases will be reduced to less than significant levels during both construction and operation of the LPA.

Please refer to Section 4.8 (operations) and Section 4.15 (construction) of the Final EIS/EIR for more detailed discussion of methane gas and other subsurface hazardous gases. The results of further geotechnical investigations conducted during the Final EIS/EIR can be found in the *Westside Subway Extension Century City Area Tunneling Safety Report*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**824-62**

Your comment about groundwater contamination has been noted. Tunnels will be excavated to a great extent below the ground water table. Pressurized face tunnel boring machines will be used for excavation of the tunnels, and a gasketed tunnel lining will be installed as the tunnel shield advances, so that inflow of water into the tunnel, and thus, potential for lowering the ground water table above the tunnel route will be minimal. Stations will be excavated partially above and below the water table. Local dewatering around the station perimeter may be required to allow for safe and dry conditions during construction. If dewatering is to be implemented, groundwater level monitoring will be performed and impact from dewatering on the ground surface (settlement) and/or adjacent structures will be monitored and evaluated. The following mitigation measures will be implemented during construction to reduce impacts related to dewatering:

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- CON-47-Use of Pressurized-face TBMs for Tunnel Construction
- CON-48-Preconstruction Survey, Instrumentation, and Monitoring
- CON-49-Additional Geotechnical Exploration
- CON-50-Additional Methods to Reduce Settlement
- CON-70-Methods to Control Contaminated Groundwater
- CON-71-Plan if Contaminated Groundwater is Encountered

With implementation of these mitigation measures, impacts related to groundwater contamination will be reduced to less than significant.

Your comment regarding the risks of tunneling near oil wells have been noted. Tunnels, through known oil well fields, have been safely constructed with no adverse incidents with either hazardous gas or oil casings. In recent Los Angeles tunneling history, there have been no oil well incidents related to tunneling, and oil well casings have been safely removed and re-abandoned.

During the Draft EIS/EIR, known oil fields and documented active or abandoned oil wells were identified from published oil well maps. Table 4-45 in the Draft EIS/EIR identifies oil wells (abandoned and active) that may be located within 100 feet of the proposed tunnel or station, as well as those that may be located within the proposed tunnel alignment. The oil fields themselves are much deeper than the potential subway tunnels. Shafts for existing active and abandoned oil wells have been mapped in the vicinity of the project alignment along with other utilities such as sewer, water, gas, and electric lines.

During the preparation of the Final EIS/EIR, a comprehensive study of all available information found that there was one mapped abandoned oil well within the proposed tunnel alignment. According to the state's records, the location of this well is beneath a parking structure on Century Park East and does not lie within the Beverly Hills High School (BHHS) campus. The magnetic survey program indicated that the mapped locations of abandoned oil wells could be inaccurate by 50 to 200 feet.

A geophysical (magnetic) survey was performed on the BHHS campus to detect metal, which would indicate the presence of an abandoned oil well casing. The survey identified only one anomaly on the BHHS campus that is close to the alignment. It is on the west edge of the lacrosse field and is located 5 to 10 feet north of the tunnel envelope. The anomaly may or may not be a well casing, but it will be further investigated and addressed appropriately as described below.

For exploration beneath the BHHS buildings during the next phases of design, horizontal directional drilling (HDD) investigation will be conducted along the alignment at tunnel level. A magnetometer probe survey will be conducted in the drilled hole to detect metal casings so that if found, they can be re-abandoned properly below the tunnel depth prior to tunneling. Moreover, during tunnel construction in Los Angeles, magnetometer surveys have been conducted in probe borings extending in front of the TBM to ensure that obstructions, such as well casings, are detected before they are reached by the TBM. In suspected oil field areas, probing of the tunnel zone will be carried out by HDD either

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before tunneling or ahead of the face during tunneling. To ensure that these additional studies are conducted, the following mitigation is included in the Final EIS/EIR.

- CON-53-Further Research on Oil Well Locations

With implementation of this mitigation measure, oil wells do not pose a risk to tunneling for the project. Abandoned oil wells have been encountered in the past during tunneling in Los Angeles. Procedures have been developed to evaluate the well conditions and safely re-abandon them. Metro has experienced no gas incidents related to encounters with oil well casings during tunnel excavation on other projects.

Please refer to Section 4.8 (operations) and Section 4.15 (construction) of the Final EIS/EIR for more detailed discussion of oil wells and groundwater. The results of further geotechnical investigations conducted during the Final EIS/EIR can be found in the *Westside Subway Extension Century City Area Fault Investigation Report* and the *Westside Subway Extension Century City Area Tunneling Safety Report*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**824-63**

Your comment regarding noise and vibration during operation and construction has been noted.

During construction, the greatest noise impacts will occur near stations, tunnel access portals, and construction laydown areas where construction activities at the surface are concentrated. In addition, haul routes will experience increased truck traffic, which could add to traffic noise. With the exception of these areas, all other construction will occur completely below-grade. Section 4.15.3 of this Final EIS/EIR analyzes construction noise impacts and mitigation measures. When the construction site for the station box is open, noise from construction equipment will be audible at street level and result in an adverse effect. This time period will produce the highest levels of construction noise. The excavation and installation of street decking is expected to last four to five months. As the excavation continues below street level, the noise of construction will be reduced because the sides of the excavated opening will act as a sound barrier. Eventually when the surface opening is covered with temporary decking, construction noise at the surface will no longer be noticeable above the traffic noise. Therefore, the excavation of the station box will result in a temporary adverse noise effect.

To reduce the potential for noise and vibration impacts to schools associated with construction, Metro's plans, specifications, and estimates (bid) documents will include measures to comply with the City of Los Angeles, City of Beverly Hills, and County of Los Angeles noise ordinances during construction hours. To further reduce noise impacts during construction, the following mitigation measures will be implemented:

**824-63**

- CON-22-Hire or Retain the Services of an Acoustical Engineer
- CON-23-Prepare a Noise Control Plan
- CON-24-Comply with the Provisions of the Nighttime Noise Variance
- CON-25-Noise Monitoring
- CON-26-Use of Specific Construction Equipment at Night
- CON-27-Noise Barrier Walls for Nighttime Construction
- CON-28-Comply with Local Noise Ordinances
- CON-29-Signage
- CON-30-Use of Noise Control Devices
- CON-31-Use of Fixed Noise-Producing Equipment for Compliance
- CON-32-Use of Mobile or Fixed Noise-Producing Equipment
- CON-33-Use of Electrically Powered Equipment
- CON-34-Use of Temporary Noise Barriers and Sound-Control Curtains
- CON-35-Distance from Noise-Sensitive Receivers
- CON-36-Limited Use of Horns, Whistles, Alarms, and Bells
- CON-37-Requirements on Project Equipment
- CON-38-Limited Audibility of Project-Related Public Addresses or Music
- CON-39-Use of Haul Routes with the Least Overall Noise Impact
- CON-40-Designated Parking Areas for Construction-Related Traffic
- CON-41-Enclosures for Fixed Equipment
- TCON-2-Designated Haul Routes

Although mitigation measures will help to reduce noise impacts during construction, an adverse construction noise effect will remain after mitigation in the construction areas.

In addition to noise impacts, construction of the LPA could result in vibration impacts before mitigation is implemented. Impact pile driving at the station boxes will result in adverse vibration impacts. Perceptible vibration levels could be experienced within 200 feet of pile driving operations. Additionally, equipment used for underground construction, such as the TBM and mine trains, could generate vibration levels that could result in audible ground-borne noise levels in buildings at the surface, depending on the depth of the tunnel and soil conditions. Tunneling under residences and schools will occur for a limited time. The TBM tunnels between 30 and 100 feet per day. For an average residence or business, this means that the TBMs would be below the surface of that structure for no more than a day or two. Since underground construction is expected to occur continuously over a 24-hour day, there is the potential for the tunnel boring operation to be audible during nighttime sleep hours when background noise levels inside residential buildings are very low. However, as indicated, the period for this potential disruption would be limited to a few days or less and mitigation measures would be implemented to minimize impacts. The contractor will be responsible for the protection of vibration-sensitive historic buildings or cultural resource structures within 200 feet of any construction activity. To ensure that noise and vibration impacts associated with construction are below threshold levels, Metro's plans, specifications, and estimates (bid) documents will include the following measures:

**824-63**

- CON-42-Phasing of Ground Impacting Operations
- CON-43-Alternatives to Impact Pile Driving
- CON-44-Alternative Demolition Methods
- CON-45- Restriction on Use of Vibratory Rollers and Packers
- CON-46-Metro Ground-Born Noise and Ground-Born Vibration Limits

If the Metro ground-borne noise limits or ground-borne vibration limits are exceeded during tunneling, the contractor will be required to take action to reduce vibrations to acceptable levels. Such action could include reducing the muck train speed, additional rail and tie isolation, and more frequent rail and wheel maintenance. However, there were no substantiated noise-level complaints made during tunneling for the Metro Gold Line Eastside Extension. Therefore, with mitigation, there will be no construction-related vibration adverse effects due to tunneling activities.

During operation, no noise or vibration impacts are anticipated following implementation of mitigation measures. Subway tunnels are typically at least 50 to 70 feet below the surface to the track depth. As a result, noise and vibration are not typically noticeable at the surface. In the Beverly Hills, Century City, and Westwood areas, the proposed subway tunnels would generally be deeper than this in the areas where it would pass beneath homes and schools. For example, at Beverly Hills High School, the track depth would be 75-80 feet below the first floor of the school buildings. In Westwood, the track depth is more than 100 feet deep in most places. Since the first segment of the subway opened in 1993, Metro has received no complaints about noise or vibration due to subway operations.

Additional detailed geotechnical studies were conducted during the Final EIS/EIR phase to assess soil conditions and determine the potential for noise or vibration impacts on the surface along the refined alignments. This included measurements at the Beverly Hills High School site and in its buildings, as well as in the residential area between the Century City and Westwood/UCLA Stations.

These studies concluded that the predicted vibration and noise levels are within the FTA requirements, and tunnel operation is not anticipated to have adverse impacts with the implementation of mitigation. Noise from operation of the LPA from such sources as station ventilation system fans, emergency ventilation fans, traction power substations, and emergency generators will be designed to meet the noise-level limits specified in Metro Rail Design Criteria and will not result in any noise impacts. There are no vibration-sensitive receivers along the LPA that are predicted to exceed the FTA ground-borne vibration criteria.

Three locations along the LPA were identified where exceedance of the FTA ground-borne noise criteria will occur due to train operations along tangent track or through crossovers, if mitigation measures are not implemented. These locations are the Wilshire Ebell Theatre, an apartment building on Wilshire Boulevard at Orange Drive, and the Saban Theatre. To mitigate the potential for ground-borne noise impacts at these three locations, the following mitigation measures will be implemented:



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- VIB-1—High compliance direct-fixation resilient rail fasteners will be incorporated into the design of the trackwork at the Wilshire Ebell Theatre and the Saban Theatre, which will reduce ground-borne noise by 5 to 7 dBA.
- VIB-2—A low impact crossover such as a moveable point frog or a spring-loaded frog will be used in the design of Wilshire/La Brea No. 10 double crossover for the apartments, which will reduce ground-borne noise by 5 to 6 dBA.

With these mitigation measures, there are no vibration-sensitive receivers that are predicted to exceed the FTA ground-borne vibration criteria during operation. Mitigation measure VIB-2 was added subsequent to the Draft EIS/EIR due to the additional studies conducted during preparation of this Final EIS/EIR.

Should future underground construction be considered that would place a school building foundation closer to the tunnel, mitigation measures could be implemented to reduce ground-borne noise and vibration impacts. To mitigate such noise impacts, a high-compliance direct-fixation resilient rail fastener can be incorporated into the track work.

Results of these additional noise and vibration analyses and mitigation measures can be found in Section 4.6 of this Final EIS/EIR and the *Westside Subway Extension Noise and Vibration Study*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

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824-64 | **Staging Areas and Construction Traffic:** We recommend that the City and Metro begin evaluating the potential locations for staging areas within a couple blocks of the Wilshire/La Cienega base and option stations, the connection structure, and the Wilshire/Rodeo station. Significant construction traffic should be anticipated in the vicinity of these areas for soil disposal, backfill, concrete, and other construction material deliveries.

824-65 | **Public Awareness/Outreach:** We suggest a public relations campaign be coordinated with the pre-construction surveys and utility relocation. The City should coordinate these efforts with Metro to provide as much notice as possible during these early stages of the project.

824-66 | **Dewatering:** The EIR/EIS should evaluate the potential for disposal of large quantities of water into the City's wastewater systems from the possible excavations at the Wilshire/La Cienega base and option stations, the connection structure, and the Wilshire/Rodeo station. Further, consideration should be given to beneficial use of any extracted water, in accordance with the codes and policies of the City.

824-67 | **Excavation and Tunneling Obstructions:** Significant project disruptions due to encounters with underground obstructions (abandoned tiebacks, oil well casings, etc.) could be greatly reduced by performing the necessary literature research, case history evaluations and site investigations to determine what if any obstructions are likely to be present and in what quantities. This should be completed during the EIR/EIS phase so that the potential for environmental impacts and potential mitigation measures associated with obstruction along the various alignment alternatives is analyzed and disclosed.

#### STATEMENT OF QUALIFICATIONS

Over the last 30 years, Shannon & Wilson's current underground staff has provided geotechnical services for tunneling on over 900 projects. Our experience encompasses all phases of underground engineering from conceptual design, through design and specification, to construction support. We have state-of-the-practice experience in evaluating and choosing the right tunneling technology for subsurface and construction conditions. Our experience includes working under "live" road conditions and with minimal impact on the environment. Shannon & Wilson's tunneling experience and expertise includes:

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Contractor staging areas (also referred to as "laydown areas") will be necessary for tunnel construction, stations, and ancillary facilities. Off-street space will be needed for setup, insertion, operation, and extraction of equipment and materials to the tunnel and station excavations. Approximately one acre is necessary for each station construction staging area and up to three acres is necessary for a typical tunnel-boring machine launch site.

Work areas will be needed to support tunnel excavation operations, including processing and removing tunnel spoils (excavated materials), handling precast concrete tunnel-lining segments, and tunnel utilities (such as ventilation, water supply and return, and power supply). In-street workareas will only be used when no off-street alternatives exists. Temporary easements, typically a portion of the sidewalk, traffic lanes, and/or parking areas, may be required at various locations for staging.

The proposed staging areas were addressed as part of the Draft EIS/EIR in the *Westside Subway Extension Real Estate and Acquisitions Technical Report*, in Chapter 2 and Appendix C of the Draft EIS/EIR. These proposed areas were refined and/or eliminated from further consideration for staging during the preparation of the Final EIS/EIR. The staging areas under consideration for the LPA in the Final EIS/EIR are identified in the *Westside Subway Extension Acquisitions and Displacement Supplemental Report*, and Section 2.6 and Appendix C of the Final EIS/EIR.

It is important to note that several construction staging site alternatives are under consideration at a few station locations in this Final EIS/EIR. Selection of the construction staging site will consider where the station entrances could be co-located, environmental impacts, and cost, as well as other factors. The decision will be made by the Metro Board of Directors following circulation and public review of this Final EIS/EIR.

*Traffic impacts associated with LPA construction include reduced roadway traffic lanes and temporary street closures that could result in major traffic disruptions and bottlenecks. These impacts are associated with contractor work and storage areas, stations, crossovers, mining entry/exit locations, TBM operations and support activities, truck haul routes, transportation of oversized construction materials, station entrances, station appendages, grout injection, and drop holes for the LPA and are detailed in Section 3.8.2 of this Final EIS/EIR.*

*Subway stations are built by excavating the site for the station box and then building the station below ground. If the station is built under a street, it is covered over with concrete decking during construction to allow traffic to continue to flow overhead. Traffic will be disrupted at the beginning of station construction to allow for initial excavation and installation of the concrete decking, and again at the end to remove the decking and reconstruct the street. The Traffic-Control Activities during Station Construction table in Section 3.8 details the traffic-control activities during station construction and the duration*

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- ◆ Exploration using a wide range of mapping, geophysical and boring techniques suitable for the various soil and rock conditions at different sites
- ◆ Groundwater evaluations to assess dewatering requirements, impacts of dewatering on adjacent structures, and the potential for moving contamination towards the excavation
- ◆ Soil and rock property evaluations from field and laboratory tests to provide reliable input for design
- ◆ Prediction of soil and rock loads on shafts, tunnels and underground openings using both empirical and computer techniques such as finite difference codes
- ◆ Estimation of likely impacts of underground construction on adjacent facilities
- ◆ Preparation of technical specifications and plans such as: tunnel excavation, tunnel support, dewatering, portal shoring, and geotechnical instrumentation
- ◆ Implementation of field instrumentation systems to measure the loads, stresses, deformations, and groundwater levels associated with underground construction

Shannon & Wilson is experienced in a wide range of tunnel excavation methods and the impacts of geotechnical conditions, including: drill and blast excavation, earth pressure and slurry pressure balance tunnel boring machines, jack and bore tunnels, microtunneling, horizontal directional drilling and pipe ramming. We have been involved in the geotechnical aspects of tunnel liner support systems including: grouted dowels and shotcrete, cast-in-place reinforced concrete, bolted and gasketed precast concrete segments, welded and snap together steel pipe sections, gasketed concrete pipe sections, and fiberglass pipe sections. We have worked on trenchless projects ranging from 8-inch diameter horizontal directional drill conduits for utility lines, jack and bore and microtunnels ranging from 24-inch to 16-foot diameter, to the world's largest diameter soft ground tunnel with an outside diameter of 85 feet.

Sincerely,

SHANNON & WILSON, INC.



R. Travis Deane, P.E., G.E.  
Associate

RTD/nd

51-1-10024-001 1.00 Rev 03/04/04

51-1-10024-001

**824-64**

of each activity.

*Anticipated truck haul routes consist of major city arterial streets that trucks will use to transport spoils, muck, material, and equipment between the construction laydown site locations and the offsite disposal location using the nearest freeway interchange. To minimize peak-period traffic disruptions, haul truck activity will occur during off-peak and nighttime periods. These routes generally follow major commercial streets and avoid residential areas to the greatest extent possible. The proposed routes identified are provided in Section 3.8 of this Final EIS/EIR and the Westside Subway Extension Construction Traffic Analysis Report. The routes may be updated and revised once additional information, such as construction sequencing, is finalized. In addition, the proposed routes will be subject to the approval of Metro and appropriate departments at Federal, State, and local agencies. The routes will be finalized in coordination with local jurisdictions and will be located so as to minimize noise, vibration, and other possible impacts to adjacent businesses and neighborhoods.*

*TBM components will be transported to the tunnel construction site by truck. Several oversized deliveries will be required, some during nights and weekends. However, these large component deliveries are limited to the initial setup period for the TBM, as well as during the removal period. If a TBM is re-used to excavate a subsequent tunnel, the entire machine may be transported by road from one site to the next. This would require full or partial road closures, typically at night.*

*Following completion of the Project, if physical damage to haul routes was found, affected roads will be treated in a manner that returns affected facilities to pre-construction conditions. This work will restore the street or ground surface to its original condition, or better. Site restoration operations will closely follow completion of the station structures. To maintain traffic flow, one-half of a street will be restored at a time and/or restoration will occur over weekends to enable an entire street to be temporarily closed to through traffic.*

*Backfill material will be trucked in, placed, and compacted. During backfilling over stations, utilities will be installed along with new sewer manholes and cable/duct vaults. Sidewalks will be restored, and the permanent street will be constructed, including paving, striping, and signage. Streets, sidewalks, and landscaping will be restored in accordance with City standards.*

*To minimize impacts to traffic circulation, the following mitigation measures will be implemented during construction:*

- TCON-1-Traffic Control Plans
- TCON-2-Designated Haul Routes
- TCON-3-Emergency Vehicle Access

**824-64**

- *TCON-4-Transportation Management Plan*
- *TCON-5-Coordination with Planned Roadway Improvements*

*T-CON-2, TCON-3, TCON-4, TCON-5 were added during this Final EIS/EIR phase based on additional analysis of construction impacts on traffic circulation and concerns raised by the public. With implementation of the mitigation, construction-related adverse effects on traffic circulation will be reduced for adjacent commercial areas and residential neighborhoods. Although the construction impacts on traffic circulation identified will be temporary, impacts and/or residual impacts after mitigation will remain significant and unavoidable during the construction period.*

*All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports)*

**824-65**

Your comment regarding the community coordination during construction has been noted.

Metro has always been committed to maintaining business and residential access during construction. Construction impacts will be temporary and limited in areas as construction proceeds along the length of the Locally Preferred Alternative. Metro will coordinate with affected residents and businesses prior to construction. A detailed survey of community stakeholders and businesses will be conducted. A construction safety campaign will be developed and community response protocols (notification of construction activities, hot lines, etc.) will be produced. A public involvement plan will be developed prior to each construction phase and will be tailored to the construction phase. Metro will maintain the Project website, which will provide information to the public regarding construction phasing. Metro will develop a program tailored for different locations and needs. The program will involve signage and marketing to assistance to businesses, identification of parking alternatives, and other measures.

Metro also considers the cumulative impact of multiple projects in the Study Area under construction at the same time as the subway extension. Careful coordination will occur with local jurisdictions, including the City of Beverly Hills, to ensure that potential impacts from the simultaneous construction of multiple projects are addressed and mitigated to the extent feasible.

**824-66**

Your comment regarding dewatering has been noted. Please see response above to comment number 824-62 regarding groundwater contamination and dewatering activities.

**824-67**

Your comment has been noted. Additional geotechnical analysis was done as part of the

**824-67**

Final EIS/EIR. The results of further geotechnical investigations, including seismic studies and analyses to identify risks of settlement and proximity to oil wells, have been incorporated into the *Westside Subway Extension Century City Area Tunneling Safety Report* and the *Westside Subway Extension Century City Area Fault Investigation Report*.

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October 18, 2010

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David Mieger, Project Director  
Los Angeles County Metropolitan Transportation Authority  
One Gateway Plaza, MS 99-22-5  
Los Angeles, CA 90012-2952

File: SC.CE.

Dear Mr. Mieger:

**Westside Subway Extension Transit Corridor – Draft EIR**

This is in response to your August 27, 2010 letter requesting wastewater service information for the proposed project. The Bureau of Sanitation, Wastewater Engineering Services Division (WESD) has conducted a preliminary study of the existing sewer lines and gauges located within the vicinity of the proposed project location.

601-1

The City of Los Angeles sewer system consists of primary sewers (16-inches and larger in diameter) and secondary sewers (less than 16-inches in diameter). The secondary sewers service the property laterals and feed into the primary sewer lines. The primary sewers are represented by the trunk, interceptor, and outfall portions of the system. These sewers ultimately convey the wastewater to the Hyperion Treatment Plant which has sufficient capacity for current and future development.

The majority of sewer lines within the proposed project area consist of secondary lines. Per our available information, the secondary reaches run along Wilshire Blvd in four segments:

- 1) between Centinela Ave and Federal Ave near the Wilshire/Bundy proposed station
- 2) between Veteran Ave and Whittier Dr near the Century City proposed station
- 3) between Schumacher Dr and Ogden Dr near the Wilshire/Fairfax proposed station
- 4) between McCadden Pl and Normandie Ave near the Wilshire/Western proposed station

The primary sewer reaches run along Wilshire Blvd in two main segments: between Sepulveda Blvd and Midvale Ave near the Century City proposed station, and between Ogden Dr and McCadden Pl near the Wilshire/La Brea proposed station. Primary outfall



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**601-1**

Your comment on wastewater service information for the City of Los Angeles has been noted. This information was used in developing the utility relocation plan. Metro will continue to coordinate with the City of Los Angeles regarding any utility relocation.

David Mieger, Los Angeles County Metropolitan Transportation Authority  
Westside Subway Extension Transit Corridor – Draft EIR  
October 18, 2010

Page 2 of 2

sewer lines share the same right-of-way as the proposed subway lines at the following locations: Lower Central Interceptor Sewer (LCIS) at Sweetzer Ave, La Cienega – San Fernando Valley Relief Sewer (LCSFVRF) at Hauser Blvd, and Wilshire-Hollywood Interceptor Sewer (WHIS) at Norton Ave. Gauging within the project area shows relatively low flows which indicates the existing sewer system might be able to accommodate future discharges related to this project. Figure 1 shows the existing sewer lines and gauging locations along the alignment of the proposed project.

601-2

Currently, the project description lacks sufficient information for us to conduct a detailed wastewater capacity analysis. Should more project details related to the construction dewatering or sewer discharges become available, please continue to send us information so that we may determine if a sewer assessment is required in the future.

If you have any questions, please call Abdul Danishwar of my staff at (323) 342-6220.

Sincerely,  
  
Ali Poosti, Acting Division Manager  
Wastewater Engineering Services Division  
Bureau of Sanitation

Encl: Figure 1 – Westside Subway Extension Transit Corridor Sewer Map

cc: Kosta Kaporis, BOS  
Daniel Hackney, BOS  
Rowena Lau, BOS

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**601-2**

Your comment has been noted. Metro worked with the City of Los Angeles during development of the Metro Red and Metro Purple Lines, and will follow similar processes with the City of Los Angeles during Final Design of the Westside Subway Extension.

October 18, 2010

Mr. Art Leahy  
Chief Executive Officer  
Los Angeles County Metropolitan Transportation Authority (MTA)  
One Gateway Plaza  
Los Angeles, California 90012

**RE: CITY OF LOS ANGELES COMMENTS ON MTA'S WESTSIDE SUBWAY EXTENSION  
DRAFT ENVIRONMENTAL IMPACT STATEMENT/ ENVIRONMENTAL IMPACT REPORT  
(DRAFT EIS/EIR)**

Dear Mr. Leahy:

The City of Los Angeles is pleased to provide comments on the Draft Environmental Impact Statement/Environmental Impact Report (DEIS/DEIR) for the Westside Subway Extension project. City departments have reviewed the DEIS/DEIR document and have provided detailed comments and feedback for your consideration. For your convenience, the city departments providing comments are referenced in parenthesis in case your staff and/or consulting team needs to follow-up. The following city departments contributed to this review effort:

- Department of City Planning (DCP)
- Department of Public Works, Bureau of Engineering (BOE)
- Department of Public Works, Bureau of Street Lighting (BSL)
- Department of Transportation (DOT)
- Community Redevelopment Agency of the City of Los Angeles (CRA/LA)


Los Angeles recognizes the importance of this Westside Subway Extension as an integral link in the region's growing transit network. The city looks forward to continuing working closely with MTA in the upcoming design and construction phase of the project.

Sincerely,

  
Gary Lee Moore  
City Engineer, BOE

  
Michael LoGrande  
General Manager, DCP

  
Ed Ibrahimian  
General Manager, BSL

  
Rita Robinson  
General Manager, LADOT

  
Christine Essel  
Chief Executive Officer, CRA/LA



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**Alternatives Evaluation**Preferred Alternative

- 615-1 | As shown in the environmental analysis, each of the Build Alternatives would provide improved mobility and accessibility in the Westside area; however, Alternative 5 provides the greatest benefit among the various build alternatives studied, in that it results in additional linkages that enhance job access for residents of the San Fernando Valley and Hollywood districts of the City of Los Angeles. Given that only Alternative 1 and 2 can be built within expected funding, the City recommends that one of these alignments be prioritized as a crucial first step to improving mobility in the region, with the ultimate goal of building out the full system as described in Alternative 5 (DCP).
- 615-2 | We support the selection of Alternative 2, Westwood/VA Hospital Extension, as the Locally Preferred Alternative because it provides the best balance of cost effectiveness, ridership potential and transit connectivity within the constraints of available project funding. It also provides subway access west of the I-405 Freeway. The project would improve mobility and access within the Wilshire Boulevard corridor, one of the most heavily-traveled and congested in the City with its concentration of high density residential uses, institutions and commercial centers (LADOT).
- 615-3 | The Transportation Systems Management (TSM) Alternative does not achieve the necessary transportation improvements that are needed in this corridor and this alternative should not be selected over the Build Alternatives (See Section 7.2 – TSM and Build Alternatives (DCP).

**615-1**

Your support for Alternative 5 (Santa Monica Extension plus West Hollywood Extension) as well as your acknowledgement that only Alternatives 1 and 2 can be built with expected funding, has been noted. On October 28, 2010, the Metro Board of Directors identified Alternative 2 (Westwood/VA Hospital Extension) as the Locally Preferred Alternative (LPA). Only Alternatives 1 and 2 are affordable within the adopted Long Range Transportation Plan (LRTP), and between them, Alternative 2 provides significantly higher ridership and better cost effectiveness. Additionally, Alternative 2 serves the VA Hospital and other communities west of the I-405 more effectively.

The Draft EIS/EIR demonstrated a significant market for a subway serving Santa Monica and West Hollywood. However, there is not sufficient Measure R or other funding available to construct a Santa Monica or West Hollywood subway at this time. The Santa Monica and West Hollywood corridors are included in the Strategic Element of the 2009 Long Range Transportation Plan. Further study could occur should funding be identified and secured in the future. If the LPA is approved for implementation by the Metro Board, the LPA will also be designed so as not to preclude future westward extension of the subway.

Please refer to Sections 2.3, 2.4, and 2.5 of the Final EIS/EIR for an overview of the development of alternatives and the LPA selection process.

**615-2**

Your support of Alternative 2 as the LPA has been noted. Please see the above response to comment number 615-1 as it relates to Alternative 2.

**615-3**

Your opposition to the TSM Alternative is noted. Please refer to the response above to comment number 615-1, which states that the Metro Board of Directors selected Alternative 2 as the LPA.

Wilshire/Crenshaw Station

- 615-4 | We recommend that the Wilshire/Crenshaw station be retained to serve the surrounding residential community and transit users on Crenshaw Bl. This station should provide an additional station entrance on the north side of Wilshire Bl. near Lorraine Bl., as noted above (LADOT).
- 615-5 | If the Wilshire/Crenshaw Station option is selected, shown in Figure 2-22, consider two portals, one on each side of Wilshire Boulevard, to provide better pedestrian connections and reduce conflict with heavy vehicular traffic on Wilshire. If only one portal is possible, a knockout panel should be included in the station design to facilitate a possible future access point to the north side of Wilshire Boulevard, which has higher density existing development. If only one portal is constructed, crosswalk improvements should be implemented to enhance pedestrian connection across Wilshire Boulevard at Lorraine Avenue (See section 2.5 – Stations and Segment Options) (DCP).
- 615-6 | The existing built environment supports a station at this location. The removal of this station option would reduce access to transit for existing and future residents in the vicinity, as there is a long distance between stations at Wilshire/Western and Wilshire/La Brea. As stated in the report and noted above, the station area contains a medium level of density, as permitted through the Park Mile Specific Plan. Increased densities are not envisioned near this location and it is not a designated regional center in the City of Los Angeles; however, the development parameters in place for the commercial corridor of the Park Mile allow 3:1 FAR and heights ranging from 45 to 75 feet. Currently, along Wilshire Boulevard there are several vacant lots available as well as underdeveloped lots that could provide additional growth potential. Additionally, the SCAG employment forecast shown in Figure 4-7 predicts 4,742 new jobs within this station area by 2035. Including this station would provide improved access to transit for area residents as well as employees in office buildings along Wilshire Boulevard. Given existing land use considerations, this is an appropriate location for a station to be built (See Section 7.3 – Station and Alignment Options (Option 1: Wilshire/Crenshaw Station) (DCP).

**615-4**

Your comment on the Wilshire/Crenshaw Station has been noted. In October 2010, the Metro Board of Directors identified Alternative 2 (Westwood/VA Extension) as the Locally Preferred Alternative (LPA). A Wilshire/Crenshaw Station was not included in the LPA.

The Wilshire/Crenshaw Station would be located in the Park Mile section of Wilshire Boulevard, adjacent to lower density land uses that are not planned for future growth in the adopted Community Plan and Park Mile Specific Plan. This site is only 0.5 mile from the existing Wilshire/Western Station and does not serve a major north south intersection, as Crenshaw Boulevard terminates at Wilshire Boulevard and does not extend to the north. Because this is a comparatively lower ridership station with a cost of \$153 million, eliminating this station from the LPA improves the cost-effectiveness of Alternative 2. Furthermore, future connections from the Westside subway stations along Wilshire Boulevard to the planned Crenshaw/LAX Light Rail Transit project to the south have been recommended to take place at La Brea, La Cienega, or San Vicente rather than at Wilshire/Crenshaw.

Please refer to Sections 2.3, 2.4, and 2.5 of the Final EIS/EIR for an overview of the development of alternatives, including station locations, and the LPA selection process. The *Westside Subway Extension Alternatives Screening and Refinement Following Scoping Report* provides a more detailed description of the refinements to the Wilshire/Crenshaw Station following Draft EIS/EIR scoping in response to community comments and engineering requirements. This report is available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**615-5**

Your comment regarding the Wilshire/Crenshaw Station has been noted. Please refer to the response above to comment number 615-4. The Wilshire/Crenshaw Station was not included in the LPA selected by the Metro Board of Directors.

**615-6**

Your comment regarding the Wilshire/Crenshaw has been noted. Please refer to the response above to comment number 615-4. The Wilshire/Crenshaw Station was not included in the LPA selected by the Metro Board of Directors.

Wilshire/Fairfax Station

615-7 For the Wilshire/Fairfax Station options please specify where the potential station will be on the Los Angeles County Museum of Art (LACMA) property, particularly whether or not the portal will open to inside the museum or onto the street. Also, specify whether the potential portal will be located at the same place as proposed in the base station option (within the former May Company Department Store). Whatever the station/entrance locations, there should be at least one entrance on each side of Wilshire and preferably, on each side of Fairfax Avenue as well. If this is not possible, crosswalk improvements should be implemented to enhance pedestrian connections across Wilshire Boulevard and Fairfax Avenue. If portal entrances do not directly face the street, such as in the potential southeast portal in the east station option, such entrances should be modified to be angled toward the street (DCP).

615-8 We note that the Wilshire/Fairfax East station option is superior to the Wilshire/Fairfax base station because it provides entrances on both the north and south sides of Wilshire Bl., as well as one more entrance than the base station, reducing the potential number of pedestrians crossing Wilshire Bl. to access the station. The Fairfax East station option also provides more direct access to LACMA, the Page Museum and Hancock Park (DCP, LADOT).

La Cienega Station

615-9 The west station option provides a better transfer point for riders to connect between a Wilshire subway line and West Hollywood/Hollywood line, and would provide better station spacing along the Wilshire line. The west station option would also be located closer to multi-family residential areas in the City of Los Angeles, located between Robertson and La Cienega, south of Gregory Way (Option 3: La Cienega Station Location) (DCP).

615-7

Your comment regarding station entrances at the Wilshire/Fairfax Station has been noted.

The number of entrances at each station is based on ridership projections. All stations, including the Wilshire/Fairfax Station, will have one entrance. The exception is the Westwood/UCLA, which will have two entrances due to higher ridership projections.

Three potential locations for the entrance at the Wilshire/Fairfax Station are evaluated in the Final EIS/EIR, but only one will be constructed. The three entrances under consideration are:

- Northwest corner of Wilshire Boulevard and Fairfax Avenue (west of Johnie's Coffee Shop)
- Northeast corner of Wilshire Boulevard and Fairfax Avenue (in the interior of the LACMA West, former May Company building)
- Southeast corner of Wilshire Boulevard and Orange Grove Avenue

The recommendation is to locate the Wilshire/Fairfax Station entrance on the northwest corner of the intersection, immediately west of Johnie's Coffee Shop as this location would provide access to destinations on the north side of Wilshire Boulevard and to north-south bus connections as compared to a station entrance at Wilshire Boulevard and Orange Grove Avenue. The selection of the Johnie's site would avoid any conflicts with the proposed plans for a film museum as well as the additional risks and costs associated with construction of an entrance inside the LACMA West/May Company building. Please refer to Section 7.4.2 of the Final EIS/EIR for a discussion of the entrance locations at Wilshire/Fairfax.

Convenient and safe access by pedestrians and bicyclists will be an important element of the Westside Subway Extension Project. Sidewalks, bicycle lanes, and other facilities along the Project corridor support non-motorized access. To assess potential future access improvements to subway stations, Project design efforts included a study of circulation needs in each station area. The results of this study are available in the *Westside Subway Extension Station Circulation Report* and Section 3.7 of this Final EIS/EIR. This study provided important guidance on potential station features, including those specifically relating to pedestrian and bicycle access. Areas explored by the study included the following:

- Provision of bicycle facilities at stations
- Enhanced bus shelters and lighting
- Making crosswalks more visible with crosswalk treatments and advance stop bars, increasing safety for pedestrians transferring from buses or traveling to other destinations on foot
- Improving the transit and pedestrian environment with the addition of sidewalk treatments

Results of the station circulation study helped direct further design of subway stations and supported station area planning for the Project. The station area planning examined access opportunities and potential improvements in the neighborhoods surrounding subway stations.

**615-7**

Section 3.7 of this Final EIS/EIR summarizes the findings of the *Station Circulation Report* and lists specific measures to be implemented at stations to improve pedestrian and bicycle access. These measures include the following:

- T-5 through T-8-Install Crossing Deterrents/Crossing Deterrents
- T-9-Provide consistency with General Plan Designation Sidewalk Width Adjacent to Metro-Controlled Parcels
- T-10-Provide consistency with General Plan Designation Sidewalk Width Coordination with Jurisdictions
- T-11-Provide High Visibility Crosswalk Treatments
- T-12-Meet Federal, State, and Local Standards for Crossing
- T-13-Meet Metro Rail Design Criteria Minimums for Bicycle Parking
- T-14-Study Bicycle Parking Demand and Footprint Configuration
- T-15-Determine Alternative Sites for Bicycle Parking

Metro is committed to working with local jurisdictions to improve the environment for pedestrians and bicyclists at all Project stations and will continue to assess and refine the needs of pedestrians and bicyclists as the Project progresses into Final Design.

Please refer to Section 8.8.8 of the Final EIS/EIR for more detailed responses to concerns related to station connectivity. In addition, the *Westside Subway Extension Station Circulation Report* provides a comprehensive station access circulation study of Project stations and Section 3.7 provides an analysis of potential impacts to pedestrian and bicycle networks. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**615-8**

Your comment supporting the East location for the Wilshire/Fairfax Station has been noted. On October 28, 2010, the Metro Board of Directors identified Alternative 2 (Westwood/VA Hospital Extension) as the Locally Preferred Alternative, which includes the Wilshire/Fairfax East Station location due to stronger community support and better access and land integration opportunities, including proximity to Museum Row.

As noted in the response to comment number 615-7 above, only one entrance will be constructed at the Wilshire/Fairfax Station.

Please refer to Sections 2.3, 2.4, and 2.5 of the Final EIS/EIR for an overview of the development of alternatives, including station locations, and the LPA selection process. The *Westside Subway Extension Alternatives Screening and Refinement Following Scoping Report* provides a more detailed description of the refinements to the Wilshire/Fairfax Station following Draft EIS/EIR scoping in response to community comments and engineering requirements. This report is available on the Metro Westside

**615-8**

Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**615-9**

Your preference for the West location of the Wilshire/La Cienega Station has been noted. At Wilshire/La Cienega, the Metro Board of Directors selected the East Station location without a West Hollywood connection structure for inclusion in the LPA. This is the preferred station entrance location for the City of Beverly Hills because it will be located in a denser, more commercial area than the other station location to the west of La Cienega. This entrance location also will provide excellent connections to two major north-south arterials - La Cienega and San Vicente Boulevards.

The Metro Board of Directors chose not to include a West Hollywood connection structure in the LPA due to funding constraints. Additionally, the cost of the connection structure is not sufficiently justified when there may be alternative, less costly solutions to serve the West Hollywood transit market, such as a light rail line. The Draft EIS/EIR showed that there is a market for transit improvements serving West Hollywood, and this corridor is included in the Strategic Element of the 2009 Long Range Transportation Plan. Should funding be identified and secured, further study could be done to identify a project that would be competitive under Federal funding criteria.

Please refer to Sections 2.3, 2.4, and 2.5 of the Final EIS/EIR for an overview of the development of alternatives, including station locations, and the LPA selection process. The *Westside Subway Extension Alternatives Screening and Refinement Following Scoping Report* provides a more detailed description of the refinements to the Wilshire/La Cienega Station following Draft EIS/EIR scoping in response to community comments and engineering requirements. This report is available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

Century City Station

- 615-10 From a land use perspective, the Constellation Station option is superior to the Santa Monica Boulevard option, in that Constellation is centrally located and more easily walkable to the centers of employment in Century City. It also serves a greater diversity of land uses, including a wide array of retail, office, hotel, and medical center destinations. For this reason, the City prefers the Constellation Station option. The east alignment between Century City and Westwood requires the fewest number of easements and has the fastest travel time (Option 4: Century City Station and Alignment Options) (DCP).
- 615-11 The Century City Constellation station option also appears to be superior to the Century City Santa Monica base station. It is centrally located to major Century City land uses like the Century Plaza Hotel, Westfield Century City Shopping Center and ABC Entertainment Center and provides numerous potential station entrances for those uses. It also avoids the earthquake fault zone along Santa Monica Blvd. (LADOT).

Westwood/UCLA Station Location

- 615-12 The primary issue with selecting a station location in Westwood should be the ability to provide for direct station access from the sidewalk along the south side of Wilshire Boulevard. This is necessary given the physical barrier that Wilshire Boulevard poses for pedestrians (see earlier discussion). If the off-street station option can provide such access, it may be a viable alternative to the on-street option (Option 5: Westwood/UCLA Station Location) (DCP); however, the Westwood/UCLA On-Street station option is preferable to the Westwood/UCLA Off-Street base station because it is more centrally located to the intersection of Wilshire Blvd. and Westwood Blvd. and provides station entrances near bus stops on both of these major streets. It has more potential station entrances than the base station, while retaining the base station's entrance for UCLA/Lot 36 (LADOT).

615-10

Your comment in support of the Century City Constellation Station has been noted. On October 28, 2010, the Metro Board of Directors identified Alternative 2 (Westwood/VA Hospital Extension) as the Locally Preferred Alternative (LPA). As part of the LPA selection, the Metro Board of Directors decided to continue to study both station location options in Century City (Santa Monica Boulevard and Constellation Boulevard) to address concerns raised by the community regarding locating a station directly on a seismic fault and the safety of tunneling under homes and schools.

In response to the Metro Board of Director's request for more information, further analysis was undertaken to focus on the engineering and environmental aspects of the two options during the preparation of the Final EIS/EIR to expand on the studies conducted in preparation of the Draft EIS/EIR. It should be noted that prior to conducting the comparative study, the Santa Monica Boulevard Station location was shifted slightly to the east from the location in the Draft EIS/EIR to avoid the Santa Monica Fault zone.

The geotechnical studies conducted during preparation of the Final EIS/EIR concluded that tunneling can be safely carried out beneath the Beverly Hills High School campus and the West Beverly Hills, Century City, and Westwood neighborhoods. However, these studies also determined that the Century City Santa Monica Station would cross the West Beverly Hills Lineament, a northern extension of the active Newport-Inglewood Fault, which poses a significant safety risk to passengers at this station location. No evidence of faulting was found at the proposed Century City Constellation Station site.

In addition, the Century City Constellation Boulevard Station has the best pedestrian environment, can be expected to attract the most transit riders, and is centrally located to help shape the redevelopment of Century City as an important transit-oriented destination on the Westside Subway Extension. Further refinements to the ridership analysis concluded that the Century City Constellation Station would result in 3,350 more boardings along new Westside Subway Extension stations than the Century City Santa Monica Station due to proximity to jobs and residences within the critical 600-foot and 1/4-mile walksheds.

Based on all of these factors, the *Century City Station Location Report* concluded by recommending that the Century City Station be located along Constellation Boulevard due to seismic safety concerns at the Santa Monica Boulevard Station and higher ridership projections with Constellation Boulevard Station.

Please refer to Section 8.8.2 and 8.8.3 of the Final EIS/EIR for more detailed responses to concerns related to the Century City Station. Refer to Section 7.3 of the Final EIS/EIR and the *Westside Subway Extension Century City Station Location Report* for a comparison of the two Century City Station locations. The results of further geotechnical investigations in the Century City vicinity can be found in the *Westside Subway Extension Century City Area*

**615-10**

*Fault Investigation Report* and the *Westside Subway Extension Century City Area Tunneling Safety Report*. The results of further ridership studies can be found in the *Westside Subway Extension Technical Report Summarizing the Results of the Forecasted Alternatives* and the *Westside Subway Extension Century City TOD and Walk Access Study*. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**615-11**

Your comment in support of the Century City Constellation Station has been noted. Please see the response above to comment number 615-10 regarding the continued study of the Century City Station.

**615-12**

Your comment on the location of the Westwood/ UCLA Station and pedestrian access has been noted. As part of the LPA selection, the Metro Board decided to continue to study both Westwood/UCLA station location options (On-Street and Off-Street).

A comparative study of the two proposed Westwood/UCLA station locations, including engineering, costs, urban design, and environmental impact considerations, was conducted during the Final EIS/EIR phase to expand on the studies conducted in preparation of the Draft EIS/EIR.

The Off-Street Station and tunnels would need to be deeper than the On-Street Station to clear the underside of foundations for a future hotel on Gayley Avenue, which makes the station and tunnels riskier and more expensive to construct, and requires more time for transit riders to travel between the platform and the station entrance. Additionally, the Westwood/UCLA Off-Street Station location would require approximately 13 additional permanent underground easements.

The On-Street Station location would provide at least one of entrance at the corner of Wilshire and Westwood Boulevards. This entrance location would provide better access to bus connections along Westwood Boulevard and would be closer to the major office buildings and Westwood Village than the entrances for the Off-Street Station. Furthermore, one of the station entrance options for the On-Street Station is a split entrance between the north and south sides of Wilshire Boulevard, providing access to both sides of busy Wilshire Boulevard. However, the Westwood/UCLA On-Street Station option is also expected to have greater traffic impacts during construction due to in-street construction along Wilshire Boulevard.

Based on these factors, the recommendation is to locate the Westwood/UCLA Station On-Street as this location could accommodate an entrance at the Wilshire Boulevard and



**615-12**

Westwood Boulevard intersection, providing better pedestrian access to Westwood Village and connections along Westwood Boulevard.

Please refer to Section 8.8.6 of the Final EIS/EIR for more detailed responses to concerns related to the Westwood/UCLA Station. Please refer to Sections 2.3, 2.4, and 2.5 of the Final EIS/EIR for an overview of the development of alternatives, including station locations, and the LPA selection process. The *Westside Subway Extension Alternatives Screening and Refinement Following Scoping Report* provides a more detailed description of the refinements to the Westwood/UCLA Station following Draft EIS/EIR scoping in response to community comments and engineering requirements. Refer to Section 7.3 of the Final EIS/EIR and the *Westside Subway Extension Westwood/UCLA Station and the Westwood/VA Hospital Station Locations Report* for a comparison of the two Westwood/UCLA locations. In addition, the *Westside Subway Extension Station Entrance Location Report and Recommendations* provides a comparison of the potential entrance locations at Westwood Boulevard, Gayley Avenue and Veteran Avenue for both the On-Street and Off-Street Stations. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**615-13**

Your comment regarding access to the Westwood/VA Hospital Station and your preference for a modified Westwood/VA Hospital Station location has been noted.

During the Draft EIS/EIR scoping, the public suggested that an additional station should be provided west of I-405 because of the large distance between a Westwood/UCLA and a Wilshire/Bundy Station, as well as a desire to serve communities west of the I-405 more effectively. In response, five proposed stations west of I-405 were studied—two at Westwood/VA Hospital (one north of Wilshire and one south of Wilshire), Wilshire/Federal, Wilshire/Barrington, and Wilshire/Bundy. In analyzing the proposed stations, the potential to serve as a terminus station was an important consideration. In addition, all of the stations except for the stations at Westwood/VA Hospital are located too far west to be funded as part of Measure R and beyond the adopted LRTP.

The Wilshire/Federal Station would have been located on a site currently used by the U.S. Army Reserve, and the site was determined to be too small to accommodate the subway station without impacting adjacent historic homes in the VA property. From an engineering perspective, this also would have been a challenging site to construct a subway station because of the sharp curve of Wilshire Boulevard. Therefore, the Wilshire/Federal Station was eliminated from further consideration.

The Wilshire/Barrington Station would be located slightly west of the proposed Wilshire/Federal Station. While the Wilshire/Barrington Station is in a high density area with high ridership potential, comments were received from the community during scoping in opposition to locating a terminus station at Wilshire/Barrington due to traffic congestion and dense development concerns. Furthermore, the Wilshire/Barrington Station was not as evenly spaced between the Westwood/UCLA Station and the Wilshire/Bundy Station as is the Westwood/VA Hospital Station.

The Wilshire/Bundy Station is the farthest west of the terminus station considered and provided better potential transit connections as it aligns with the future planned Expo station at Olympic/Bundy. However, it is beyond Measure R funding.

Based on all of these considerations, and especially the fact that only the Westwood/VA Hospital Station is fundable within Measure R, the Wilshire/Federal, Wilshire/Barrington, and Wilshire/Bundy Stations were eliminated as potential terminus stations for the fundable Measure R alternatives. Both the North and South Options at the Westwood/VA Hospital Station were carried forward for further analysis in the Draft EIS/EIR. The Wilshire/Bundy Station was also carried forward into the Draft EIS/EIR as part of the Santa Monica Extension, which is beyond available Measure R funding, and would not serve as a terminus station.

Convenient and safe access by pedestrians and bicyclists will be an important element of

Westwood/VA Station

615-13 | The south station provides better access to the Veterans Affairs (VA) Hospital facility than the north station option; however, both are rather isolated sites that lack direct pedestrian or bicycle linkages to the major activity centers located directly to the west of the VA campus. If possible, in the FEIS/EIR, a station at Wilshire/Federal or Wilshire/Barrington should be analyzed as an Alternative. The placement of the Westwood/VA station at either the north or south options is out of the way of pedestrian travel and may invite vehicle trips for pick-up and drop-off. The VA property is designated strictly for the use of US Veterans and is unlikely to evolve into a transit-oriented destination, whereas a station located farther west could capture riders from dense residential areas west of Federal Avenue, to the north and south of Wilshire Boulevard. A more westerly station location could also bring westbound transit riders within closer walking distance to such commercial destinations as San Vicente Boulevard and Montana Avenue (Option 6: Westwood/VA Station Location) (DCP).

MTA should consider relocating the station nearer to Federal Avenue or creating new and enhanced pedestrian and bicycle linkages to make connections to the two station options presented in the DEIS/EIR. In addition, moving the station farther west could help to alleviate any impacts near the Church and Wadsworth Theater. A station oriented toward or near Wilshire Boulevard would improve the perception of public safety and encourage pedestrians to enter onto the VA property. Without a direct line of sight to a station portal from the adjacent streets (Federal or Wilshire), pedestrian accessibility from points west is likely to be diminished (DCP).

Facility

615-14 | Either proposed facility site would require development adjacent to the Los Angeles River. A satellite facility at the Union Pacific Los Angeles Transportation Center Rail Yard, which would be necessary for Alternatives 3, 4, or 5, would require the construction of a new crossing over the River. Development of either site should be designed to be consistent with and supportive of implementation of the Los Angeles River Revitalization Master Plan. Please confer with City staff as these facility plans are refined to ensure maximum coordination of these efforts (See Section 7.4 – Vehicle Storage and Maintenance Facility) (DCP).

Emergency Generators

615-15 | The emergency generators, as described on page 2-64, should include mitigation measures. For example: emergency generator facilities should be away from the public sidewalk and any adjacent residential uses; all facilities should be screened and out of the line of site from public cross walks, plazas, and sidewalks. Similarly, mid-tunnel vent shafts should be located away from active ground floor uses and building entries, wherever possible (See Section 2.7 – Other Components of the Build Alternatives) (DCP).

**615-13**

the design of all station areas, including the Westwood/VA Hospital Station. A comprehensive station access circulation study was conducted for this station due to feedback from both the VA and the public. The recommendations resulting from this study are available in the *Westside Subway Extension Station Circulation Report*. The report considered pedestrian access, bicycle access, bus access, and auto access to the Westwood/VA Hospital Station and resulted in a detailed urban design concept for the Westwood/VA Hospital Station-both the North and South locations. Potential impacts to interfacing transportation networks, including bus transit (specifically, the location of bus stops), and pedestrian and bicycle facilities (pedestrian crossings and bicycle lanes) are also presented in Section 3.7 of this Final EIS/EIR.

In preparation of this Final EIS/EIR, the station box and station entrance for the Westwood/VA Hospital South Station was shifted north from the location evaluated in the Draft EIS/EIR. Based on feedback from the VA and the public, the station box was shifted to the far northern end of the parking lot to allow the VA to more easily develop their property in the future and to improve public access to the station. This station location farther from the VA Hospital also facilitates a clearer delineation between station activities and VA activities on the VA Campus.

Currently, Wilshire Boulevard and Bonsall Avenue are grade-separated with Bonsall Avenue passing beneath Wilshire Boulevard. For the Westwood/VA Hospital South Station, the proposed station entrance, as detailed in Section 2.6 of this Final EIS/EIR, would be located on the Bonsall level, beneath the bus drop-off area to the north of the VA Hospital parking lot. The existing bus drop-off area at the Wilshire level on the north and south sides of Wilshire Boulevard would remain the same. A passenger drop-off area would also be provided on the Wilshire level within the bus drop-off area on the north side of Wilshire Boulevard.

For the Westwood/VA Hospital North Station, the station entrance would be located along the north side of Wilshire Boulevard, just west of Bonsall Avenue and south of the station box on the Bonsall level, as detailed in Section 2.6 of this Final EIS/EIR. The existing bus drop-off area at the Wilshire level on the north and south sides of Wilshire Boulevard would remain the same.

Since the entrance for both the North and South stations are located along Wilshire Boulevard at Bonsall Avenue, on the Bonsall level, there are no major differences between the two stations for the purposes of evaluating station circulation. However, Section 3.7 of this Final EIS/EIR concludes that both the North and South entrance at the Westwood/VA Hospital Station will result in increased hazards to pedestrians and bicyclists due to a design feature or incompatible uses and will conflict with adopted plans or policies related to public transit, bicycle, or pedestrian facilities prior to mitigation. To improve access, the following mitigation measures will be implemented at the Westwood/VA Hospital Station

**615-13**

(North or South):

- T-8-Install High-Visibility Crosswalk
- T-9-Provide consistency with General Plan Designation Sidewalk Width Adjacent to Metro-Controlled Parcels
- T-10-Provide consistency with General Plan Designation Sidewalk Width Coordination with Jurisdictions
- T-11-Provide High Visibility Crosswalk Treatments
- T-12-Meet Federal, State, and Local Standards for Crossing
- T-13-Meet Metro Rail Design Criteria Minimums for Bicycle Parking
- T-14-Study Bicycle Parking Demand and Footprint Configuration
- T-16-Study Bus-Rail Interface

With implementation of these measures, impacts to the interfacing pedestrian and bicycle networks and bus stops will be mitigated to less than significant levels at the Westwood/VA Hospital Station. While it is acknowledged that streets in the vicinity of the Westwood/VA Hospital Station are wide, pedestrian and bicycle movements in the study area can still occur without major barriers. The vicinity of the Westwood/VA Hospital Station does contain a network of sidewalks, including connections between potential future rail station entrances and nearby activities. Escalators will provide easy connections from the bus turnouts on Wilshire Boulevard to the Bonsall level, making transfers between bus and subway relatively convenient.

Please refer to Section 8.8.5 of the Final EIS/EIR for more detailed responses to concerns related to the Westwood/VA Hospital Station and to Sections 2.3, 2.4, and 2.5 of the Final EIS/EIR for an overview of the development of alternatives, including station locations, and the LPA selection process. The *Westside Subway Extension Alternatives Screening and Refinement Following Scoping Report* provides a more detailed description of the refinements to the Westwood/VA Hospital Station following Draft EIS/EIR scoping in response to community comments and engineering requirements. Refer to Section 7.3 of the Final EIS/EIR and the *Westside Subway Extension Westwood/UCLA Station and the Westwood/VA Hospital Station Locations Report* for a comparison of the two Westwood/UCLA locations in the Final EIS/EIR. In addition, the *Westside Subway Extension Station Circulation Report* provides a comprehensive station access circulation study of the Westwood/VA Hospital Station and Section 3.7 provides an analysis of potential impacts to pedestrian, bicycle, and bus networks. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**615-14**

As part of the LPA, Metro has selected Alternative 2 with the expansion of Division 20 Maintenance and Storage Facility and without the satellite facility. Metro will continue to coordinate with the City of Los Angeles regarding the expansion of Division 20.

**615-15**

Your comment regarding emergency generators has been noted. As identified in Section 2.6 of the Final EIS/EIR, emergency generators will be located only at the Wilshire/La Brea and Westwood/VA Hospital Stations. The generators would be located at-grade in the vicinity of the station entrance and are included in Appendix A, Plans and Profile. The generator placement has been developed to minimize any of the affects of the emergency generators. Both generators would be located away from public sidewalks and screened. Refer to Chapter 2.6.7 of the Final EIS/EIR for a more detailed description of emergency generators and illustration. Midline vent shafts would not be constructed as part of the Project.

**Transportation****Thresholds of Significant Impact**

615-16

To evaluate the effects of the project on the available transportation infrastructure, the significance of the project's traffic impacts is measured in terms of change in delay between the "future no project" and the "future with project" scenarios. However, the traffic study developed thresholds of significant impact that are inconsistent with LADOT's established standards. When using the delay methodology to estimate an intersection's level-of-service, the City defines a significant traffic impact as follows (LADOT):

- At LOS C "with project conditions," the project-related increase in traffic delay is equal to or greater than 6.0 seconds
- At LOS D "with project conditions," the project-related increase in traffic delay is equal to or greater than 4.0 seconds
- At LOS E and F "with project conditions," the project-related increase in traffic delay is equal to or greater than 2.5 seconds

These impact thresholds were used in environmental clearance studies for other recent transit projects, including the Regional Connector, Wilshire BRT, and Gold Line Eastside Extension. Given that the Build Alternatives would implement a subway, and that no park-and-ride lots are proposed at any of the stations, the project is not expected to result in any significant traffic impacts at intersections within the City of Los Angeles, and this is the finding of the traffic impact analysis. Nonetheless, the traffic study should be revised to utilize the City's significant traffic impact definitions described above to ensure consistency (Section 3.5.2 – Streets and Highways) (LADOT).

**615-16**

Each jurisdiction was consulted throughout the scoping process regarding level of service (LOS) methodology and impact criteria, and assisted in the selection of study intersections. This consultation included meetings with Los Angeles Department of Transportation (LADOT) staff. At the July 8, 2009 meeting, representatives from LADOT, Metro, and the Project consultants met to discuss traffic impact analysis for the Project, including level of service and criteria for thresholds of significance that will be used to identify potential impacts. At that meeting, no objections were raised by LADOT staff about the methodology, including the use of HCM methodology and the identified impact criteria. Accordingly, the analysis of transportation impacts was carried out using HCM methodology and the impact criteria as described in the Final EIS/EIR. Also, the identified thresholds of significance are consistent with other recent environmental assessments affecting the City of Los Angeles. These include the Expo Phase I and Crenshaw Transit Corridor projects and represent thresholds that were developed for transit infrastructure projects that are multi-jurisdictional in nature.

Parking

- 615-17 | The analysis of existing off-street parking uses parking ratios from the current municipal code to generate a rough estimate of the supply of parking for commercial land uses within one-half mile of stations. It should be noted that this methodology likely overestimates the parking supply in these areas, particularly at stations with large concentrations of historic buildings. It should also be noted that a portion of the Wilshire/Crenshaw station area is within the Park Mile Specific Plan, which has different commercial parking ratios than the current municipal code. Similarly, a portion of the Westwood/UCLA station area is within the Westwood Village Specific Plan, which also has commercial parking ratios that vary from the citywide standards (Section 3.4.5 – Parking) (DCP).
- 615-18 | The document recognizes the potential for neighborhood spillover parking impacts within one-half mile of numerous proposed stations in the City of Los Angeles, and incorporates two mitigation measures: parking monitoring and community outreach, and consideration of shared parking program. The benefits and drawbacks of implementing residential permit parking districts or on-street parking time limits should be explored in conjunction with City staff to determine their appropriate use. The City is supportive of the proposed shared parking program, which would implement existing City policy to more make more efficient use of existing off-street parking resources (Section 3.5.3 – Parking) (DCP).
- 615-19 | Parking spillover impacts around stations are anticipated since the project will not provide park-and-ride facilities, and off-street, publicly-accessible parking may be limited. We support the proposed mitigation measure requiring MTA to monitor parking impacts during the first six months of project operation and to fund the development and implementation of Preferential Parking Plans and other parking control measures by LADOT as needed. We also recommend adding a mitigation measure to increase secured bicycle parking facilities at stations to alleviate potential parking spillover (Section – 3.5.3 Parking) (LADOT).
- 615-20 | To reduce potential parking and traffic circulation impacts, the project should provide “kiss-and-ride” facilities at stations. These may consist of off-street vehicle turn-around areas, curb cut-outs and passenger loading zones. The curb cut-out for buses and passenger loading at the Red Line Vermont Station is a good example. Minimum 10-foot wide sidewalks should be provided adjacent to curb cut-outs and passenger loading zones to ensure pedestrian safety. Passenger loading zones along Wilshire Boulevard should be located only within curb cut-outs because curbside bus lanes will be installed as part of the Wilshire BRT project.

615-17

Your comment regarding off-street parking supply has been noted. The analysis of off-street parking supply was intended to provide an approximate estimate of commercial parking supply in each station area. This estimate was caveated by acknowledging the potential for overestimating off-street supply, due to the presence of historic buildings with zero parking or reduced parking (compared to existing municipal code parking requirements) and areas that offer in-lieu parking. In light of this acknowledgment, a supplemental study was undertaken during the preparation of the Final EIS/EIR to more accurately represent off-street parking supply. The results of this study are in the *Westside Subway Extension Updated Off-Street Parking Analysis Memorandum* and have been incorporated into Section 3.6.1 of the Final EIS/EIR.

615-18

Your comment about neighborhood spillover parking and support of a shared parking program has been noted. Section 3.6 of this Final EIS/EIR estimates the demand for parking at the stations and determines whether surrounding neighborhoods would experience any spillover parking impacts due to subway riders looking for free, unrestricted parking. This analysis concluded that all stations, with the exception of the Wilshire/Rodeo and Century City (both Constellation and Santa Monica) Stations, are anticipated to result in some parking spillover impacts within one-half mile of the stations without mitigation in place. To reduce these spillover parking impacts, the following mitigation measures will be implemented at all stations where an impact was identified:

- T-2-Parking Monitoring and Community Outreach
- T-3-Residential Permit Parking Districts
- T-4-Consideration of Shared Parking Program

As a means of potentially using off-street parking in the vicinity of stations, Metro will consider developing a shared parking program with operators of off-street parking facilities to accommodate the Project's parking demand, thereby allowing subway riders to use excess capacity in these facilities. The revised off-street parking analysis conducted for this Final EIS/EIR determined that more than 100,000 off-street parking spaces serve commercial land uses within a one-half mile walking distance of the seven LPA station locations. As part of the analysis, a sampling of parking facility operators for each station location was contacted to determine availability of public parking in their facility on weekdays and weekends, daily parking rate, facility occupancy, and interest in partnering with Metro to make parking available to riders of the Westside Subway Extension. Based on a sample of operators at each station area, some shared parking potential for subway riders exists. However, this potential may be limited at individual facilities because many are near their capacity during weekdays.

For six months following the opening of service, Metro will monitor off-street parking activity in station areas through communication with parking operators to qualitatively gauge the effects on parking demand as a result of the Project and revisit their interest in participating in a shared parking program. It is anticipated that the Project will reduce parking demand in

**615-18**

station areas, as some employees will use the subway to commute to work rather than driving. Because the development of a shared parking program will be contingent on the willingness of parking facility operators to participate, as well as the availability of parking supply at their facilities, it may be infeasible to implement this measure at some or all station areas where spillover parking impacts have been identified.

With implementation of the mitigation measures, spillover parking is not anticipated to be an adverse effect to neighborhoods surrounding the stations.

**615-19**

Your comment has been noted. Please see the above response to comment number 615-18 regarding spillover parking and mitigation measures.

Bicycle parking facilities have been studied as part of the *Westside Subway Extension Station Circulation Report*. Section 3.7 of this Final EIS/EIR summarizes the findings of this report and lists specific measures to be implemented at stations to improve bicycle access, including bicycle parking. These measures include the following:

- T-13-Meet Metro Rail Design Criteria Minimums for Bicycle Parking
- T-14-Study Bicycle Parking Demand and Footprint Configuration
- T-15-Determine Alternative Sites for Bicycle Parking

Please refer to Section 8.8.8 of the Final EIS/EIR for more detailed responses to concerns related to station connectivity. In addition, the *Westside Subway Extension Station Circulation Report* provides a comprehensive station access circulation study of Project stations and Section 3.7 provides an analysis of potential impacts to pedestrian and bicycle networks. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports)

**615-20**

It is recognized that some passenger drop-offs and pick-ups would occur at subway stations. However, in developed urban areas, such as the Westside of Los Angeles, the space available for kiss-and-ride facilities is constrained by limited on- and off-street right-of-way. The current Red/Purple Line system (16 stations) has designated kiss-and-ride facilities only at the Westlake/MacArthur Park, North Hollywood, Universal City and Union Stations.

As part of the *Westside Subway Extension Station Circulation Report*, Metro evaluated the demand for and ability to accommodate kiss-and-ride facilities at the subway stations. Kiss-and-ride facilities are considered a form of auto access, which is ranked below pedestrian, cyclist, and bus access in the Metro Rail Design Criteria. Therefore, given the choice between enhancing pedestrian connections or constructing a kiss-and-ride in limited right-of-way, Metro would opt to improve pedestrian facilities.



**615-20**

For the Westside Subway Extension, passenger drop-off areas will be provided only at the Westwood/VA Hospital Station. The Westwood/VA Hospital passenger drop-off area would not be a designated kiss-and-ride as it would not meet the Metro Rail Design Criteria for a kiss-and-ride due to space limitations. Pick-up/drop-off activity is expected to be the heaviest at the Westwood/VA Hospital Station since it is a terminus station.

The *Westside Subway Extension Station Circulation Report* concluded that the remaining stations do not have adequate space to accommodate a passenger drop-off area. The stations would be located in dense, urban areas and along major thoroughfares with numerous bus stops, parking restrictions, and a high level of vehicular and bus activities. Additionally, recommendations to provide bicycle parking and the possibility of bus bays at stations further limit space available for kiss-and-rides. Kiss-and-ride facilities would not be provided at the expense of bicycle parking or bus stops.

Please refer to Section 8.8.8 of the Final EIS/EIR for more detailed responses to concerns related to the passenger drop-offs. In addition, the *Westside Subway Extension Station Circulation Report* provides a comprehensive station access circulation study of Project stations. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports)

Pedestrians (General)

- 615-21 | MTA should work with LADOT to identify appropriate locations for proposed new crosswalks at stations. For pedestrian safety, LADOT does not install un-signalized, mid-block crosswalks (LADOT).
- 615-22 | In general, the Study Area is appropriately characterized as having "high levels of pedestrian accessibility;" however, there are a number of locations where pedestrian facilities are currently insufficient to accommodate the levels of pedestrian activity expected with the Build Alternatives. As noted, I-405 is a major physical barrier that could limit pedestrian access to the Westwood/UCLA or Westwood/VA Hospital stations. In addition, Wilshire Boulevard is a large multi-lane highway with narrow sidewalks and few pedestrian crossings in the vicinity of I-405 and the VA campus. Another physical barrier in the Study Area is Santa Monica Boulevard near Century City, which is also a wide, multi-lane highway with limited pedestrian crossings (Section 3.4.6 – Pedestrian and Bicycle Facilities) (DCP).
- 615-23 | Surveys were conducted to assess areas with high levels of pedestrian activity. Wilshire/La Brea was not identified as having high pedestrian volumes, despite it being the location of a major MTA Customer Service center and the intersection of two high-volume MTA bus lines, as well as being located adjacent to a densely populated residential neighborhood to the northwest. The high number of daily bus boardings at this location is noted on page 3-32 of the Transit Impact Assessment Report (August 2010). This location should be re-evaluated to ensure that an accurate assessment was conducted (DCP).
- 615-24 | As discussed above under Section 3.4.6, I-405, Wilshire Boulevard, and Santa Monica Boulevard are all major physical barriers to pedestrian access in the Study Area. Any future subway station near these large roadways should provide for station access from both sides of a major boulevard, in order to increase pedestrian access to the stations and reduce the effect of these physical barriers (DCP).
- 615-25 | Additionally, other pedestrian facilities should be improved or enhanced in the vicinity of new stations; curb extensions, new crosswalks, increased walk time for pedestrians, and enhanced streetscape treatments should be considered as potential strategies for improving the pedestrian environment to accommodate pedestrian flows to and from stations. Station area plans should be developed for each station by the time the subway opens. Station area plans should include connections to existing and proposed pedestrian and bicycle routes with signage, striping, way finding and enhanced streetscape elements (DCP).

615-21

Your comment regarding crosswalks has been noted. The *Westside Subway Extension Station Circulation Report* and Section 3.7 of this Final EIS/EIR consider the need for new crosswalks in the station areas. The following mitigation measures will be implemented to improve crosswalks and crosswalk treatments:

- T-5 through T-8-Install Crossing Deterrents/Crossing Deterrents
- T-11-Provide High Visibility Crosswalk Treatments
- T-12-Meet Federal, State, and Local Standards for Crossing

Metro is committed to working with local jurisdictions, including the City of Los Angeles, to improve the environment for pedestrians and bicyclists at all Project stations and will continue to assess and refine the needs of pedestrians and bicyclists as the Project progresses into Final Design.

Please refer to Section 8.8.8 of the Final EIS/EIR for more detailed responses to concerns related to station connectivity. In addition, the *Westside Subway Extension Station Circulation Report* provides a comprehensive station access circulation study of Project stations and Section 3.7 provides an analysis of potential impacts to pedestrian and bicycle networks. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

615-22

Your comment regarding pedestrian accessibility in the I-405 vicinity has been noted. Convenient and safe access by pedestrians and bicyclists will be an important element of the design of all station areas, including the Westwood/VA Hospital Station. A comprehensive station access circulation study was conducted for this station due to feedback from both the VA and the public. The recommendations resulting from this study are available in the *Westside Subway Extension Station Circulation Report*. The report considered pedestrian access, bicycle access, bus access, and auto access to the Westwood/VA Hospital Station and resulted in a detailed urban design concept for the Westwood/VA Hospital Station-both the North and South locations. Potential impacts to interfacing transportation networks, including bus transit (specifically, the location of bus stops), and pedestrian and bicycle facilities (pedestrian crossings and bicycle lanes) are also presented in Section 3.7 of this Final EIS/EIR.

In preparation of this Final EIS/EIR, the station box and station entrance for the Westwood/VA Hospital South Station was shifted north from the location evaluated in the Draft EIS/EIR. Based on feedback from the VA and the public, the station box was shifted to the far northern end of the parking lot to allow the VA to more easily develop their property in the future and to improve public access to the station. This station location farther from the VA Hospital also facilitates a clearer delineation between station activities and VA activities on the VA Campus.

**615-22**

Currently, Wilshire Boulevard and Bonsall Avenue are grade-separated with Bonsall Avenue passing beneath Wilshire Boulevard. For the Westwood/VA Hospital South Station, the proposed station entrance, as detailed in Section 2.6 of this Final EIS/EIR, would be located on the Bonsall level, beneath the bus drop-off area to the north of the VA Hospital parking lot. The existing bus drop-off area at the Wilshire level on the north and south sides of Wilshire Boulevard would remain the same. A passenger drop-off area would also be provided on the Wilshire level within the bus drop-off area on the north side of Wilshire Boulevard.

For the Westwood/VA Hospital North Station, the station entrance would be located along the north side of Wilshire Boulevard, just west of Bonsall Avenue and south of the station box on the Bonsall level, as detailed in Section 2.6 of this Final EIS/EIR. The existing bus drop-off area at the Wilshire level on the north and south sides of Wilshire Boulevard would remain the same.

Since the entrance for both the North and South stations are located along Wilshire Boulevard at Bonsall Avenue, on the Bonsall level, there are no major differences between the two stations for the purposes of evaluating station circulation. However, Section 3.7 of this Final EIS/EIR concludes that both the North and South entrance at the Westwood/VA Hospital Station will result in increased hazards to pedestrians and bicyclists due to a design feature or incompatible uses and will conflict with adopted plans or policies related to public transit, bicycle, or pedestrian facilities prior to mitigation. To improve access, the following mitigation measures will be implemented at the Westwood/VA Hospital Station (North or South):

- T-8-Install High-Visibility Crosswalk
- T-9-Provide consistency with General Plan Designation Sidewalk Width Adjacent to Metro-Controlled Parcels
- T-10-Provide consistency with General Plan Designation Sidewalk Width Coordination with Jurisdictions
- T-11-Provide High Visibility Crosswalk Treatments
- T-12-Meet Federal, State, and Local Standards for Crossing
- T-13-Meet Metro Rail Design Criteria Minimums for Bicycle Parking
- T-14-Study Bicycle Parking Demand and Footprint Configuration
- T-16-Study Bus-Rail Interface

With implementation of these measures, impacts to the interfacing pedestrian and bicycle networks and bus stops will be mitigated to less than significant levels at the Westwood/VA Hospital Station. While it is acknowledged that streets in the vicinity of the Westwood/VA Hospital Station are wide, pedestrian and bicycle movements in the study area can still occur without major barriers. The vicinity of the Westwood/VA Hospital Station does contain a network of sidewalks, including connections between potential future rail station entrances and nearby activities. Escalators will provide easy connections from the

**615-22**

bus turnouts on Wilshire Boulevard to the Bonsall level, making transfers between bus and subway relatively convenient.

Furthermore, the subway would serve as a connection between Westwood and the VA Campus, serving both the east and west sides of the I-405.

Station accessibility at the Century City Station was also analyzed in the *Westside Subway Extension Station Circulation Report*. Santa Monica Boulevard in Century City has pedestrian crossings at Century Park West, Avenue of the Stars, and Century Park East. With limited destinations along the northern side of Santa Monica Boulevard, pedestrian activity is expected to be light, except for bus to rail transfers.

Please refer to Section 8.8.5 of the Final EIS/EIR for more detailed responses to concerns related to the Westwood/VA Hospital Station. Please refer to Sections 2.3, 2.4, and 2.5 of the Final EIS/EIR for an overview of the development of alternatives, including station locations, and the LPA selection process. The *Westside Subway Extension Alternatives Screening and Refinement Following Scoping Report* provides a more detailed description of the refinements to the Westwood/VA Hospital Station following Draft EIS/EIR scoping in response to community comments and engineering requirements. Refer to Section 7.3 of the Final EIS/EIR and the *Westside Subway Extension Westwood/UCLA Station and the Westwood/VA Hospital Station Locations Report* for a comparison of the two Westwood/UCLA locations. In addition, the *Westside Subway Extension Station Circulation Report* provides a comprehensive station access circulation study of the Westwood/VA Hospital Station and Section 3.7 provides an analysis of potential impacts to pedestrian, bicycle, and bus networks. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**615-23**

The criteria for "high pedestrian activity" was established as peak hour volumes of 500 or more pedestrians crossing at a study intersection during a peak hour. While Wilshire/La Brea may have significant pedestrian activity, it did not meet this criteria during the peak period.

**615-24**

Your preference for entrances on both sides of major boulevards has been noted. The number of entrances at each station was based on the ridership projections for that station. Based on these projections, Metro will construct one station entrance at each of the proposed stations, with the exception of two station entrances at the Westwood/UCLA Station due to high ridership projections. The *Westside Subway Extension Station Circulation Report* provides a comprehensive station access circulation study of Project stations, including pedestrian access, and Section 3.7 provides an analysis of potential impacts to pedestrian and bicycle networks.

**615-25**

Your comment has been noted. Please refer to the *Westside Subway Extension Station Circulation Report* provides a comprehensive station access circulation study, including pedestrian access, of Project stations and Section 3.7 provides an analysis of potential impacts to pedestrian and bicycle networks.

- 615-26 | Additional station entrance locations can help to mitigate identified pedestrian impacts, and should be considered. For example, a station entrance at the southeast side of Hollywood and Highland could help to relieve the pedestrian traffic congestion currently experienced at this intersection by creating an underground passageway in conjunction with the expanded station. This intersection has very heavy volumes of pedestrian traffic as well as heavy volumes of motorists (DCP).
- 615-27 | If additional station entrances cannot be provided at the time of opening, the number of knock-out panels in each station box should be maximized as part of the initial design work. This will allow for future connectivity/expansion and improved pedestrian access to the stations over time (DCP).
- 615-28 | The City has given input as to the appropriate placement of station entrances, and any refinements or relocations should be discussed in advance with City staff. Additionally, specific mitigation measures at each station location should involve further consultation with City staff once the exact location of station entrances is determined (DCP).

**615-26**

Your comment has been noted. As discussed in the response to comment number 615-24, the number of entrances is determined by ridership projections. Only the Westwood/UCLA station will have two entrances. The Hollywood/Highlands Station is not included as part of the LPA and therefore is not in the Final EIS/EIR.

**615-27**

Your comment has been noted. Metro will construct one station entrance at each station with the exception of two entrances at the Westwood/UCLA Station due to high ridership projections. Knock-out panels will be provided at all stations. The number and location of the knock-out panels was based on a number of factors including an urban design analysis of the station area, engineering considerations, and public input. The station descriptions in Section 2.6 and the Station Site Plans in Appendix B of the Final EIS/EIR include locations of the knock-out panels.

**615-28**

The comment has been noted and continuous coordination with the City of Los Angeles will take place throughout the design process. A thorough analysis of all entrances under consideration in the Final EIS/EIR is available in the *Westside Subway Extension Station Entrance Location Report and Recommendations* and Section 7.4 of the Final EIS/EIR.

Bicycles

- 615-29 | We recommend the integration of adequate and secure short- and long-term bicycle parking in the initial station designs rather than as later retrofits. Station design should also incorporate ramps that accept bicycle wheels in stairways for ease of access to platform areas (LADOT).
- 615-30 | The Pedestrian-Bicycle Impact Analysis conducted for each station identifies a number of potential impacts at or near stations in the City of Los Angeles, using bus transfer delay and pedestrian safety as evaluation criteria. The proposed mitigations, enumerated in the Transit Impact Assessment Report (August 2010), include installation of new crosswalks, relocation of bus stops, and/or relocation of station entrances. The proposed locations of new crosswalks as identified in the report should be expanded to include the south leg of 6<sup>th</sup> Street and Fairfax Avenue near LACMA, the south leg of Gayley and Lindbrook in Westwood Village, and the south leg of San Vicente and Gracie Allen near Cedars Sinai Medical Center (See Section 3.5.4 – Bicycle and Pedestrian Network) (DCP).
- 615-31 | Existing and proposed bicycle facilities are discussed in the Transit Impact Assessment Report; however, the only criterion utilized to determine potential impacts to bicyclists is whether station entrance locations have the potential to increase bicycle safety hazards. This analysis does not fully address bicycle access to stations. Please provide an analysis of the full range of potential bicycle impacts and mitigations. The project should consider improved bicycle connectivity from surrounding communities (bikeways and signage), bicycle tracks as a component of staircases leading to transit platforms (see example of a bicycle track in the 2010 Los Angeles Bicycle Plan's Technical Design Handbook- Section 9, page 129), and adequate bicycle parking and bicycle lockers at all stations. Additionally, attendant bicycle parking and showers at future clean mobility hubs, as well as space for a future bicycle sharing program (e.g., Bixie), should be considered in the project design phase (LADOT).
- 615-32 | Figure 3-6 contains a map showing existing and proposed bicycle facilities in the Study Area. It should be noted that this map is out of date and should be updated to reflect the 2010 version of the Draft Bicycle Plan. The latest version of the Draft Bike Plan contains recommendations for new proposed/ potential bike lanes, as well as additional proposed Bicycle Friendly Streets. A number of these additional facilities can help improve access to transit stations and should be considered in the project analysis. Note that the plan is still in draft form and has yet to be adopted by the Council and Mayor (DCP).

10

615-29

Your comment regarding bicycle parking has been noted. Please refer to the response above to comment number 615-19.

615-30

Your comment has been noted. The potential for pedestrian and bicycle impacts was further analyzed during the preparation of the Final EIS/EIR and the results of this analysis is included in the *Westside Subway Extension Station Circulation Report* and Section 3.7 of the Final EIS/EIR. Section 3.7 also includes a list of recommended mitigation measures. Metro has and will continue to coordinate with the City of Los Angeles throughout the design process.

615-31

Your comment has been noted. In order to assess potential future access improvements to subway stations, project design efforts included a study of circulation needs in each station area. This study identified potential impacts using factors such as Metro Design Criteria for station access. The assessment addressed impacts relating to ensuring adequate bicycle parking capacity, including racks, lockers, and/or bike stations. Mitigation efforts for bicycle-related impacts were also addressed in the station circulation study. The identified mitigation include the following measures in Section 3.7 of the Final EIS/EIR:

- T-13-Meet Metro Rail Design Criteria Minimums for Bicycle Parking
- T-14-Study Bicycle Parking Demand and Footprint Configuration
- T-15-Determine Alternative Sites for Bicycle Parking

Results of the station circulation study also helped direct further design of subway stations and supported station area planning for the Project. The station area planning examined access opportunities and potential improvements in the neighborhoods surrounding subway stations. City of Los Angeles 2010 Bicycle Plan proposed facilities were also identified in the station circulation study. Because implementation of these facilities are outside of Metro's direct control, Metro coordinate with the City of Los Angeles to determine the best way to maximize bicycle connectivity to the station depending on what future bicycle facilities, if any, will be constructed in the station vicinity. Please refer to the *Westside Subway Extension Station Circulation Report* and Section 3.7 of the Final EIS/EIR for more details and results of the study.

615-32

Your comment regarding bicycle facilities has been noted. The Draft Bicycle Plan has been recognized in the pedestrian/bike analysis presented in the Section 3.7 of the Final EIS/EIR. See previous response to comment number 615-31 relating to bicycle access for stations areas.

Hollywood/Highland Station

615-33 | The Hollywood/Highland station in particular presents an opportunity for a shared parking program. MTA commuter ridership would be maximized by offering commuters the option of renting a monthly parking space in existing parking facilities. The Hollywood and Highland shopping center contains a large underground municipal parking facility, and shared parking options for commuters could help to attract riders who would otherwise drive to their destination (DCP).

Wilshire/Crenshaw Station

615-34 | For the Wilshire/Crenshaw station, we recommend that a curb cut-out for buses and passenger loading be installed on the south side of Wilshire Boulevard between Lorraine Boulevard and Crenshaw Boulevard. The west side of Crenshaw Boulevard south of Wilshire Boulevard should be widened to create a passenger loading zone along Crenshaw Boulevard adjacent to the station (LADOT).

615-35 | Note that the Wilshire Community Plan states that that Wilshire Boulevard shall have "no widening in excess of existing roadway" due to environmental and urban design considerations (DCP).

Wilshire/La Brea Station

615-36 | For the Wilshire/La Brea station, LADOT recommends that a curb cut-out for buses and passenger loading be installed on the north side of Wilshire Boulevard west of La Brea Avenue, where the MTA Service Center is located. An additional curb cut-out for buses and passenger loading on the south side of Wilshire Boulevard west of La Brea Ave should be considered if this site is acquired by MTA for construction staging (LADOT).

615-37 | Note that the Wilshire Community Plan states that that Wilshire Boulevard shall have "no widening in excess of existing roadway" due to environmental and urban design considerations (DCP).

Wilshire/Fairfax Station

615-38 | Particular attention should be paid to parking impacts at Wilshire/Fairfax, as a potential interim terminus station under MOS-1. There is very limited on-street parking in this station area and parking mitigations may need to be implemented at this location simultaneous with the opening of MOS-1. Improved bicycle facilities at this and other locations should also be considered as additional mitigation for automobile parking impacts (DCP).

615-39 | For the Wilshire/Fairfax base station and Fairfax East station option, we recommend that a curb cut-out for buses and passenger loading be installed on the

**615-33**

Your comment regarding shared parking at the Hollywood/Highland Station has been noted. However, the LPA selected by the Metro Board of Directors on October 28, 2010 does not include a station at Hollywood/Highland.

**615-34**

Your comment has been noted. The Wilshire/Crenshaw station is not part of the LPA and therefore is not included in the Final EIS/EIR. Please refer to the response for comment number 615-4.

**615-35**

Your comment regarding limitations to street widening at Wilshire/Crenshaw has been noted. However, the Wilshire/Crenshaw Station is not included in the LPA as selected by the Metro Board of Directors and street widening is not planned.

**615-36**

Local bus service will be an important access mode to high-capacity transit stations, including Wilshire/La Brea. The Westside Subway Extension Project Study Area includes substantial transit service, and many local and Rapid bus routes provide frequent service, particularly in peak demand periods. Recognizing the future role that local bus service will play, Metro continues to consider enhancements such as curb cuts in station areas as the design progresses as described in Section 3.7.3 of this Final EIS/EIR. The following mitigation measure is included in the Final EIS/EIR:

- T-16-Study Bus-Rail Interface: Metro will continue to assess bus-rail interface. As a result of further study Metro, working with affected jurisdictions, will relocate bus stops at some LPA stations to minimize the number of streets riders must cross to transfer between the LPA and interfacing bus lines.

Metro will continue to assess bus-rail interface, working with affected jurisdictions. Although a curb cut is not planned at this time at the Wilshire/La Brea Station, Metro will continue to work with the City of Los Angeles to review the design for this station to provide the most effective rail-bus interface. However, it should be noted that bus cut-outs (off-line stops) are not always preferable to on-street (on-line) stops due to potential conflicts when buses reenter traffic. The majority of bus stops at existing Red/Purple Line stations (North Hollywood, Universal City, and Union Stations excluded) involve on-line facilities.

Regarding curb cut outs for passenger drop off, it is recognized that some passenger drop-offs and pick-ups would occur at subway stations. However, in developed urban areas, such as the Westside of Los Angeles, the space available for kiss-and-ride facilities is constrained by limited on- and off-street right-of-way. The current Red/Purple Line system (16 stations) has designated kiss-and-ride facilities only at the Westlake/MacArthur Park, North Hollywood, Universal City and Union Stations.

As part of the *Westside Subway Extension Station Circulation Report*, Metro evaluated the demand for and ability to accommodate kiss-and-ride facilities at the subway stations. Kiss-



**615-36**

and-ride facilities are considered a form of auto access, which is ranked below pedestrian, cyclist, and bus access in the Metro Rail Design Criteria. Therefore, given the choice between enhancing pedestrian connections or constructing a kiss-and-ride in limited right-of-way, Metro would opt to improve pedestrian facilities.

For the Westside Subway Extension, passenger drop-off areas will be provided only at the Westwood/VA Hospital Station. The Westwood/VA Hospital passenger drop-off area would not be a designated kiss-and-ride as it would not meet the Metro Rail Design Criteria for a kiss-and-ride due to space limitations. Pick-up/drop-off activity is expected to be the heaviest at the Westwood/VA Hospital Station since it is a terminus station.

The *Westside Subway Extension Station Circulation Report* concluded that the remaining stations do not have adequate space to accommodate a passenger drop-off area. The stations would be located in dense, urban areas and along major thoroughfares with numerous bus stops, parking restrictions, and a high level of vehicular and bus activities. Additionally, recommendations to provide bicycle parking and the possibility of bus bays at stations further limit space available for kiss-and-rides. Kiss-and-ride facilities would not be provided at the expense of bicycle parking or bus stops.

Please refer to Section 8.8.8 of the Final EIS/EIR for more detailed responses to concerns related to the passenger drop-offs. In addition, the *Westside Subway Extension Station Circulation Report* provides a comprehensive station access circulation study of Project stations. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**615-37**

Your comment regarding limitations to street widening at Wilshire/La Brea Station has been noted. No street widening are currently planned as part of the Wilshire/La Brea Station.

**615-38**

If the LPA is constructed in phases, the terminus for Phase 1 would be the Wilshire/La Cienega Station instead of the Wilshire/Fairfax Station. Section 3.6 of the Final EIS/EIR includes analysis of parking impacts for terminus stations if the LPA is constructed in phases and no additional parking impacts were identified at these temporary terminus stations.

Please see response to comment number 615-19 regarding bicycle parking.

**615-39**

Your comment regarding curb cut-outs at the Wilshire/Fairfax Station have been noted. Please refer to the response above to comment number 615-37.

north side of Wilshire Boulevard west of Fairfax Avenue, where a station plaza may be located (LADOT).

615-40 | Note that the Wilshire Community Plan states that that Wilshire Boulevard shall have "no widening in excess of existing roadway" due to environmental and urban design considerations (DCP).

Century City Station

615-41 | For the Century City/Santa Monica Boulevard base station, LADOT recommends that curb cut-outs for buses and passenger loading be installed on both sides of Avenue of the Stars adjacent to station entrances. If curb cut-outs are infeasible, MTA should work with adjoining property owners on shared-use of existing driveway pull-through or with LADOT to designate passenger loading zones on both sides of Avenue of the Stars south of Santa Monica Boulevard (LADOT).

615-42 | For the Century City/Constellation Boulevard station option, LADOT notes that a passenger loading zone and bus stop currently exist on the south side of Constellation Boulevard east of Avenue of the Stars, adjacent to one of the proposed station entrances. There is also a passenger loading zone on the north side of Constellation Avenue mid-block between Avenue of the Stars and Century Park East. We recommend that MTA work with LADOT to investigate lengthening these passenger loading zones to provide additional space for waiting vehicles. MTA should also investigate installation of a curb cut-out for a passenger loading zone on the north side of Constellation Boulevard east of Avenue of the Stars, adjacent to the proposed main station entrance (LADOT).

Westwood/UCLA Station

615-43 | For the Westwood/UCLA Lot 36 base station, LADOT recommends that a vehicle turn-around and passenger loading area be provided at the entrance to Lot 36 off Lindbrook Dr., and near the station entrances, for kiss-and-ride activity. If the Westwood/UCLA On-Street station option is selected, we recommend that MTA explore the feasibility of installing curb cut-outs for buses and passenger loading at the northwest and southeast corners of the intersection of Wilshire Boulevard and Westwood Boulevard and/or along the south side of Wilshire Boulevard between Gayley Avenue and Westwood Boulevard (LADOT).

**615-40**

Your comment regarding limitations to street widening at the Wilshire/Fairfax Station has been noted. No street widenings are currently planned in the vicinity of this station.

**615-41**

Your comment regarding curb cut outs at the Century City Santa Monica Station has been noted. Please refer to the response above to comment number 615-36 regarding curb cut outs.

**615-42**

Your comment regarding curb cut outs at the Century City Constellation Station has been noted. Please refer to the response above to comment number 615-36 regarding curb cut outs.

**615-43**

Your comment regarding curb cut outs at the Westwood/UCLA Station has been noted. Please refer to the response above to comment number 615-36 regarding curb cut outs.

Westwood/VA Station

615-44

Of additional concern is the lack of good pedestrian connectivity to either location option for the Westwood/VA Hospital Station. This station requires additional evaluation as to potential pedestrian and bicycle impacts, given its unique location on the VA campus. MTA should consider moving the station within the VA closer to Federal Avenue, or to Wilshire/Barrington where there is higher density and better pedestrian connectivity to surrounding land uses. Alternatively, the project should provide mitigations such as improved pathways and way-finding to provide pedestrian and bicycle access from the west to the Wilshire/VA Hospital Station (DCP).

**615-44**

Your comment regarding access to the Westwood/VA Hospital Station has been noted. Please refer to the response to comment number 615-13 regarding access issues at the Westwood/VA Hospital Station and a modified location for the station closer to Barrington or Federal.

Transit Service Coordination

615-45 | In order to maximize transit system connectivity between the project and local circulator services, MTA should coordinate with LADOT on Community DASH connections to project stations (Section 3.5.1 – Public Transit) (LADOT).

Commercial Loading Zones

615-46 | MTA should consult with the City of Los Angeles Bureau of Engineering for specific curb cut-out design standards and specifications and with LADOT on the designation of curbside passenger loading zones (LADOT).

615-47 | MTA should coordinate with LADOT on the removal of any Commercial Loading Zones, development and installation of directional traffic signage to stations, and curb-side stopping and parking restrictions adjacent to stations (LADOT).

615-48 | In general, stations should provide the maximum number of station entrances possible on both sides of major streets to minimize potential pedestrian crossings and provide safer, more direct access for users. The Wilshire/Crenshaw station should provide an additional station entrance on the north side of Wilshire Boulevard close to the MTA Rapid and local bus stops at Lorraine Boulevard (3.5.4 – Bicycle and Pedestrian Network) (LADOT).

615-45

Local bus service will be an important access mode to high-capacity transit stations. The Westside Subway Extension Project Study Area includes substantial transit service, and many local and Rapid bus routes provide frequent service, particularly in peak demand periods.

To recognize the future role that local bus service will play, the Project conducted a study of potential service enhancements in station areas. The study has two major goals:

- Suggest changes in the bus network that feeds the planned subway extension, particularly for routes that closely parallel the subway alignment for a significant portion of their route.
- Define operational needs at subway stations, including space for stops and layovers and primary transfer locations. This in turn will guide station designers in locating physical features such as bus stops, turnarounds/bus loops, and station entrances.

Locating bus stops in relation to subway entrances is a key consideration for bus/rail interface. There also is a need to preserve as much sidewalk capacity as possible to accommodate rail passengers and other pedestrians.

With regard to potential operational features of local bus service, bus cut-outs (off-line stops) are not always preferable to on-street (on-line) stops due to potential conflicts when buses reenter traffic. The majority of bus stops at existing Red/Purple Line stations (North Hollywood, Universal City, and Union Stations excluded) involve on-line facilities.

To assess potential future access improvements to subway stations, project design efforts included a study of circulation needs in each station area, including access to local bus networks. The results of this study are available in the *Westside Subway Extension Station Circulation Report* and Section 3.7 of this Final EIS/EIR. To ensure the best connection to local bus service, the following mitigation measure is included in the Final EIS/EIR:

- T-16-Study Bus-Rail Interface: Metro will continue to assess bus-rail interface. As a result of further study Metro, working with affected jurisdictions, will relocate bus stops at some LPA stations to minimize the number of streets riders must cross to transfer between the LPA and interfacing bus lines.

Metro will work with LADOT on future DASH access at stations along the Westside Subway Extension.

Please refer to Section 8.8.8 of the Final EIS/EIR for more detailed responses to concerns related to station connectivity. In addition, the Westside Subway Extension Station Circulation Report provides a comprehensive station access circulation study of Project stations and Section 3.7 provides an analysis of potential impacts to the bus network. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**615-46**

Your comment has been noted. As mentioned in the response to comment number 615-36, curb cut outs are not currently planned for any stations. Metro has and will continue to coordinate with LADOT and BOE.

**615-47**

Your comment has been noted. Metro has and will will continue to coordinate with LADOT regarding these issues.

As noted in the response to comment number 615-4 above, the Wilshire/Crenshaw Station is not included in the LPA selected by the Metro Board of Directors.

**615-48**

Your comment regarding entrances to the Wilshire/Crenshaw Station has been noted. As noted in the response to comment number 615-4 above, the Wilshire/Crenshaw Station is not included in the LPA selected by the Metro Board of Directors. All stations, with the exception of the Westwood/UCLA station, will have one portal. Westwood/UCLA will have two portals due to higher ridership.

**Environmental and Mitigation**

615-49 | Pre and post video required, with rehabilitation or replacement required for damaged sewers, Man Holes, lateral connections and laterals (BOE).

**Safety & Public Health**

615-50 | MTA must develop an emergency spill response plan for sewer damage (BOE).

**Settlement**

615-51 | Settlement limited to 0.25 inch and the following shall be followed:

- Mitigate by relocating sewers, grouting and soil stabilization.
- Settlement detection required for all major and primary outfalls that are crossed, or paralleled.
- Surveyed settlement detection required for all small sewers and MHs crossed or paralleled.
- Cracked pipes, broken joints, induced sags in sewers are not acceptable
- Replacement of clay sewer pipe damaged by tunnel or surface construction does not constitute a betterment.
- Rehabilitation or replacement of damaged T-Lock protected sewers does not constitute a betterment (BOE).

**615-49**

Your comment has been noted. The repair of damaged lines will be the Contractor's responsibility. If it is in the City Standards the videos are required then Metro is obligated to perform. If Metro should perform a CCTV study on the major lines during design phase so that we would know what conditions are prior to construction. Metro will continue to coordinate with City of Los Angeles.

**615-50**

Your comment about a spill response plan has been noted. Metro will require its contractors to verify that emergency equipment and materials are on hand and that a Spill Response Plan (City of Los Angeles Standard Specification for Construction related Spill Prevention and Response Requirements per Special Provisions) has been approved by Metro prior to construction that could impact City sewers. The requirements for the Spill Response Plan are typically included in the tunnel excavation specifications for reference.

**615-51**

All issues associated with pre-, during- and post-construction surveys, monitoring, settlement detection, repairs and replacement (if damaged) to the underground infrastructure will be considered during design and implemented during construction of underground structures for the Westside Subway Extension project. If proposed settlement limits differ from those stated, final requirements for limiting settlements will be reviewed with the City according to the type and age of facility and other considerations. As with Metro's Eastside Extension Project, tunnel drawings and plans for protection, inspection, and monitoring of city facilities (as required) will be submitted prior to issuing construction documents.

Street Lighting

- 615-52 | Temporary street lighting is required as a part of this project. Number of temporary units installed and the spacing between adjacent locations will match the existing street lighting system in service on a one for one basis (BSL).
- 615-53 | Park and Ride facilities and parking lots design shall include public street and pedestrian lighting improvements in and around the facilities that meet current BSL standards (BSL).
- 615-54 | Any major street work that takes place should give consideration to the impact of existing public lighting and requirements to future lighting improvements. Any modifications of the present street layout (stripping, parking lane removal, right of way acquisition, bike lane, etc.) and circulation of traffic/pedestrians most likely will involve redesign and reconstruction of the lighting system for the new configuration (BSL). Any street/pedestrian lighting improvements that create new assessments or increase existing assessments to property owners will require the Proposition 218 process to take effect. This process not only requires community participation but also their approval throughout a ballot process. This process typically takes about 6 months to complete (BSL).
- 615-55 | The lighting assessment is paid by property owners through the County Property Tax Bill. Assessments must be confirmed by City Council before commencing construction of the street lighting system. If the project impacts area that contain expensive Historical/Ornamental poles in the City of Los Angeles, these Historical/Ornamental street lights shall be retained and improved (refurbished and upgraded) in the proposed project area. If there are new street lights to be installed along with the existing Historical/Ornamental street lights, BSL will require new street lights for these area to match the existing Historical/Ornamental street lights (BSL).
- 615-56 | Streets affected by any Light Rail Tracks and subway stations will require lighting improvements and new installations to meet current City of Los Angeles Standards. All new street lighting improvements will be installed with Light Emitting Diodes (LED) light source. LED lights provide beneficial environmental impact with improved energy efficiency (BSL).

615-52

Metro will be providing temporary street lighting during construction and the temporary lighting will match the existing street lighting system.

615-53

Park-and-ride facilities will not be provided at stations proposed as part of the Project.

615-54

Metro will replace street lighting on a one for one basis. Your comment regarding street/pedestrian lighting improvements and the proposition 218 process has been noted. Metro will comply with all applicable regulations if it is determined that additional street lighting improvements would be necessary.

615-55

If it is determined that the project would impact historical/ornamental poles Metro would abide by the BSL recommendations.

615-56

Your comment has been noted. Metro will comply with City standards for street lighting improvements including LED lighting.

Historic Preservation Overlay Zones

615-57

As described in the project analysis, the proposed Build Alternatives would be consistent with and support existing land use policies in the City of Los Angeles. A list and description of relevant plans is included in the Land Use and Development Opportunities Report (August 2010). Chapter 3 of that report describes the regulatory framework in place for each station area, and should be amended to include the Miracle Mile Community Design Overlay (CDO) which implements design requirements for projects along Wilshire Boulevard between Sycamore and Fairfax Avenues. The report should also be amended to include the following Historic Preservation Overlay Zones (HPOZs) (Section 4.1 – Land Use) (DCP):

- Wilshire Park HPOZ (south of Wilshire, east of Crenshaw)
- Windsor Village HPOZ (south of Wilshire, west of Crenshaw)
- Country Club Park HPOZ (south of Olympic, east of Crenshaw)
- Carthay Circle HPOZ (south of Wilshire, west of Fairfax)

In Table 4-12, please make the following notations:

- The Wilshire/Crenshaw Station is surrounded in each direction by Historic Preservation Overlay Zones (Windsor Village, Wilshire Park, Hancock Park, and Windsor Square) (DCP).
- A one-half mile radius of the Wilshire/La Cienega Station includes the Carthay Circle Historic Preservation Overlay Zone in the City of Los Angeles (DCP).
- A one-half mile radius of the Santa Monica/Fairfax Station includes the Spaulding Square Historic Preservation Overlay Zone in the City of Los Angeles (DCP).

615-57

Your comment has been noted. An addendum to the *Westside Subway Extension Land Use and Development Opportunities Report* has been prepared to include the Miracle Mile Community Design Overlay and the Historic Preservation Overlay Zones as suggested. The suggested revisions to Section 4.1 (Land Use) have also be incorporated into the Final EIS/EIR.



Land Use

- 615-58 | Table 4-1 should be amended to include language from the Urban Form Chapter of the General Plan Framework Element regarding Citywide Form, as follows (DCP):  
The existing and planned transit system provides the opportunity to concentrate development, affect the City's form, and conserve the existing character of stable neighborhoods (DCP).
- 615-59 | The overall form of the City is identified in the adopted Framework Element. The growth that does occur is encouraged to locate in transit-served regional and community centers, neighborhood districts and corridors. With respect to neighborhood design, centers provide a physical and activity focus for surrounding residents. With respect to citywide urban form, these centers support the bus/fixed rail transit system and need to provide a sufficient base of both commercial and residential development, to support that transit system. In particular, fixed rail transit requires a substantial capital investment and sufficient residential densities around station locations to make the system viable and the investment cost-effective. The area around transit stations should therefore be designed to support its use (DCP).
- 615-60 | The City will coordinate with MTA during station area planning in order to implement transit-oriented development as appropriate given the unique neighborhood context around each station along the alignment. SCAG projections for 2035 population and employment are used to identify areas of anticipated growth, which is expected to occur with or without the project. City policy directs this growth to existing regional centers, and the project provides the opportunity to link a number of these centers in a way that reduces automobile use and increases mobility and accessibility for workers, residents, and visitors. Five of the City's regional centers would be served by new stations under Alternative 5, including Miracle Mile (Wilshire/La Brea and Wilshire/Fairfax Stations), Century City (Century City Station), Westwood (Westwood/UCLA Station), Hollywood (Hollywood/Highland Station), and Beverly Center-Cedars Sinai (Beverly Center Station) (DCP).
- 615-61 | It should also be noted that although the Wilshire/Crenshaw Station is not in a designated regional center, Figure 4-7 indicates that SCAG forecasts the addition of 4,742 new jobs in that station area by 2035. This optional station is discussed as having a low potential for development; however, Figure 4-9 depicts a medium amount of growth potential. A number of historic districts may limit development in surrounding neighborhoods; however, the Park Mile Specific Plan regulates development along Wilshire Boulevard corridor. The plan provides land use regulations that generally prohibit mixed-use development, but allow for heights from 45 to 75 feet and FAR of 3:1 for commercial and residential uses. Currently, along Wilshire Boulevard there are several vacant lots available as well as underdeveloped lots that could provide additional growth potential. The data provided does not seem to support the characterization of this area as having "low growth potential." (DCP)

615-58

Your comment has been noted. Table 4-1 in the Final EIS/EIR provides a high level overview of relevant land use policies. The suggested language from the Urban Form Chapter of the General Plan Framework Element has been included in the *Westside Subway Extension Addendum to the Land Use and Development Opportunities Report*.

615-59

Your comment has been noted. Any transit oriented development that could occur as a result of the proposed project is anticipated to be consistent with current growth projections and would not significantly alter the composition and character of existing land uses.

615-60

Your comment regarding transit-oriented development has been noted. Metro will coordinate with the City of Los Angeles during station area planning.

615-61

Your comment on the Wilshire/Crenshaw Station has been noted. However, the Wilshire/Crenshaw Station is not included in the LPA selected by the Metro Board of Directors and is not included in the Final EIS/EIR. Please refer to the response to comment number 615-4 regarding the Wilshire/Crenshaw Station.

- 615-62 | Correction: Figure 4-9 should be amended to show that there is no maximum height limit in place in Century City near the proposed stations (DCP).
- 615-63 | On page 4-213, the list of schools which are immediately adjacent to the alignment should be amended to include John Burroughs Middle School (Alternatives 1-5, and MOS 1 and 2). Burroughs Middle School is located at 600 S. McCadden Place, occupying the northeast corner of Wilshire Boulevard and McCadden Place in Hancock Park (Section 4.13 – Parklands and Community Services and Facilities) (DCP).
- 615-64 | Page 4-286 – The construction impacts may conflict with the requirements of the Miracle Mile CDO that commercial buildings along Wilshire Boulevard provide a main entrance and pedestrian access from the sidewalk on Wilshire (4.15.2 – Construction Impacts) (DCP).
- 615-65 | On page 4-63, the list of local planning policies in the City of Los Angeles that apply to the Project should be amended to include the Wilshire Community Plan, Hollywood Community Plan, Westwood Community Plan, Miracle Mile Community Design Overlay (CDO), as well as the following Historic Preservation Overlay Zones (HPOZs): Wilshire Park, Windsor Village, Hancock Park, Windsor Square, Country Club Park, and Carthay Circle (Section 4.3 – Visual Quality (DCP).
- 615-66 | On page 4-65, there is a reference to a Station Planning & Urban Design Concept Report. Please provide a reference to the location of this document and the design guidelines contained therein (DCP).
- 615-67 | Regarding the proposed mitigation measures listed in Section 4.3.6, please see previous comments on VIS-1 and VIS-4, provided above under Executive Summary section (DCP).
- 615-68 | Station sites must be designed to accommodate any future street dedication and widening, as well as provisional crosswalks, consistent with the Transportation Element of the City's General Plan (LADOT).

**615-62**

Your comment has been noted. Figure 4-9 from the Draft EIS/EIR has been amended to show that there are no height restrictions near the proposed stations in Century City. This revised figure is included in Section 4.1.3 of the Final EIS/EIR.

**615-63**

Your comment on the omission of John Burroughs Middle School from the tables and discussion is noted. The list of schools on page 4-213 of the Draft EIS/EIR has been amended per the comment. The revised list is included in Section 4.13 of the Final EIS/EIR.

**615-64**

The comment has been noted. Metro has and will continue to coordinate with the City of Los Angeles through design and construction of the Project to maintain access to all businesses at all times. Access to commercial buildings with a main entrance and pedestrian access along Wilshire Boulevard in the Miracle Mile CDO will generally be maintained. Any access disruption, if needed as determined by Metro working with the City of LA, would be minimal and temporary. The following mitigation measures are included in the Final EIS/EIR to ensure access to businesses are maintained throughout construction of the Project:

- CON-1-Signage
- TCON-1-Traffic Control Plans
- TCON-2-Designated Haul Routes
- TCON-3-Emergency Vehicle Access
- TCON-4-Transportation Management Plan
- TCON-7-Parking Management
- TCON-8-Parking Monitoring and Community Outreach
- TCON-10-Pedestrian Routes and Access
- TCON-11-Bicycle Paths and Access

Refer to Section 4.15 of the Final EIS/EIR for more detailed information on construction impacts and recommended mitigation measures.

**615-65**

Your comment has been noted. The Final EIS/EIR has been updated to include the suggested policies.

**615-66**

The *Westside Subway Extension Station Planning and Urban Design Concept Report* is available for review at the Metro office. General design guidelines can be found in Sections

**615-66**

2.2 Station Design Toolkit and 3.2 Quick Reference: Over-Arching Urban Design Principles and Station Planning Tools.

**615-67**

Your comment has been noted. Please see response below to comment number 615-96 on VIS -1 and VIS-4.

**615-68**

Your comment has been noted. Metro has and will continue to coordinate with LADOT regarding station design.

**Construction**Circulation

- 615-69 | Road closures and worksite traffic control plans need to be reviewed by the TCTMC. Road closures may require the Board of Public Works approval and/or City Council approvals (BOE).
- 615-70 | During the final design phase of the project, site- and street-specific Worksite Traffic Control Plans should be developed in conjunction with LADOT's Temporary Traffic Control office to accommodate vehicular, pedestrian and bicycle movements around construction areas (LADOT).
- 615-71 | We recommend minimizing parking impacts during construction through staging of construction activities. Where there is evidence of construction-related impacts on off-street parking facilities, the project should work with LADOT, local communities and parking facility operators to develop appropriate parking circulation plans and/or a parking management program to minimize or eliminate the impacts (LADOT).
- 615-72 | Pedestrian and bicycle access will also be impacted during construction of the project. Mitigation measures should include maintaining pedestrian and bicycle access on both sides of the street, as well as clearly signing and lighting pedestrian and bicycle routes during construction phases. Any limits on pedestrian access to sidewalks should be minimized and complete closures should be performed at night and outside of normal business hours as much as possible. Pedestrian and bicycle paths should be monitored and maintained throughout construction to ensure sufficient access is provided (DCP).
- 615-73 | Haul Routes: currently the Transportation Construction Traffic Management Committee (TCTMC) Impact Area and the Street of Significances for this project has not been established at this time; however, we suggest the project staff to meet with the review committee members to discuss the potential haul routes and their requirements (BOE).

20

**615-69**

Traffic impacts associated with LPA construction include reduced roadway traffic lanes and temporary street closures that could result in major traffic disruptions and bottlenecks. These impacts are associated with contractor work and storage areas, stations, crossovers, mining entry/exit locations, TBM operations and support activities, truck haul routes, transportation of oversized construction materials, station entrances, station appendages, grout injection, and drop holes for the LPA and are detailed in Section 3.8.2 of this Final EIS/EIR.

Subway stations are built by excavating the site for the station box and then building the station below ground. If the station is built under a street, it is covered over with concrete decking during construction to allow traffic to continue to flow overhead. Traffic will be disrupted at the beginning of station construction to allow for initial excavation and installation of the concrete decking, and again at the end to remove the decking and reconstruct the street. The Traffic-Control Activities during Station Construction table in Section 3.8 details the traffic-control activities during station construction and the duration of each activity.

Anticipated truck haul routes consist of major city arterial streets that trucks will use to transport spoils, muck, material, and equipment between the construction laydown site locations and the offsite disposal location using the nearest freeway interchange. To minimize peak-period traffic disruptions, haul truck activity will occur during off-peak and nighttime periods. These routes generally follow major commercial streets and avoid residential areas to the greatest extent possible. The proposed routes identified are provided in Section 3.8 of this Final EIS/EIR and the Westside Subway Extension Construction Traffic Analysis Report. The routes may be updated and revised once additional information, such as construction sequencing, is finalized. In addition, the proposed routes will be subject to the approval of Metro and appropriate departments at Federal, State, and local agencies. The routes will be finalized in coordination with local jurisdictions and will be located so as to minimize noise, vibration, and other possible impacts to adjacent businesses and neighborhoods.

TBM components will be transported to the tunnel construction site by truck. Several oversize deliveries will be required, some during nights and weekends. However, these large component deliveries are limited to the initial setup period for the TBM, as well as during the removal period. If a TBM is re-used to excavate a subsequent tunnel, the entire machine may be transported by road from one site to the next. This would require full or partial road closures, typically at night.

Following completion of the Project, if physical damage to haul routes was found, affected roads will be treated in a manner that returns affected facilities to pre-construction conditions. This work will restore the street or ground surface to its original condition, or better. Site restoration operations will closely follow completion of the station structures. To

**615-69**

maintain traffic flow, one-half of a street will be restored at a time and/or restoration will occur over weekends to enable an entire street to be temporarily closed to through traffic.

Backfill material will be trucked in, placed, and compacted. During backfilling over stations, utilities will be installed along with new sewer manholes and cable/duct vaults. Sidewalks will be restored, and the permanent street will be constructed, including paving, striping, and signage. Streets, sidewalks, and landscaping will be restored in accordance with City standards.

To minimize impacts to traffic circulation, the following mitigation measures will be implemented during construction:

- TCON-1—Traffic Control Plans
- TCON-2—Designated Haul Routes
- TCON-3—Emergency Vehicle Access
- TCON-4—Transportation Management Plan
- TCON-5—Coordination with Planned Roadway Improvements

TCON-2, TCON-3, TCON-4, TCON-5 were added during this Final EIS/EIR phase based on additional analysis of construction impacts on traffic circulation and concerns raised by the public. With implementation of the mitigation, construction-related adverse effects on traffic circulation will be reduced for adjacent commercial areas and residential neighborhoods. Although the construction impacts on traffic circulation identified will be temporary, impacts and/or residual impacts after mitigation will remain significant and unavoidable during the construction period.

All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports)

**615-70**

The comment has been noted. Please see the response to comment number 615-69 above. Continuous coordination with City of Los Angeles Department of Transportation (LADOT) and Bureau of Engineering (BOE) will take place throughout the design process to address and identify mitigation measures to maintain traffic flow, accommodate pedestrian and bicycle movement, and minimize disruption during construction. Once construction lay down areas, site ingress/egress access points and construction sequencing of activities are identified and refined, truck haul routes, off-peak period road closures, detour routes, and worksite traffic control plans will be prepared and reviewed by the City's Transportation Construction Traffic Management Committee (TCTMC) as well as LADOT's Temporary Traffic Control office.

**615-71**

Your comment regarding parking during construction has been noted. Contractor staging

**615-71**

areas (also referred to as "laydown areas") will be necessary for tunnel construction, stations, and ancillary facilities. Off-street space will be needed for setup, insertion, operation, and extraction of equipment and materials to the tunnel and station excavations. Section 2.6 of the Final EIS/EIR identifies the locations of the laydown areas.

Work areas will be needed to support tunnel excavation operations, including processing and removing tunnel spoils (excavated materials), handling precast concrete tunnel-lining segments, and tunnel utilities (such as ventilation, water supply and return, and power supply). In-street work areas will only be used when no off-street alternatives exists. Temporary easements, typically a portion of the sidewalk, traffic lanes, and/or parking areas, may be required at various locations for staging. During construction, existing on-street parking and loading zones will be temporarily removed where traffic lanes are closed or eliminated temporarily. In addition a number of off-street parking spaces will be removed during construction of the Wilshire/La Cienega, Wilshire/Rodeo, Century City Santa Monica option, Westwood/UCLA (On-Street and Off-Street), and Westwood/VA Hospital Stations (North and South). The following mitigation measures will be implemented to minimize impacts to parking during construction:

- TCON-7-Parking Management
- TCON-8-Parking Monitoring and Community Outreach
- TCON-9-Construction Worker Parking

However, even with the implementation of these mitigation measures, a temporary adverse and unavoidable parking impact will remain during construction. Continuous coordination with City of Los Angeles Department of Transportation (LADOT) and Bureau of Engineering (BOE) will take place throughout the design process to address and identify mitigation measures to maintain traffic flow and minimize parking impacts during construction. Once construction lay down areas, site ingress/egress access points and construction sequencing of activities are identified and refined, appropriate parking circulation plans and parking management programs will be prepared and reviewed by City of Los Angeles Department of Transportation (LADOT), local communities and parking facility operators.

Please refer to Section 3.8 of the Final EIS/EIR for more detailed information on transportation related construction impacts. In addition, the *Westside Subway Extension Construction Traffic Analysis Report* provides more information on construction related parking affects and *Westside Subway Extension Displacement and Relocation Supplemental Technical Report* describes staging areas identified for the LPA and any associated parking losses. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**615-72**

Your comment regarding construction impacts to pedestrians and bicyclists has been noted. In general, sidewalk access will be maintained on both sides of the street at Metro

**615-72**

construction sites throughout the construction period. Pedestrian access to all businesses will be maintained during essential business operating hours without any requirement for the business owners to make such a request. All temporary sidewalk designs shall be submitted to Metro and agencies having jurisdiction for approval prior to installation. Temporary sidewalks must be well built of approved material (wood or other), be ADA compliant, and have a well built cover. No rough edges or damaged wood will be allowed.

When pedestrians are diverted into the street or adjacent to an open trench, K-rail type concrete barriers or other approved barrier types will be used to separate pedestrians and vehicular traffic. During certain circumstances, sidewalk closures may be necessary for limited periods. At these specific locations, limited closures will be implemented after acceptance and approval by the affected agency having jurisdiction. In addition, only one side of the street will be closed at a time.

During construction, bike routes will be maintained past all construction sites, whether via widened sidewalks or signed or striped bike detour routes.

The following mitigation measures will reduce the adverse effects to pedestrians and bicyclists during construction:

- TCON-10-Pedestrian Routes and Access
- TCON-11-Bicycle Paths and Access

Refer to Section 3.8 of the Final EIS/EIR for more detailed information on construction impacts related to pedestrians and bicycles.

**615-73**

Designated haul routes will be identified during the final design phase. These routes would be identified in coordination with local jurisdictions and would be located so as to minimize noise, vibration, and other possible impacts to adjacent businesses and neighborhoods. Metro has initiated meetings with the City of LA and a Transportation Construction Traffic Management Committee will be established and there will be extensive coordination in advance of any construction.

Refer to Section 3.8 of the Final EIS/EIR and the *Westside Subway Extension Construction Traffic Analysis Report* for more information on proposed haul routes. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

Design Standards

- 615-74 | Construction impacts - within the City right-of-way, all cut and cover, street improvements, facility restorations, underground utility relocations, etc. will require to be restored to City Municipal Codes, Design Standards, Standard Plans, and special construction provisions such as Street S-470-0, Standard Street Dimensions, Special Order No. 003-0201, Requirements For Deep Excavation Construction And Installation of Tiebacks on Sites In or Adjacent To Public Ways, and Special Order No. 04-0408, Underground Utility Location Guidelines (BOE).
- 615-75 | Numerous wet and dry utilities were not identified on the conceptual drawings (Appendix II Conceptual Engineering Drawings). This project will impact/disrupt the existing service to the users and utilities will need to be relocated. We would like to know the mitigation to the impact/disruption and how the utilities will be restored (BOE).
- 615-76 | Attached are Bureau of Engineering current and future projects that are within the vicinity of the proposed alignments. Please review them for potential impacts to your project (BOE).
- 615-77 | Subway tunnel crosses major outfalls, primary sewers, and small sewers (BOE).
- 615-78 | Subway Tunnel parallels primary sewers, small sewers (BOE).
- 615-79 | MTA needs to provide a detailed listing of all sewer crossing points. Each sewer segment should be identified by its upstream and downstream SIMMS number (BOE).
- 615-80 | MTA needs to provide a detailed listing of all sewer parallels; Each sewer segment should be identified by its upstream and downstream SIMMS number (BOE).
- 615-81 | MTA will need to include relocation, bypass, or support in place plans for all sewers impacted by station or other open pit construction (BOE).
- 615-82 | Use only City of Los Angeles approved materials for sewer construction or rehabilitation (BOE)
- 615-83 | Meet all requirements of the Master Cooperative Agreement between CLA and MTA including sewer encasement and relocation requirements (BOE).
- 615-84 | All existing sewer wye connections are to be replaced in sewers that are re-located. All existing sewer wye connections are to be reinstated in sewers that are re-habilitated. Access to the sewer is a property right that runs with the land and may not be arbitrarily taken away without compensation (BOE).

615-74

After completion of construction, street/site restorations will restore the street or ground surface to its original condition. Site restoration operations will closely follow completion of the station structures. To maintain traffic flow, one-half of a street will be restored at a time and/or restoration will occur over weekends to enable an entire street to be temporarily closed to through traffic. Backfill material will be trucked in, placed, and compacted and, during backfilling over stations, utilities will be installed along with new sewer manholes and cable/duct vaults. Sidewalks would be restored, and the permanent street would be constructed, including paving, striping and signage. Streets, sidewalks and landscaping would be restored in accordance with City standards.

615-75

Your comment regarding utility relocation during construction has been noted.

Underground utilities were researched and noted on drawings as part of the conceptual design phase. During further design phases and preconstruction activities, existing utilities will be more closely inspected and evaluated, including depth, condition and exact location. An operation called "potholing" is typically done to physically locate certain utilities, which can then be appropriately marked or protected. It is necessary to relocate, modify or protect in place all utilities and underground structures that will conflict with excavations.

Where in-place protection is not sufficient, relocation is required. Utility relocations can be done prior to or during construction, depending on the sensitivity of the utility. Shallow utilities, such as maintenance holes or pull boxes, will interfere with excavation work and require relocation. Affected utilities are expected to include storm drains, sanitary sewers, water lines, power lines, gas pipelines, oil pipelines, electrical duct banks and transmission lines, lighting, irrigation lines, and communications such as phone, data and cable TV.

Utility relocations will be coordinated with the utility owner. Relocation and protection of underground utilities will require excavation to the depth of the existing utility line and installation of a replacement utility in a new location. This will occur within the affected right-of-way and on nearby streets, as required. Utility relocations often entail some form of temporary service interruptions. These are typically planned for periods of minimum use (such as nights or weekends), so that outages have the least impact on users.

Utilities such as high-pressure water mains and gas lines, which could be a hazard during station construction and that are not to be permanently relocated away from the work site, could be removed from the construction area temporarily. Utilities that do not require permanent or temporary relocation can be reinforced, if necessary, and supported in place by hanging from deck beams.

In addition to utility relocations, various new utilities will be installed to accommodate construction needs. These include, but are not limited to, communications cables (including



Sewer connection laterals are private sewers owned by the landowner. Access and maintainability may not be removed without approval and provision of an alternate means of maintenance access. Maintain access and maintainability for all HCs and HC laterals (BOE).

Sewers are not foundations for construction. Bridge piers and all foundations shall be designed so that the influence line for soil loading shall pass below and outside of all sewer easements. The City will not accept any construction that requires the City to shore any future easement excavation to support exterior imposed loading, or to prevent damage to an outside structure which would have been obviated by extending the piers, foundations, piles or other support (BOE).

Structures or appurtenant features built over the sewer easement or right of way are considered to be temporary structures that may be moved or demolished for necessary sewer repair or maintenance. Any floor shall be built to span and bridge the sewer easement or right of way and to be self supporting with foundations extending below the sewer easement or right of way (BOE).

Plans prepared for sewer rehabilitation or replacement must be prepared with sewer system stationing, not with street stationing (BOE).

At the present time, however, MTA appears not to have a process for evaluating and confirming how or where this critical interface is to be accomplished, nor for undertaking the important design work that would insure that present construction accommodates this future need in the most cost-effective manner feasible (CRA).

**615-75**

fiber optic lines), electrical duct-banks, drainage facilities, water supply lines and lighting.

**615-76**

Metro received the attachment containing the Bureau of Engineering's current and future projects. These projects were reviewed to determine potential conflicts, benefits and cumulative impacts with the Project. For cumulative impacts see Section 4.17 of the Final EIS/EIR.

**615-77**

Your comment indicating that the subway crosses major outfalls, primary sewers, and small sewers in the City of Los Angeles has been noted. This information will be used in developing existing condition surveys of the facilities. Monitoring and protection plans will be developed during Final Design.

**615-78**

Your Comment indicating that the subway parallels primary sewers, and small sewers in the City of Los Angeles has been noted. Please see response above to comment number 615-77.

**615-79**

Your comment has been noted. Detailed information such as SIMMS numbers for sewers at some of the stations have been incorporated during Preliminary Engineering. The remaining detail design will be completed during Final Design and will be submitted to BOE for review.

**615-80**

Your comment has been noted. Please see response above to comment number 615-79 regarding utility relocation.

**615-81**

Your comment has been noted. Please see response above to comment number 615-75 regarding utility relocation.

**615-82**

Your comment has been noted. Please see response above to comment number 615-75 regarding utility relocation. All sewer construction or rehabilitation work will be performed per city standards that have been adopted by the City during Final Design.

**615-83**

Your comment has been noted. Metro will meet all requirements of the Master Cooperative

**615-83**

Agreement between CLA and MTA including sewer encasement and relocation requirements as agreed by Metro and CLA. Please see response above to comment number 615-77 and 615-79.

**615-84**

Your comment has been noted. Please see response above to comment number 615-75 regarding utility relocation.

**615-85**

Your comment regarding parking during construction has been noted. Contractor staging areas (also referred to as "laydown areas") will be necessary for tunnel construction, stations, and ancillary facilities. Off-street space will be needed for setup, insertion, operation, and extraction of equipment and materials to the tunnel and station excavations. Section 2.6 of the Final EIS/EIR identifies the locations of the laydown areas.

Work areas will be needed to support tunnel excavation operations, including processing and removing tunnel spoils (excavated materials), handling precast concrete tunnel-lining segments, and tunnel utilities (such as ventilation, water supply and return, and power supply). In-street work areas will only be used when no off-street alternatives exists. Temporary easements, typically a portion of the sidewalk, traffic lanes, and/or parking areas, may be required at various locations for staging. During construction, existing on-street parking and loading zones will be temporarily removed where traffic lanes are closed or eliminated temporarily. In addition a number of off-street parking spaces will be removed during construction of the Wilshire/La Cienega, Wilshire/Rodeo, Century City Santa Monica option, Westwood/UCLA (On-Street and Off-Street), and Westwood/VA Hospital Stations (North and South). The following mitigation measures will be implemented to minimize impacts to parking during construction:

- TCON-7-Parking Management: A parking management program will be developed to minimize impacts due to temporary removal of on- and off-street parking within the construction work. The program will incorporate appropriate parking-control measures, replacement parking within a reasonable distance from the affected parking locations, if available, or other transportation demand management (TDM) strategies. Development of the parking management program will be coordinated with the appropriate local jurisdictions and affected communities or property owners and be incorporated into the TMP.
- TCON-8-Parking Monitoring and Community Outreach: In addition, a parking monitoring and community outreach program will be established during the construction phase of the LPA to monitor on-street parking activity. If a parking shortage is identified during construction, Metro will work with the appropriate local jurisdiction and affected communities or property owners to assess the shortage level and implement potential solutions as part of the parking management program.
- TCON-9-Construction Worker Parking: Metro will require that all construction contractors identify adequate off-street parking for construction workers at Metro-approved locations. This will occur for each construction site to minimize additional loss of parking. Metro will work with construction contractors on implementation of adequate off-street parking for construction workers.

Under the TCON-8, residential parking districts and shared parking districts and shared parking programs, as suggested in the comments, could be considered.

Business Impacts

615-85 It is reasonable to expect that some construction impacts will result from a project of this type and size; however, appropriate mitigation measures should be employed to minimize disruption to businesses and residents in the area. With respect to on-street parking impacts during construction, consideration should be given to establishing residential permit parking districts and shared parking programs prior to station construction. Parking districts would help limit potential spillover impacts near station areas during the construction period, while shared parking programs would minimize impacts to businesses by providing them with a larger and more flexible supply of parking for their customers (Section 3.5.7 – Construction Impacts) (DCP).

615-86 By temporarily affecting access, the subway construction could have a negative impact on local businesses. There are many possible mitigation strategies available to ensure that local businesses can weather the difficulties associated with the construction phase, especially in this difficult economic environment:

- Address access issues with wayfinding signage, temporary sidewalks throughout the construction zone to ensure access is maintained to businesses, detailed maps. Provide businesses with special loading and unloading areas that are away from residential zones (DCP).
- Ensure that storefronts remain attractive to customers by providing a grant to assist affected businesses rehabilitate their storefronts, work in phases so that an entire storefront is not blocked during the entire construction period, create a temporary art program (DCP).
- Maintain open communication with business owners with daily updates, a website, and newsletter (DCP).
- Create a marketing campaign to provide businesses with additional ads in local magazines, buses, and other public places. Create programs to encourage residents to shop at the businesses affected (DCP).

MTA should consider these as mitigation measures to assist local businesses affected by temporary construction impacts (DCP).

615-85

Please refer to Section 3.8 of the Final EIS/EIR for more detailed information on transportation related construction impacts. In addition, the *Westside Subway Extension Construction Traffic Analysis Report* provides more information on construction related parking affects and *Westside Subway Extension Displacement and Relocation Supplemental Technical Report* describes staging areas identified for the LPA and any associated parking losses. All reports are available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

615-86

Your comment regarding construction impacts to local businesses and communities has been noted.

Metro has always been committed to maintaining business and residential access during construction. Construction impacts will be temporary and limited in areas as construction proceeds along the length of the Locally Preferred Alternative. Metro will coordinate with affected residents and businesses prior to construction. A detailed survey of community stakeholders and businesses will be conducted. A construction safety campaign will be developed and community response protocols (notification of construction activities, hot lines, etc.) will be produced. A public involvement plan will be developed prior to each construction phase and will be tailored to the construction phase. Metro will maintain the Project website, which will provide information to the public regarding construction phasing. Metro will develop a program tailored for different locations and needs. The program will involve signage and marketing to assistance to businesses, identification of parking alternatives, and other measures.

Metro also considers the cumulative impact of multiple projects in the Study Area under construction at the same time as the subway extension. Careful coordination will occur with local jurisdictions to ensure that potential impacts from the simultaneous construction of multiple projects are addressed and mitigated to the extent feasible.

Construction will have temporary impacts on communities, including commercial and industrial businesses, particularly those near or adjacent to construction sites. Street closures are expected to impact mobility and access to community facilities, as much of the construction activity will be centered on Wilshire Boulevard, which is a central point of access for the neighborhoods. Sidewalk space may be obstructed temporarily for station and alignment construction, thereby reducing business access but additional access will be maintained to businesses and residences at all times. In addition to temporary street and sidewalk closures, construction activities will also reduce on-street and off-street parking. This could affect access to and profitability of existing businesses as customers may choose to avoid ongoing construction. Business impacts could also include reduced visibility of commercial signs and business locations.

These construction impacts to neighborhoods and communities will be temporary adverse

**615-86**

impacts, but the following mitigation measures will reduce the adverse effects for all adjacent neighborhoods:

- CON-1-Signage
- TCON-1-Traffic Control Plans
- TCON-2-Designated Haul Routes
- TCON-3-Emergency Vehicle Access
- TCON-4-Transportation Management Plan
- TCON-7-Parking Management
- TCON-8-Parking Monitoring and Community Outreach
- TCON-10-Pedestrian Routes and Access
- TCON-11-Bicycle Paths and Access

With implementation of these mitigation measures, there will be no adverse effect to businesses during construction.

Refer to Section 4.15 of the Final EIS/EIR for more detailed information on construction impacts.

**Property Acquisition and Right-of-Way****Historic Resources**

- 615-87 | The Office of Historic Resources concurs with the boundaries of the Area of Potential Effects (APE) determined through the Section 106 review process. Because of the large area encompassed by the APE boundaries, these comments will concentrate on the station locations and their vicinity, where a large portion of construction activity would occur (DCP).
- 615-88 | The Office of Historic Resources was unable to locate the California Department of Parks and Recreation (DPR) forms referenced in the DEIR. Only a limited number of DPR forms was found in "Historic Property Survey Report Appendices A, C, E." (DCP).
- 615-89 | The boundaries of the Area of Potential Effects near the intersection of Hollywood and Highland appears to include a portion of the Hollywood Walk of Fame (Historic-Cultural Monument #198). This historic streetscape feature does not appear to be listed in any inventory of historic resources in the DEIR/EIS. Construction of the Red Line subway in the early 1990s significantly damaged portions of the Hollywood Walk of Fame due to resettling of the ground level (DCP).
- 615-90 | The intersection of Wilshire and Fairfax Boulevard contains the May Company Building (Historic-Cultural Monument #566; constructed 1939) now part of the LACMA campus. Some alternatives discuss utilizing the interior of the building for a potential entrance; this potential work would most likely be subject to review and approval by the Cultural Heritage Commission. While the building's City-level designation is limited to the exterior portions of the building, the work may have enough of a potential impact to the building's exterior to merit review by the Cultural Heritage Commission (DCP).
- 615-91 | OHR staff concurs with the finding that the Johnnie's Coffee Shop building is eligible as a historic resource and with the finding of No Adverse Effect (DCP).
- 615-92 | Based on a review of the historic resources inventory, the DEIR appears to have neglected to cite the Security-First National Bank building (Historic-Cultural Monument 813) and the Clem Wilson Building (California Register) (DCP).

**615-87**

Your concurrence with the boundaries of the Area of Potential Effect has been noted.

**615-88**

All California Department of Parks and Recreation (DPR) forms referenced in the Draft EIS/EIR but missing from Appendix E of the *Westside Subway Extension Historic Property Survey Report* are included in an appendix to the *Westside Subway Extension Historic Property Supplemental Survey Report* prepared in support of the Final EIS/EIR. The *Westside Subway Extension Historic Property Supplemental Survey Report* also includes updated DPR forms and additional DPR forms for built environment resources identified within the revised APE for the Locally Preferred Alternative.

**615-89**

Your comment has been noted, but the Locally Preferred Alternative (LPA) route chosen by the Metro Board will not extend to West Hollywood. The revised Area of Potential Effect for the LPA does not include the Hollywood Walk of Fame since the Project will not impact that section of Hollywood Boulevard.

**615-90**

One of the entrance location options for the Wilshire/Fairfax Station is located in the interior of the May Company Building, at the northeast corner of Wilshire and Fairfax. Should the entrance for the Wilshire/Fairfax Station be located in the interior of the May Company Building, Metro would coordinate with the City of LA and the Culture Heritage Commission would be contacted regarding this specific building. It should be noted that the Johnnie's site is the recommended site in this Final EIS/EIR. In addition, LACMA has indicated that a recently announced agreement with the Academy of Arts and Sciences to construct a film museum within the former May Company building could preclude the ability to include a subway entrance within this historic building. For this reason, LACMA has requested that Metro no longer consider the West/May Company building as a location for a primary station entrance and instead consider the site at the southeast corner of Wilshire Boulevard and Orange Grove Avenue as the primary station entrance. Metro acknowledges this request.

**615-91**

Your concurrence has been noted.

**615-92**

The Final EIS/EIR has been amended to include the Security First National Bank Building at 5207-5209 Wilshire Boulevard in the table titled "Effects to Historic Properties under Section 106" and in the discussion of "Environmental Impacts/Environmental Consequences" in Section 4.14.5 of the Final EIS/EIR. The E. Clem Wilson Building at 5225 Wilshire Boulevard will not be directly or indirectly affected by the Project, if the LPA

**615-92**

is implemented. These two properties are also discussed in the *Westside Subway Extension Historic Property Supplemental Survey Report* prepared in support of the Final EIS/EIR and available on the Metro Westside Subway Extension Project website: [www.metro.net/projects/westside/westside-reports](http://www.metro.net/projects/westside/westside-reports).

**Other Comments**

- 615-93 CRA/LA has previously provided illustrative concepts of how the costs of additional portals station mezzanines, fare collection and other mechanical equipment might be obviated for a future Crenshaw Transit Line connection for Wilshire Boulevard if appropriate design features could be made in the intersection station (CRA).
- To enhance the potential cost effectiveness and functionality of a future Crenshaw Line connection to the Purple Line, CRA/LA would strongly encourage MTA to task the consultant project team with identifying the most feasible and likely interface station, to evaluate what measures in station design and utility relocation could significantly enhance the functionality and cost-effectiveness of an ultimate station complex and to incorporate feasible measures and design elements into the present project's design for that station (CRA).
- 615-94 Please provide additional clarification between the MTA Urban Design Criteria and MTA Design Criteria referenced on pages S-43 and 4-81. The language in VIS-1 on page 4-81 is unclear and needs a slight modification. It mentions the "MTA Urban Design Criteria," "design guidelines" and "Station Planning & Urban Design Concept Report." It is unclear where the MTA Design Criteria and the design guidelines are provided (DCP).
- 615-95 The summary language on page S-43 should be modified to be consistent with the mitigation measure (DCP).
- 615-96 The Visual Quality mitigation language should be modified to incorporate documents where this language can be reviewed. Such as:
- To minimize visual clutter, system components should be integrated and the potential for conflicts reduced between the transit system and adjacent communities; design of the system stations and components shall follow the recommendations and guidance developed in the urban design analysis conducted for the Project (Include appropriate citation to guidelines in background report.) (DCP)
- These guidelines include, but are not limited to, the following: (1) preserve and enhance the unique cultural identity of each station area and its surrounding community by implementing art and landscaping; and (2) promote a sense of place, safety, and walkability by providing street trees, walkways or sidewalks, lighting, awnings, public art, and/or street furniture." (DCP)
- VIS-4—Station designs shall be integrated with area redevelopment plans and follow the recommendations in the Station Planning & Urban Design Concept Report (Include appropriate citation to recommendations in background report) (DCP).

**615-93**

Your comment on future transit connections to the Crenshaw/LAX Line has been noted. In November 2009, the Metro Board voted to approve the Locally Preferred Alternative (LPA) for the Crenshaw/LAX Transit Corridor. The Crenshaw/LAX LPA includes an 8.5-mile light-rail line that would connect the Metro Green Line and the Expo Line along Crenshaw Boulevard. The Crenshaw/LAX LPA would not connect the line to Wilshire Boulevard.

A potential connection to Wilshire Boulevard was studied in a May 2009 Metro feasibility report. Although beyond the available project funding, this report determined that a connection at Wilshire/La Brea instead of Wilshire/Crenshaw would be more cost-effective and more compatible with existing land uses. Please refer to the Crenshaw Transit Corridor Project: Final Feasibility Study – Wilshire/La Brea Light Rail Transit Extension, available on the Crenshaw Transit Corridor Project page on the Metro website.

Keeping these recommendations in mind, the Westside Subway Extension Project, if approved for implementation, will be designed so as not to preclude future northward extensions of the Crenshaw/LAX line along La Brea, La Cienega, or San Vicente.

**615-94**

Your comment has been noted. The text has been revised in the Final EIS/EIR to provide additional clarification between the Metro Rail Transit Design Criteria and Standards and the *Station Planning and Urban Design Concept Report*.

**615-95**

The text has been revised in the Final EIS/EIR and is included in Table S-7.

**615-96**

Your comment has been noted. The text in Section 4.3 of the Final EIS/EIR has been revised to include references to the Metro Rail Transit Design Criteria and Standards as well as the *Station Planning and Urban Design Concept Report*.



**Appendix**

The Bureau of Engineering has reviewed all the plans and drawings in the EIR/EIS document and the following comments need to be addressed in the Final Environmental Impact Report document (BOE):

- 615-97 | • Call out as-built # and ownership for all storm drains and sewers
- 615-98 | • Call out all utility crossings in profiles
- 615-99 | • Call out City boundaries
- 615-100 | • Drawing C-107:
  - 87" RCP SD is 84" RCP
- 615-101 | • Drawing C-113:
  - Cannot verify the existence of the two 54" RCP SD in Santa Monica Blvd. Please provide as-built # confirming its existence. The 54" SD along Avenue of the Stars is verified by D-7378.
  - Call out Avenue of the Stars on plan
- 615-102 | • Drawing C-114:
  - Correct the callout for S Beverly Glen Blvd in profile
  - Call out Comstock Ave on the plan and profile
- 615-103 | • Drawing C-116:
  - Correct the stationing in the titleblock to Station 393+00 to 415+00
- 615-104 | • Drawings C1-117, C2-117 & C3-117:
  - Provide as-built# verifying the existence of the 108" RCP west of Gayley Ave
  - 60" RCP callout in plan for SD in Lindbrook Dr is placed incorrectly or should be 48" RCP. The SD in Lindbrook Dr is 60" RCP from Gayley Ave to Westwood Blvd and 48" RCP east of Westwood Blvd.
  - Delete 48" RCP SD callout south of Wilshire Blvd
  - Delete 72" RCP SD callout south of Wilshire Blvd

**615-97**

For detailed utility information, please see existing composite utility plans in the upcoming PE phase.

**615-98**

For detailed utility information, please see existing composite utility plans in the upcoming PE phase.

**615-99**

City boundaries have been called out in Appendix A of the Final EIS/EIR.

**615-100**

Utility note has been corrected.

**615-101**

For detailed utility information, please see existing composite utility plans in the upcoming PE phase. Street has been called out on plans.

**615-102**

Information has been corrected, please see Appendix A, Plan and Profile, in the Final EIS/EIR.

**615-103**

Information has been corrected, please see Appendix A, Plan and Profile, in the Final EIS/EIR.

**615-104**

For detailed utility information, please see existing composite utility plans in the upcoming PE phase.

- 615-105
- Drawings C2-117 to C2-119:
    - Titleblock should read Alternative 2 & 4
- 615-106
- Drawing C3-119:
    - Please revise the 72" RCP SD call out on plan view to 81" RCP as shown in profile
- 615-107
- Drawing C3-120:
    - 81" RCP SD callout along Amherst Ave in plan view is 78" RCP
    - 45" RCP SD callout in profile should be 48" RCP. SD in plan view is 45" RCP north of Wilshire Blvd and 48" RCP south of Wilshire Blvd.
- 615-108
- Drawing C-202:
    - Call out street name perpendicular to Highland Ave along subway extension alignment.
- 615-109
- Drawing C-205:
    - 54"x51" RCB SD call out should be 54"x48" RCB. The SD is 54"x51" RCB south of Santa Monica Blvd.
- 615-110
- Drawing C-208:
    - Show north arrow
    - Provide as-built for 10.5'x20' RCB
- 615-111
- Drawing C-209:
    - Double 21'-6"x6' & 21'-6"x21' RCB SD should be 18'x17' RCB on plan view
    - Correct call out for Double 9'x6'-6" RCB in plan and profile to Double 9.5'x6.5' RCB
    - Provide as-built for the 12'x17' RCB and 10.5'x20' RCB
- 615-112
- Drawings CM-101 & CM-102:
    - 87" RCP SD call out is actually 84" RCP. The SD along Ogden Dr at Wilshire Blvd is made of an 87" RCP and a 10.5' x 4' RCB.

**615-105**

This is no longer applicable, the commented routes are not included in the LPA.

**615-106**

This is no longer applicable, the commented routes are not included in the LPA.

**615-107**

This is no longer applicable, the commented routes are not included in the LPA.

**615-108**

This is no longer applicable, the commented routes are not included in the LPA.

**615-109**

This is no longer applicable, the commented routes are not included in the LPA.

**615-110**

This is no longer applicable, the commented routes are not included in the LPA.

**615-111**

This is no longer applicable, the commented routes are not included in the LPA.

**615-112**

This is no longer applicable, the commented routes are not included in the LPA.

- 615-113 | • Drawing CM-102:
- Call out unidentified pipe crossing in profile
- 615-114 | • Drawing CM-201:
- Provider as-built for 54" RCP SD
- 615-115 | • Drawing C-701 C:
- Provide as-built for 15'-20"x10.5' RCB & 17'-6"x11 RCB
  - Double 21'-6"x6' & 21'-6"x21' RCB is actually 18'x17' RCB
  - 9'x6.5' RCB SD is actually 9.5'x6.5' RCB
- 615-116 | • Drawing C-702C:
- Call out street name that coincides with the subway extension alignment
- 615-117 | • Drawing C-703K:
- Midvale Ave north of Wilshire Blvd is Gayley Avenue Please revise.
- 615-118 | • Drawing C-701L:
- Century Park call out in profile is West and not East. Please revise.
- 615-119 | • Drawing C-703L:
- Delete 60" RCP SD call out on plan & profile
- 615-120 | • Drawings C-704L, C-705N, C-705O, C-704P, S-704R, C-705T, C-705U:
- Cannot verify 108" RCP SD, please provide as-built
  - Delete 48" RCP & 72" RCP SD call out just south of Wilshire Blvd
  - 60" RCP SD call out for SD along Lindbrook Ave must point to SD alignment west of Westwood Blvd. SD along Lindbrook Ave is 48" RCP btwn Westwood Blvd and Tiverton Ave, and 42" from Hilgard Ave to Tiverton Ave

**615-113**

This is no longer applicable, the commented routes have been eliminated from currently adopted alternatives.

**615-114**

Please see the revised Appendix A, Plan and Profile, in the Final EIS/EIR.

**615-115**

This is no longer applicable, the commented routes are not included in the LPA.

**615-116**

Please see the revised Appendix A, Plan and Profile, in the Final EIS/EIR.

**615-117**

Please see the revised Appendix A, Plan and Profile, in the Final EIS/EIR.

**615-118**

Please see the revised Appendix A, Plan and Profile, in the Final EIS/EIR.

**615-119**

Please see the revised Appendix A, Plan and Profile, in the Final EIS/EIR.

**615-120**

Please see the revised Appendix A, Plan and Profile, in the Final EIS/EIR.

- 615-121
- Drawing AA-001:
    - Correct the drawing#s for AB-001, AC-001 & AD1-001 by replacing "-" with "." so that they match what is shown on the actual drawing sheet.
    - Correct the spelling for Constellation for AG2.001
    - AP2.001, AR.001, AS.001, AT.001 & AU.001 are for Alternatives 4 & 5
    - Correct the spelling for the San Vicente for AT.001
- 615-122
- Drawing AD2.001:
    - List the Alternatives in the titleblock
- 615-123
- Drawing AE1.001:
    - Include "WeHo Connection w/ No Transfer" to titleblock
- 615-124
- Drawing AE2.001:
    - Include Alternatives and "WeHo w/ Transfer Station" to titleblock
- 615-125
- Drawing AG2.001:
    - Include Alternatives in the titleblock
- 615-126
- Drawing AH1.001:
    - Move up text within titleblock appropriately
- 615-127
- Drawing AH2.001:
    - Include alternatives in the titleblock
- 615-128
- Drawing G-001:
    - Change Alternative 2 to include C-101 through C-447 C-116 same as Alternative 1
    - Change Alternative 3 to include C-101 through C-447 C-116 same as Alternative 1
    - Change Alternative 4 to Westwood/VA Hospital Extension plus West Hollywood Extension per Executive Summary S-15

**615-121**

Please see the revised Appendix B, Station Site Plans, in the Final EIS/EIR.

**615-122**

Please see the revised Appendix B, Station Site Plans, in the Final EIS/EIR.

**615-123**

Please see the revised Appendix B, Station Site Plans, in the Final EIS/EIR.

**615-124**

Please see the revised Appendix B, Station Site Plans, in the Final EIS/EIR.

**615-125**

Please see the revised Appendix B, Station Site Plans, in the Final EIS/EIR.

**615-126**

Please see the revised Appendix B, Station Site Plans, in the Final EIS/EIR.

**615-127**

Please see the revised Appendix B, Station Site Plans, in the Final EIS/EIR.

**615-128**

This is no longer applicable, the commented routes are not included in the LPA.

**615-129**

This is no longer applicable, the commented routes are not included in the LPA.

**615-130**

This is no longer applicable, the commented routes are not included in the LPA.

- o Change Alternative 4 to include C1-117 C2-117 through C1-118 C2-119 same as Alternative 2 per Executive Summary S-15
- o Stationing in the drawing names listed for CM-101, CM-102, CM-201 & CM-202 do not match what is shown in the titleblock on the actual pages. Please correct.

615-129

- Drawing G-002:
  - o Drawing pages for Option 6 & Special Trackwork Option are missing in the package
  - o The drawing title for Y-024 does not match what is shown on the sheet

615-130

- Drawing G-007:
  - o Revise the listed sheet nos. for Alternative 3 to include C3-117 to C3-125 and not C4-117 to C4-125
  - o Per Executive Summary S-15, Alternative 4 should be Westwood Hollywood Extension and Wilshire/Western to Westwood/VA Hospital Extension. Please revise sheet nos., stationing and description accordingly

**615-131**

Please see the revised Appendix A, Plan and Profile, in the Final EIS/EIR.

615-131

- Drawings C-101 to C-116, C1-117 to C1-118, C2-117 to C2-119, C3-117 to C3-125 and C-201 to C-211
  - Call out all utilities on plan. Please refer to the City as-builts and substructure maps because not all utilities are shown. Please see list of substructure maps for Westside Subway Extension alignment located in City of LA R/W.

Sub-104-5	Sub-135-181-6A	Sub-804-B	Sub-362-8
Sub-105-10	Sub-135-181-6B	Sub-132-153-B	Sub-362-9
Sub-105-9	Sub-135-181-5A	Sub-132-153-A	Sub-251-B
Sub-105-8	Sub-135-181-5B	Sub-765-A	Sub-138-173-C
Sub-105-7	Sub-135-177-8A	Sub-132-149-D	
Sub-105-6	Sub-135-177-8B	Sub-129-145-B	
Sub-105-5	Sub-135-177-7A	Sub-129-145-D	
Sub-319-7	Sub-135-177-7B	Sub-129-145-C	
Sub-319-6	Sub-135-177-6A	Sub-126-145-A	
	Sub-135-177-FA		
Sub-320-11	Sub-252	Sub-800-B	
Sub-320-10	Sub-265	Sub-361-7	
Sub-135-185-9A	Sub-135-173-D	Sub-361-13	
Sub-135-185-9B	Sub-135-161-C	Sub-361-16	
Sub-135-185-8A	Sub-132-161-A	Sub-362-2	
Sub-135-185-7A	Sub-132-157-B	Sub-362-3	
Sub-135-185-7B	Sub-132-157-D	Sub-362-4	
Sub-135-181-7A	Sub-805-A	Sub-362-6	
Sub-135-181-7B		Sub-362-7	