

**Indian Hill Boulevard Grade Separation
Frequently Asked Questions
February 23, 2016**

What is the Construction Authority asking the city to do at the February 23 council meeting?

- The Construction Authority is asking the city to provide feedback as to whether or not to continue studying the option of adding a grade separation at Indian Hill Boulevard to the Glendora to Montclair project. Agreement to continue studying the option of a grade separation allows the Construction Authority to analyze the environmental impacts of the bridge in an Addendum to the Final EIR currently underway, as well as allows the engineering team to include possible plans for a grade separation in the engineering documents for the project. As more information is understood about the possible bridge, it will be shared with the city.

If the city recommends moving forward with additional study of a grade separation at Indian Hill Boulevard, can the city decide later to go back to an at-grade crossing?

- Yes. A recommendation to continue studying the possible grade separation is not a final decision. Over the course of the coming weeks, an Addendum to the Final EIR will be finalized that evaluates the environmental impacts of the possible bridge at Indian Hill Blvd, which will allow the Construction Authority the ability to include the grade separation in the ultimate constructed project if the funds are identified and if the city agrees to the design of the grade separation. Over the next year, the Construction Authority will work with the city regarding architectural and aesthetic plans for the bridge. If the city does not like the ultimate plan for the bridge, the Construction Authority can build the grade crossing at street level, as currently approved.

Is a grade separation at Indian Hill Boulevard required?

- No. As currently approved, the project can be built with an at-grade (street level) crossing at Indian Hill Boulevard. Although not required, a grade separation is being proposed for light rail trains to improve conditions in future decades as street traffic worsens in the area and the number of trains increase through the corridor.

What options have been studied and how detailed were those studies?

- Construction Authority engineers have done a review of constructability issues related to a bridge structure with abutment walls (proposed option), lowering the light rail tracks below grade and trenching under Indian Hill Boulevard, lowering the light rail and Metrolink tracks below grade and trenching under Indian Hill Boulevard, and lowering Indian Hill Boulevard and trenching under the railroad right of way.

With the currently proposed concrete bridge and abutment walls, what is the height of the abutment walls at Yale Ave (east of Indian Hill) and at Cornell Ave (west of Indian Hill)?

- The Construction Authority estimates that the ramp up to the bridge and associated abutment walls will start at grade 900 feet west of Indian Hill Boulevard and reach a maximum height of approximately 30 feet just west of Indian Hill Boulevard. The ramp and associated abutment walls will extend about 700 feet east of Indian Hill Boulevard to reach grade. With those parameters, at Yale Avenue the abutment walls are estimated to be approximately 15 feet tall, and at Cornell Avenue the walls are estimated to be approximately 18 feet tall.

Will noise from the Metrolink/freight trains bounce off the abutment walls and impact the neighbors to the south?

- As part of the noise analysis underway for the Addendum to the Final EIR, noise consultants evaluated the possible impact of noise reflecting off of the abutment walls. They concluded that the amount of noise reflecting off the walls would be negligible, to a point where noise monitors and noise models would not be able to measure the difference.

Why is the Construction Authority not proposing to trench under Indian Hill Boulevard? Is a trench option feasible?

- Depressing the railroad tracks below grade and then trenching under Indian Hill may be technically feasible, but there are serious problems with this concept. First, there would be significant increased risk of construction problems due to unknown conditions below grade, as well as increased short-term construction impacts to the community (closure of Indian Hill Boulevard for approximately nine months to one year).

Additionally, the cost to build the line below grade is prohibitive for the Construction Authority to keep the overall six-station project financially feasible. Professional estimators have provided the Construction Authority data on the cost difference. They estimate that depressing the tracks and trenching under Indian Hill Boulevard would cost at least \$40 million more than the at-grade option considering the added risk to the project involved in unknown utility relocation and other unknown underground conditions.

Importantly, to meet current design specifications for train speeds and clearances for the OCS (overhead power wires), the Gold Line Station in Claremont would likely not be able to be located near College Avenue. The station would likely have to move either west of Indian Hill Boulevard or farther east of College Avenue; requiring the station parking facility (with 1,200 required parking spaces) to be relocated. This would add additional costs beyond that assumed for the trench construction.

For these reasons, the Construction Authority is not willing to entertain the option of trenching under Indian Hill Boulevard.

Why does it take a longer distance to have the trains come up to grade from a trench, than to travel down to grade from a bridge?

- While it is true that the maximum slope allowed for light rail vehicles would be equal for a bridge or a trench, the depth of the trench must be greater than the height of the bridge because the trench must accommodate the required clearance for the OCS (overhead power wires). To meet current design specifications, a light rail trench would need to be built with enough depth to provide 18 feet of clearance for the OCS (overhead power wires) at College Avenue - plus additional clearance within the trench under Indian Hill Boulevard. The increased depth of the trench requires a greater distance to get back up to grade using the same maximum allowable slopes.

What is the cost difference for designing a bridge without abutment walls (using multiple pillars to hold up the bridge, for instance), or extending the bridge further out to reduce the mass of the walls?

- The Construction Authority requested rough order of magnitude cost data from a third-party estimator to assist in understanding the likely difference in cost between a concrete bridge with abutment walls (proposed option) and an extended bridge (150 feet in either direction).

The estimators assumed the concrete bridge with abutment walls would cost about \$25 million more to build than the at-grade crossing. In comparison, extending the bridge 150 feet in either direction to reduce the length of the abutment walls and “open up” the design of the bridge by an additional 300 feet in total, would cost about \$20 million more than the proposed bridge with abutment walls. Building the entire structure on piers would be even more expensive.

If the city decides that they want to have the bridge extended, the additional cost would be considered a “betterment” to the project and have to be paid for by the city of Claremont.

Can the city put artwork and/or signage on the bridge?

- Yes. The Construction Authority will work closely with the city on the design of the bridge and abutment walls. If the city wants to add art elements or signage, the Construction Authority would do our best to accommodate those requests. The City of Arcadia installed changeable color LED lighting on the Santa Anita Avenue bridge for instance, as part of the Pasadena to Azusa segment; and also added lit “Arcadia” artwork on the abutment walls.

Who would be paying for the grade separation?

- The grade separation at Indian Hill Boulevard is being reviewed as an optional element of the Glendora to Montclair project. It is the Construction Authority’s intention to include the cost of a concrete bridge in the overall cost of the light rail project. The Construction Authority board of directors recently increased the project cost estimate to include several added elements, including a concrete bridge with abutment walls at Indian Hill Boulevard.

Paying for the grade separation is dependent on receiving sufficient funding to build the line with this added element. If the Construction Authority does not receive sufficient funding to add the element, the crossing will be built as approved in the Final EIR, at street level.

If sufficient funds are identified to add the Indian Hill grade separation, and the city chooses to extend the length of bridge to reduce the length of the abutment walls, the city would have to pay the difference of what is ultimately funded and the cost of the “betterment” of the project.

What is the process moving forward?

- The Construction Authority is currently underway on an Addendum to the Final EIR that evaluates several project refinements, including the possibility of adding a grade separation at Indian Hill Boulevard. The Addendum will be completed in the coming weeks and will be shared with the city. The Construction Authority board of directors will be considering certifying the Addendum at their March or April 2016 meeting.