

SPECIFIC AREAS

Southern Gateway

At the Southern Terminus, Cedar Avenue crosses over Highway 99 at approximately at 40 degree angle. HSR will cross both at an even sharper angle as it exits the city. The conceptual Engineering drawings show a 3-span structure with two, 245' spans over Highway 99 and a single, 355' span over Cedar Avenue. The documents show a steel trestle bridge based on previous discussion about structure types and an idea that HSR honor California's railroad history with a traditional rail bridge structure for HSR. However, in recent discussions with the City, the concept that HSR should be a modern infrastructure of its time, is what Fresno prefers. Further, the city and independent design team see merit in "bookending" the Northern and Southern gateways with the same through-arch structure type. The same design parameters regarding shapes, forms, transition from box girder guideway to through-arch to and back to box girder guideway apply to the Southern Gateway. The included sketches show a concept that would span Highway 99 in a single through-arch of approximately 490' and a smaller through-arch of 355' over Cedar Avenue.

There is an added dynamic at the Southern Gateway with the angle that HSR crosses the two roadways, allowing more of a side elevation to be seen from the highway. The included sketches demonstrate this opportunity.

Recommendations: through-arch spans over the SR99 and Cedar Avenue, with return arches; straddle bent transition to box girder; aerodynamic forms for all piers, straddle bents; concrete or steel arch structures.



Above: Early studies of Southern Gateway design alternatives.

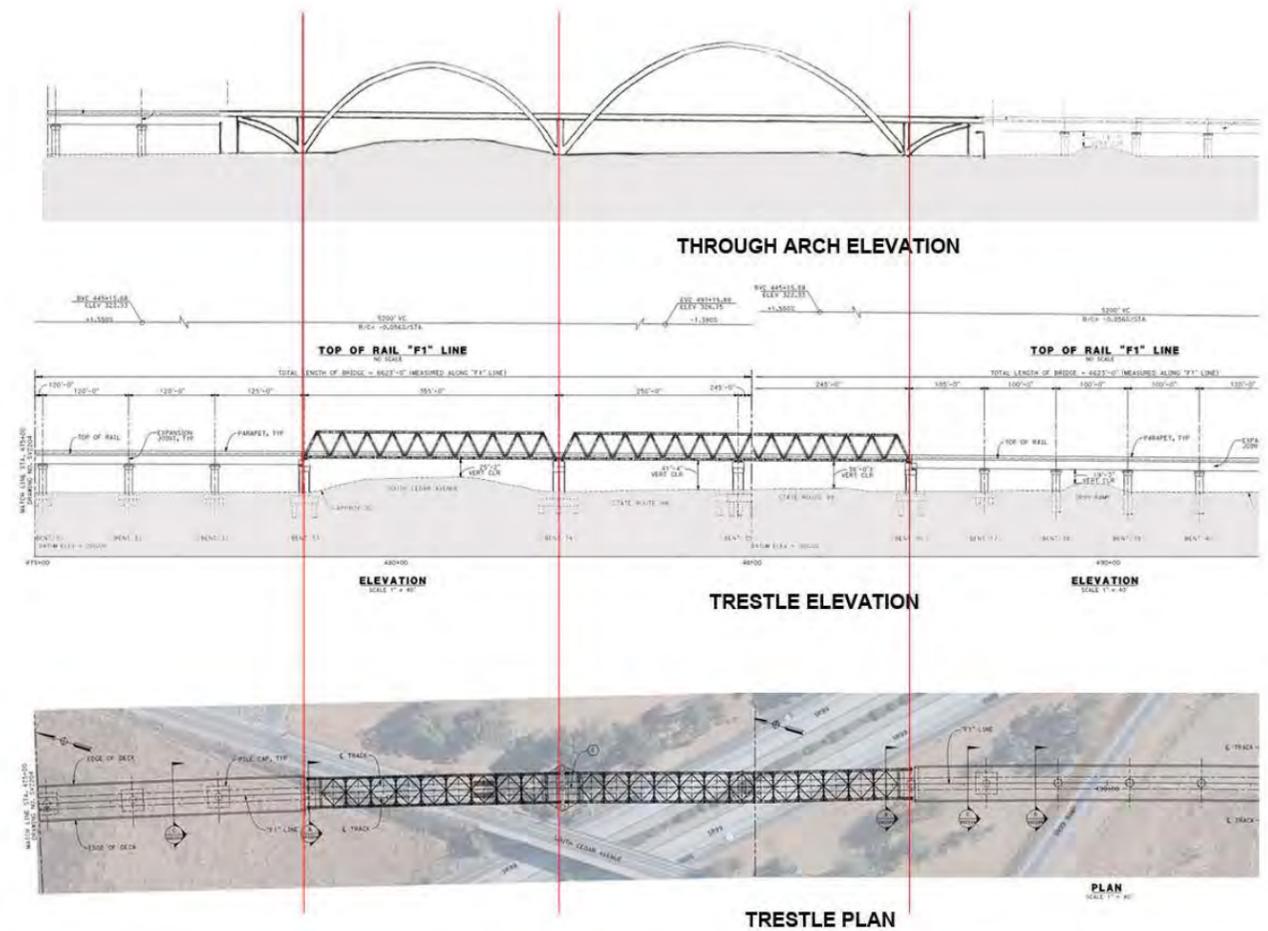


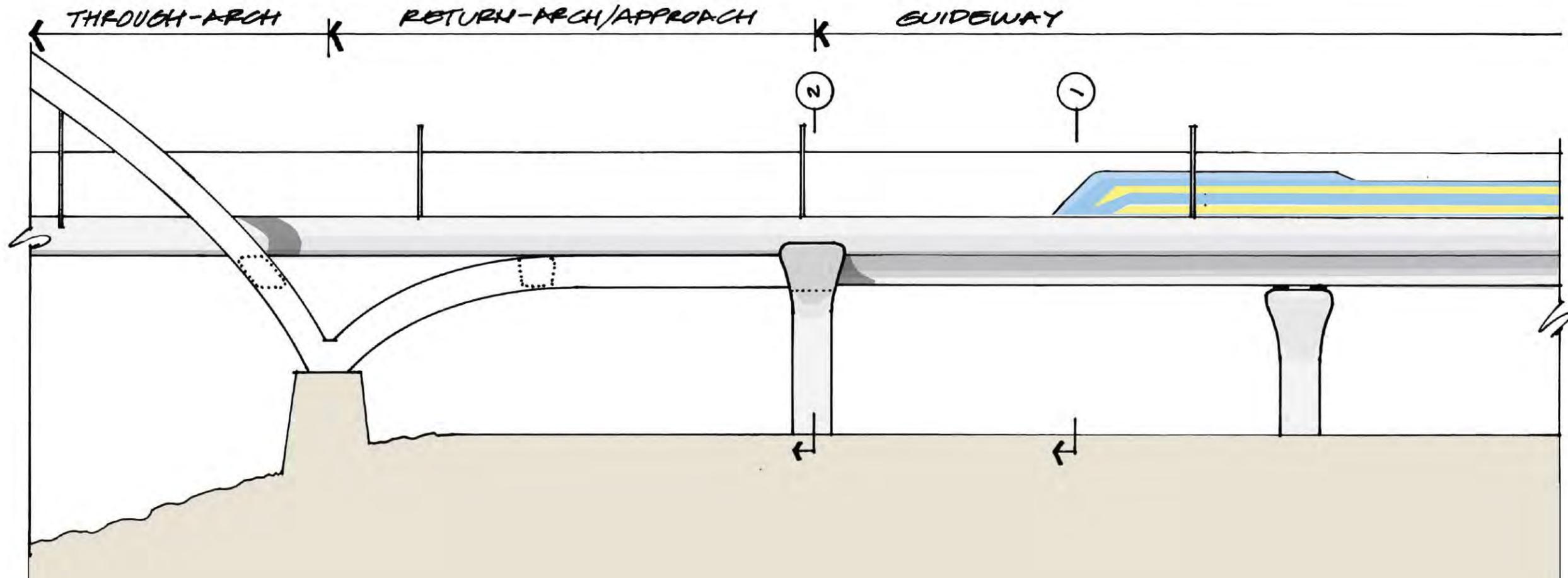
Recommendation: A single through-arch over Highway 99, with a smaller through-arch over Cedar Avenue.



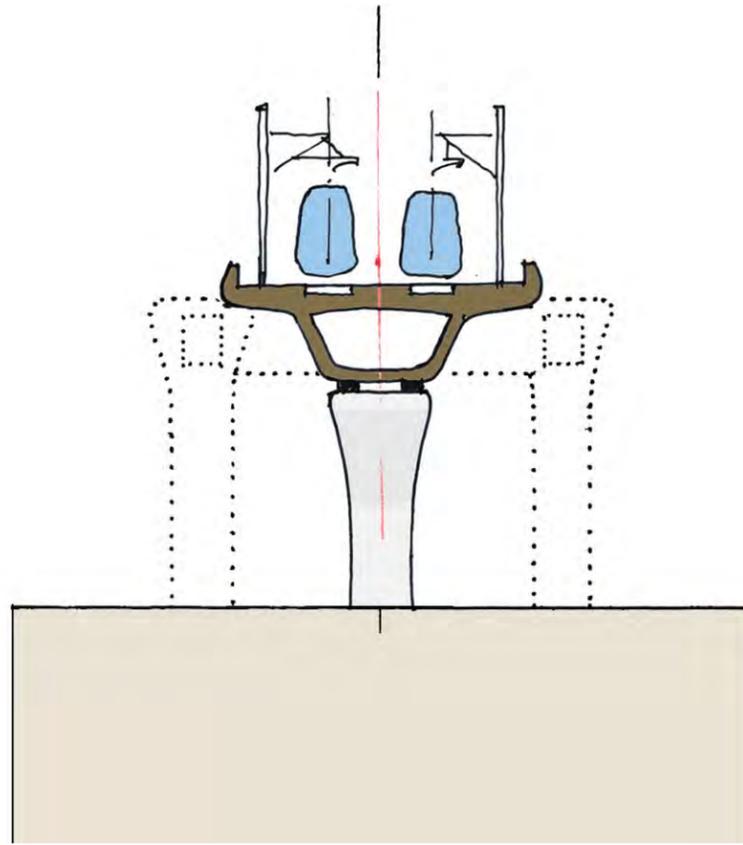
View of CHSR at SR 99

Existing: View of Cedar Avenue crossing over Highway 99

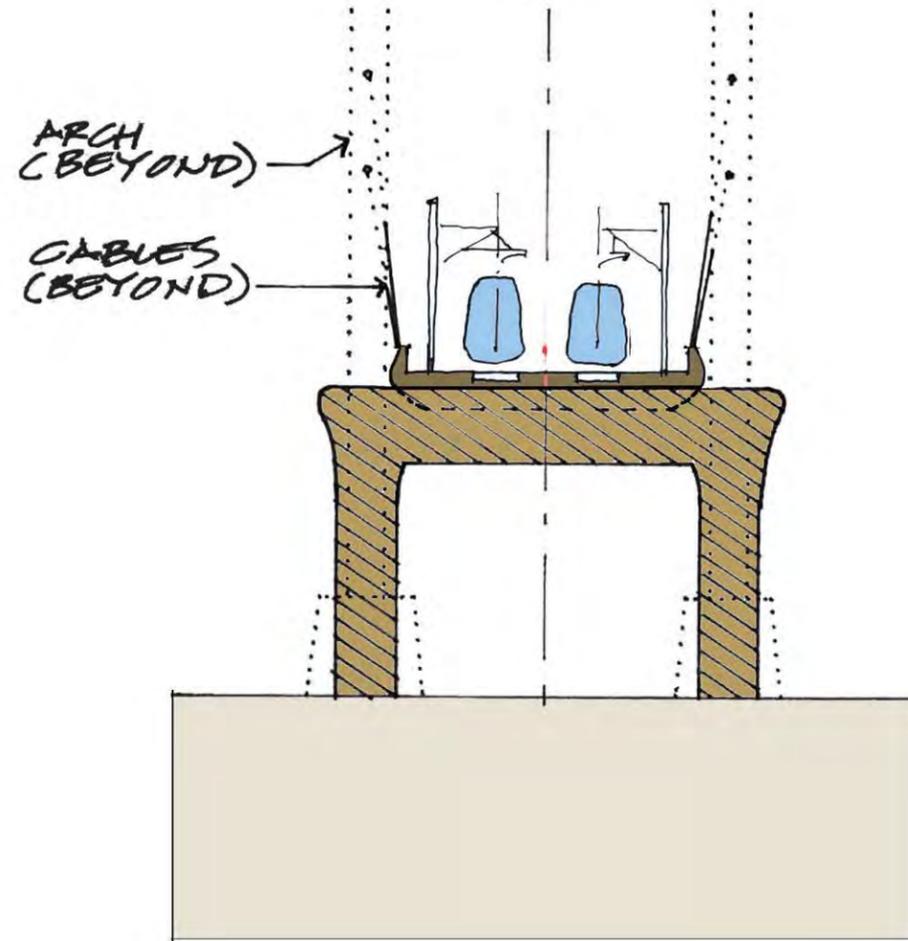




Example: Transition to Gateway Through-arch bridge structure elevation from center-pier guideway.



Example: Section 1 Through center-pier guideway.



Example: Section 2 Through straddle bent pier at beginning of arch structure.