Level 3 Criteria

Detailed Alignment Evaluation

Detailed evaluation of top alternatives

	The "proposed ROW" is defined as a 100' wide zone , extening 50' from either side of the proposed centerline according to the 5% Design.					I-30						SH 180
	Criteria	Description	Measurement	Thresholds	12	13	14	15	17	18	30	31
Impacts to Sensitive Social, Biological, or Cultural Areas	Potential water body & floodplain impacts	Total length (linear feet) of alignment that crosses a water body or floodplain	Total Length (feet)	High < 20,000 feet Medium = 20,000 feet - 30,000 feet Low > 30,000 feet	Low	Low	Low	Low	Low	Low	High	High
	Potential wetland impacts	Total acres of wetland within the proposed right-of-way	Total Acres	High = 0 - 0.99 acres Medium = 1 - 10 acres Low = 10+ acres	High	High	High	High	High	High	High	High
	Existing structures that could be impacted by the potential ROW	Number of structures located within the proposed right-of-way (house, out-buildings, business, public buildings, billboards, etc.)	Total Number	High ≤ 20 Medium = 21-50 Low > 50	Med	Med	Low	High	Med	High	Low	Low
	Potential parks/public recreational area impacts	Total acres of parks and public recreational areas within proposed ROW	Total Acres	High = 0 acre Medium = 0.1 - 2 acres Low > 2 acres	Low	Low	High	High	High	Med	Med	Med
Potential	Potential historic resources impacts	Are there any national or state historic sites within the proposed ROW?	Total Number	Yes = low No = High	High	High	High	High	High	High	High	Low
Potential community impacts	Noise & Vibration - # of receptors	Number of sensitive receivers (residences, educational facilities, hospitals, childcare facilities, senior housing, theaters) within 500 feet (250 feet on each side of centerline)	Number of Locations	High < 300 Medium = 300-400 Low > 400	Med	Med	Med	High	High	Med	Low	Med
Pote comn imp	Visual/Aesthetic - # of receptors	Number of sensitive receivers (historic neighborhoods, historic places, cultural landmarks or districts, parks and open space) within 500 feet (250 feet on each side of centerline)	Number of Locations	High = 0 Medium = 1+	Med	Med	Med	Med	High	Med	High	Med
	Required Non-Public ROW	Total Distance of new or non-public ROW needed [Determine additional distance of land needed outside the public ROW to meet this assumption.]	Total [Distance]	High ≤ 7.0 miles Medium = 7.1-10.0 miles Low > 10.0 miles	Med	Med	Med	High	High	High	Low	Low
Constructability	Potential Adverse Impacts to Transportation Systems During Construction	Potential adverse impact to existing transportation systems during construction. [Determine the potential level of impact to operations of transportation	Serverity of Impacts	High = Minimal Modification/Closure of infrastructure Medium = Substantial Modification/Closure of existing infrastructure Low = Significant Modification/Reconstruction and long-term closure of existing infrastructure								
	Potential Opportunity to improve Transportation Systems	infrastructure using best engineering judgement.] Potential opportunity to improve safety, capacity, and/or state of good repair of existing transportation systems during construction. [Determine the potential level of opportunity to improve transportation infrastructure using best engineering judgement.]	Opportunity for Improvement	High = Opportunities for project to require improvement to safety, capacity and/or state of good repair of existing transportation infrastructure Medium = No opportunities for project to require improvement to safety, capacity and/or state of good repair of existing transportation infrastructure	Med	Med High	Med High	High High	High High	Med High	Med High	Low
Design Considerations	Vertical Profile	Does the known profile of the alignment create opportunity for the possible use of multiple high-speed transportation modes?	e Max Grade %	Yes = High No = Low	High	High	High	High	High	High	High	High

					Modes				
	Criteria	Description	Measurement	Thresholds	High-Speed Rail	Maglev	Hyperloop		
	Technology Maturity (Safety Systems)	Technology Readiness Levels (TRLs) for safety systems requirements including emergency response, ventilation, fire life safety, etc.	Technology Readiness Levels	High = 8-9 (Final product demonstrated/performed) Medium = 6-7 (Prototype performed in operational environment) Low ≤ 5 (Simulated, and predictable performance or less)	High	High	Medium		
Constructability/Operability	Technology Maturity (Operations Systems)	Technology Readiness Levels (TRLs) for operational systems requirements including signaling, autonomous vehicle operations, control systems, etc.	Technology Readiness Levels	High = 8-9 (Final product demonstrated/performed) Medium = 6-7 (Prototype performed in operational environment) Low ≤ 5 (Simulated, and predictable performance or less)	High	High	Medium		
	Technology Maturity (Revenue Operation)	Number of Routes (10+ miles) currently in revenue operation worldwide	Number of routes	High ≥ 10 Medium = 1-9 Low = 0	High	Medium	Low		
	Potential to serve as an extension to planned high-speed systems	Ability of mode to serve as an extension to planned high-speed systems assuming specific chosen technology, equipment and specifications are appropriately compatible.	Yes/No	High = Yes Low = No	High	Low	Low		
	Potential Adverse Impacts to Transportation Systems	Are there any potential adverse impacts to existing transportation systems due to mode-specific operations or maintenance?	Yes/No	High = able to conduct O&M with little impact Medium = able to conduct O&M with moderate impact Low = able to conduct O&M with high impact	Medium	High	High		
Costs	Capital (Construction) Cost	Rough Order of Magnitude Construction cost for the guideway, ancillary facilities, maintenance facilities and vehicles, per mile	Cost per mile	High ≤ \$75 million Medium = \$75 million - \$150 million Low > \$150 million Based upon our draft estimate, HSR is about \$95M/mile, Maglev is about \$180M/mile, Hyperloop is about \$90M/mile.	Medium	Low	Medium		
O&M	Travel Time	Running time between Dallas and Fort Worth under a mid-corridor station scenario.	Travel Time	High: Slowest run time ≤ 15 minutes Medium: Slowest run time = 16 - 19 minutes Low: Slowest run time ≥ 20 minutes	Medium	Medium	High		
	Vertical Profile	How well can each technology accommodate higher grades?	Grade %	Med = 0-5% High > 5%	Medium	Medium	High		
	Max Curve Speed	Theoretical design speed at which a mode is able to travel through curves in the alignment.	Speed	High/Med/Low	Low	Medium	High		