Rocky Mountain Rail Authority

ROCKY MOUNTAIN RAIL AUTHORITY RAIL FEASIBILITY STUDY
c/o GBSM
600 17th St., Ste. 2020 South
Denver, CO 80202
(303) 825-6100

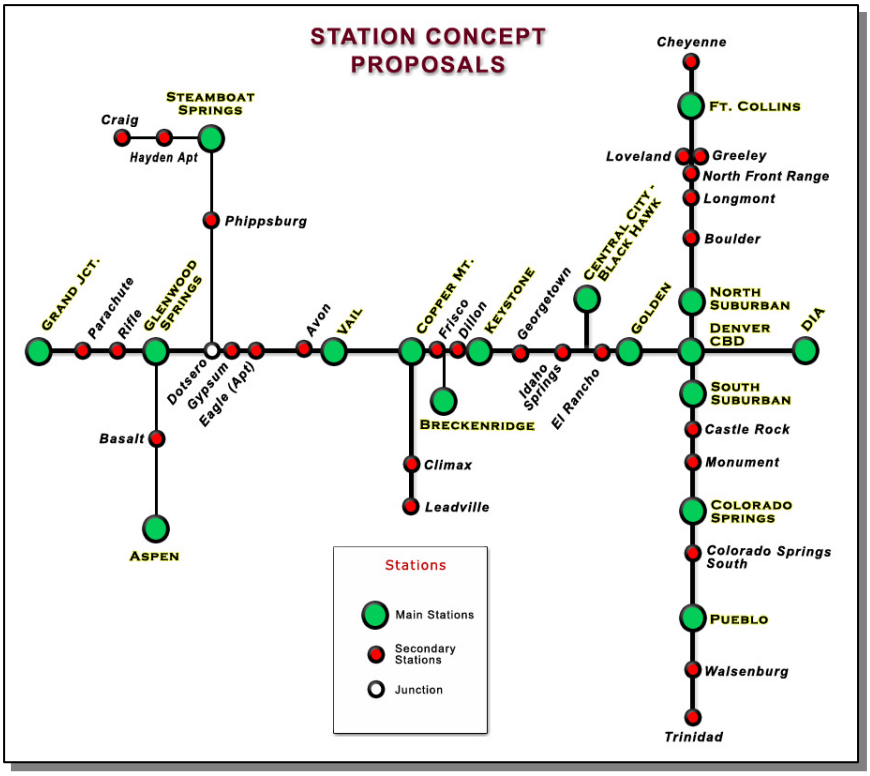
ALTERNATIVES FACT SHEET

The Rocky Mountain Rail Authority is committed to considering the feasibility of all reasonable alternatives for implementing high-speed intercity rail service in Colorado. To accomplish this, the High Speed Rail Feasibility Study is taking a market-based approach to identifying potential stations and a segmented approach to evaluating the various route/technology combinations to connect them.

The goal of the study is to determine if there is at least one technically, financially and economically feasible project that warrants further planning and engineering exploration.

STATIONS

The study team worked with local and state government organizations to identify 40 potential stations to evaluate for the high-speed rail system. Potential stations are classified as either primary or secondary.



Primary stations are those with the greatest ridership potential. They are generally located at major population centers or in areas that generate significant visitor-traffic all year. Secondary stations are anticipated to be lower-demand or lower ridership-generating stations.

A key part of the study will be determining the best mix of primary and secondary stations needed to support a feasible system. It is highly unlikely that all 40 stations will be feasible and not all station options are capable of being served by every route under consideration.

ROUTES

Alternative routes connecting the potential stations were identified along both corridors. The routes fall into four categories:

- **Highway Right-of-Way *(I-70 only)*** - Mostly elevated alignment within the current highway right of way. This alignment may include at-grade sections in areas where there is enough space in the median or adjacent to the actual highway and tunnels parallel to the current highway tunnels.
- **Highway Corridor/Valley** – Generally following the highway route and capable of being in the highway right-of-way, but leaves it to avoid major impacts or reduce curves and grades.
- **Existing Rail** - Located on or next to existing BNSF or Union Pacific railroad lines
- **Unconstrained** - New alignments not in the I-25, I-70 or freight rail corridors. These alignments would minimize grade changes and sharp curves through bridges, tunnels and at-grade sections

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TECHNOLOGIES

The study team is focusing its evaluation on categories of proven technologies that could begin to be implemented within the next five to 10 years. Evaluating proven technologies will allow the study team to conduct detailed cost and performance evaluations and comparisons based on transit systems already in operation. The feasibility study will determine whether the same or different technologies are feasible in the I-25 and I-70 corridors.

The technology categories under consideration include:

	Category	Maximum Operating Speed	Examples of In-Service Operation
	Conventional Diesel Train	79 mph	Amtrak (shown), Colorado Railcar Diesel Multiple Unit
	High Speed Diesel Train	110-130 mph	Spanish Talgo (shown), German InterCity Express-TD
	High Speed Magnetic Levitation Vehicle (aka Maglev)	125 mph	Japanese HSST (shown), American Maglev
	High Speed Electric Train	120-150 mph	Eurostar in U.K./ France/Belgium, (shown), German InterCity Express-T, American Acela
	Very High Speed Electric Train	150-220 mph	German InterCity Express (shown), French TGV, Japanese Shinkansen
	Ultra High Speed Magnetic Levitation Vehicle (aka Maglev)	250-300 mph	Transrapid Maglev in Germany and Shanghai (shown)

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PRELIMINARY SCENARIOS TO BE STUDIED

The chart below summarizes 13 preliminary scenarios that will be evaluated in the high-speed rail feasibility study. The chart identifies the technology, maximum speeds and general route options that will be considered for the I-25 and I-70 Corridors. In the Denver metro area, route options including existing rail lines, highways and new, unconstrained routes will be considered. The study team will now evaluate whether there is one scenario or a combination of segments from different scenarios that create a technically, financially, and economically feasible alternative. Feasibility will be based on a comprehensive set of factors including projected ridership levels, infrastructure costs, expected financial support, and more.

Option	Maximum Speed Capability	Route	
		I-25	I-70
1a – Conventional Diesel Train	79 mph	Existing Rail (w/ Freight-Rail Relocation)	N/A
1b – Conventional Diesel Train	79 mph	Existing Rail (w/out Freight-Rail Relocation)	N/A
2a – High-Speed Diesel Train	110-130 mph	Existing Rail (w/ Freight-Rail Relocation)	N/A
2b – High-Speed Diesel Train	110-130 mph	Existing Rail (w/out Freight-Rail Relocation)	N/A
3a – High-Speed Maglev Vehicle	125 mph	Highway Corridor/ Unconstrained	Highway Right-of-Way
3b – High-Speed Maglev Vehicle	125 mph	Highway Corridor/ Unconstrained	Highway Valley
3c – High-Speed Maglev Vehicle	125 mph	Highway Corridor/ Unconstrained	Unconstrained
4 – High-Speed Electric Train (w/ tilt)	110-150 mph	Existing Rail (w/ Freight-Rail Relocation)	Unconstrained
5a – Very High-Speed Electric Train (w/out tilt)	150-220 mph	Highway Corridor/ Unconstrained	Highway Right-of-Way
5b – Very High-Speed Electric Train (w/ tilt)	150-220 mph	Highway Corridor/ Unconstrained	Highway Right-of-Way
5c – Very High-Speed Electric Train (w/ tilt)	150-220 mph	Highway Corridor/ Unconstrained	Unconstrained
6a – Ultra High-Speed Maglev Vehicle	250-300 mph	Highway Corridor/ Unconstrained	Highway Valley
6b – Ultra High-Speed Maglev Vehicle	250-300 mph	Highway Corridor/ Unconstrained	Unconstrained

ABOUT ROCKY MOUNTAIN RAIL AUTHORITY

Rocky Mountain Rail Authority (RMRA) is a multi-jurisdictional government body created to explore passenger rail as part of a viable transportation solution for Colorado. RMRA members include nearly 50 counties, municipalities and other organizations along the I-70 and I-25 corridors. For more information, visit www.rockymountainrail.org