Feasibility Analysis of Transporting Construction Aggregate by Rail in North Bay Area Ca.

Abstract
Sand, gravel and crushed stone, known as construction aggregates, are the main ingredient in materials to maintaining and building new infrastructure. Construction aggregate has a low cost per ton, but because mass quantities are typically required, if a local source is not available then the cost of transportation quickly exceed the value of the material. The North Bay Area has an estimated 50-year demand of 521 Million Tons (MT) and a current permitted supply of 110 MT. This region is only for 20% of the 50-year demand and is estimated to least 11-20 years. This demand study does not include the extremely demand that Senate Bill 1 (SB-1) will require. A columniation of increased aggregate demand from SB-1, continued construction growth in the Bay Area, increased trucking cost, and environmental resistance to new quarry permits might significantly accelerate the aggregate shortage in the North Bay Area. As a possible solution to these circumstances, a feasibility study has been preformed on bringing aggregate in by rail from a region with a surplus of permitted aggregate to local demand.

Current Market
- 50 Year Demand: 521 MT
- 50 Year Supply: 110 MT
- Years to Permitted Resources Exhausted: 11-20
- Shipping Cost of aggregates outweigh material cost more than 20 Mi.

Accelerated Demand
- Environmental Constraints
- Aggregate Demand Summary:
  - Residential 34%
  - Commercial 17%
  - 43% Public Infrastructure
- California High Speed Rail
- Senate Bill 1
- Increase Cost in Trucking
  - oCARB
  - Certified Payroll

Spur Line
- 1/3 Mile Spur Line: $500,000
- Conveyor System: $120,000