



Scenario 1	
1MM Tons / Year Own Equipment - 100 Trips	
Trips Per Year	100
Tons Per Trip	10,000
ONLY Rail Cost per Trip*	\$ 15.60
Cost 1 MT Just Rail	\$ 15,601,348
Cost Per TN to buy from lone	\$ 10.00
Cost to Buy 1 MT	10,000,000
Cost to Supply 1MM TN Per by Rail	25,601,348
Cost Per Ton of Agg. By Rail From lone	25.60
Local Sonoma Agg. Price / Ton	17.00
Current Difference Between Local and Rail	(8.60)
Percent Increase Needed to Break Even	
1MM Tons / Year Own Equipment - 100 Trips	
Percent Needed To Break Even with Rail	51%
51% Increase of Local \$17	25.67

## 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.

### Spur Line

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

### 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
- oCertified Payroll

Trucking analysis for 120 MILE		
Load and Unload Hr.		0.67
100 Mile Roundtrip Travel Time Hrs.		2.67
Total Hours 1 Roundtrip		3.33
Total Trips in 8 Hrs.		2.40
Tons Per Trip		25
Total TNs Per Day		60
\$120 Hour Rate- Cost for 8 Hr. Shift	\$	960
Cost per TN for 120 Mi	\$	16

