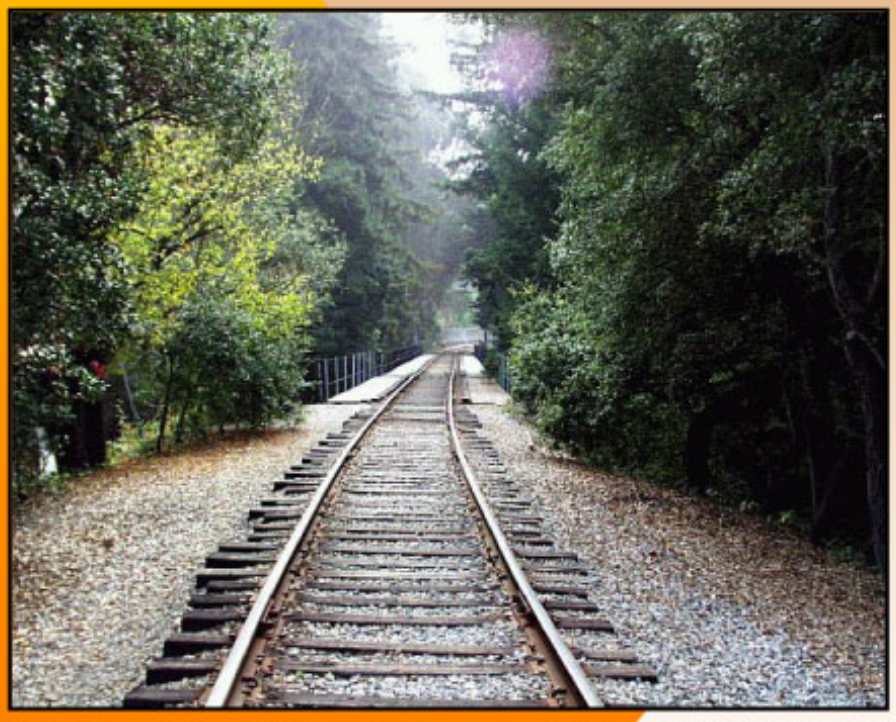
SCCRTC

Santa Cruz County Regional Transportation Commission

Santa Cruz Branch Line
Business Plan

Review Draft 4.0



SYSTRA CONSULTING

August 2004

ERRATA SHEET

This errata sheet makes certain corrections and clarifications to the *Santa Cruz Branch Line Business Plan,* Review Draft 4.0, dated August 2004.

Section 3.2: Right-of-Way Condition, Page 7: The third sentence of this section states that "UP has, however, made recent improvements to the tracks and ties that could warrant an FRA 'Class 1' designation, which would allow passenger service up to 15 mph." Clarification: It is the operator's responsibility to designate the track's status; the Federal Railroad Administration's role is to perform periodic inspections to confirm that the tracks meet the minimum requirements for the operator's designation.

Table 5-1 and Accompanying Notes, Page 25: The reference to "switch charges" will be changed to "interchange charges" or "interchange rates" for consistency with the terminology used in the rest of the Business Plan.

Table 5-10: Estimated Annual RTC Expenses and Revenues, Page 38: The notes and text relating to this table will be modified to clarify that the costs associated with certain incidental services that the RTC likely will need on an ongoing basis, such as legal counsel, risk management, etc., are included in the administration expense.

Appendix A: RTC Funding Plan, Page 52: This Appendix reproduces the Funding Plan approved by the California Transportation Commission at its meeting in August 2003 in connection with the RTC's application for Proposition 116 funds. This Appendix will be updated.

Table H-1, Appendix H: Estimated Capital Costs – Passenger Service, Page 84: This Table has been revised to correct certain errors in the calculation of construction cost contingencies. The revised Table H-1 is attached to this errata sheet.

Table H-1: Estimated Capital Costs – Passenger Service [CORRECTED]

BID ITEM #	ITEM DESCRIPTION	QUANTITY U.C.	Qty	Unit	ESTIMATE	ESTIMATE WITH CONT.	MAKE INVESTMENT?	GENERAL COMMENTS & ASSUMPTIONS
1.0	**GENERAL**							
1.1	Mobilization	$230,000	1	LS	$230,000	$331,200		Approx. 8% of Subtotal Construction Cost
1.2	Remove & Salvage Rail & OTM	$12,408	5.5	TM	$68,244	$98,271	No - only needed for Class 2 track. To upgrade to Class 1 track, only joint bar replacement will be done. Cost = $25,000	Removal and hauling of all rail and other track material (OTM) listed in Appendix G of the NLV report dated March 2004 as having a 10% or lower life remaining. Per Table 5 (NLV) approx. 90% of the track along the recreational segment falls in the less than 10% remaining life category.
1.3	Remove & Dispose Crossties	$3	4,651	EA	$13,952	$20,091		Removal and disposal of all crossties with 10% or lower depreciated value, per Appendix G of the NLV, March 2004. It has been assumed that 20% of the ties that need to be replaced fall within the recreational segment.
1.4	Handling and disposal of contaminated soil			LS				TBD
	Sub Total				**$312,196**	**$449,563**		
2.0	**STATION PLATFORMS**							
2.1	Cliff Drive	$103,220	1	LS	$103,220	$148,637	Yes	Per PSR, Sept 2003 with a 10% contingency added
2.2	Capitola Village	$90,926	1	LS	$90,926	$130,933		Per PSR, Sept 2003 with a 10% contingency added
2.3	New Brighton State Beach	$179,267	1	LS	$179,267	$258,144		Per PSR, Sept 2003 with a 10% contingency added
2.4	Seacliff State Beach	$110,440	1	LS	$110,440	$159,034		Per PSR, Sept 2003 with a 10% contingency added
2.5	Aptos Village	$90,772	1	LS	$90,772	$130,712		Per PSR, Sept 2003 with a 10% contingency added
2.6	Seascape Village	$90,772	1	LS	$90,772	$130,712		Per PSR, Sept 2003 with a 10% contingency added
	Sub Total				**$665,397**	**$958,172**		
3.0	**Trackwork**							
3.1	Mainline Track	$60	29,040	TF	$1,742,400	$2,509,056	No - only needed if upgrade to Class 2 track	5.5 miles (90% of track along the recreational segment) of track is replaced with new mainline track 113 CWR or heavier
3.1	Capitola Storage Track	$55	150	TF	$8,250	$11,880	Yes - but could be avoided depending on operator	Furnish and install112/113 CWR, including OTM
3.2	Seascape Storage Track	$55	150	TF	$8,250	$11,880		Furnish and install112/113 CWR, including OTM
3.3	No. 10 Turnout	$120,000	2	EA	$240,000	$345,600		Includes labor and OTM
3.4	Bumping posts	$5,000	2	EA	$10,000	$14,400		Includes labor
	Sub Total				**$2,008,900**	**$2,892,816**		
4.0	**Grade Crossing Improvement**							
4.1	CPUC No 9 Crossing Warning System	$175,000	4	EA	$700,000	$1,008,000	No - assume passenger operation will be slow speed so as to avoid need for crossing protection	Per PUC recommendation letter dated January 23, 2004. Cost from NLV, March 2004 Appendix G
4.2	Concrete Panels	$8	4,320	SF	$34,560	$49,766		Per PUC recommendation letter dated January 23, 2004.
4.3	Improve AC approached	$4	280	LF	$1,120	$1,613		Per PUC recommendation letter dated January 23, 2004.
4.4	"Pre signal" system & panelization	$250,000	1	LS	$250,000	$360,000		Includes labor for installation of warning systems at Grove Ln, New Brighton, States Dr & Aptos Creek Rd.
	Sub Total				**$985,680**	**$1,419,379**		
	SUBTOTAL CONSTRUCTION COST				**$3,972,173**	**$5,719,930**		
6.0	**Rolling Stock**							
6.1	2 cars train set	$450,000	2	LS	$900,000			Average of quotes from used RDC vendors, inlcuidng refurbishmnet allowance
	Sub Total				**$900,000**	**$900,000**		
7.0	**Storage and Maintenance**							
7.1	Storage and Maintenance Facility				$0			TBD
	Sub Total				**$0**			
8.0	**Provisions**							
8.1	Maintenance of Freight rail traffic during construction				**$0**	**$0**		All construction work will be done during the windows of non-freight operation.
9.0	**Other Costs**							
	Design Cost (10% Construction Cost)				**$397,217**			LF: Lineal Foot
	Construction Mngmnt (10% Construction Cost)				**$397,217**			TM: Track Mile
	Contingency (20% Design & Construction Cost)				**$953,322**			EA: Each
								SF: Square Foot
	TOTAL COST				**$6,619,930**	**$6,619,930**		

Source: SYSTRA Consulting, Inc.

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1. INTRODUCTION

1.1 Background and Organization of Plan

SYSTRA Consulting, Inc., is pleased to present this Santa Cruz Branch Line Business Plan to the Santa Cruz County Regional Transportation Commission ("RTC") for its consideration. This Business Plan is based on the RTC's proposed acquisition of the 31-mile Santa Cruz Branch Line ("Branch Line") from Union Pacific Railroad Company ("UP"), including UP's freight rail service on the Branch Line. In addition, this Business Plan assumes that the acquisition will be funded with a combination of State Transportation Improvement Program (STIP) funds, federal funds, and Proposition 116 funds, as provided in the RTC's current financial plan,[1] and that the RTC will institute recreational passenger rail service on a portion of the Branch Line, as required by Proposition 116.

The Business Plan covers the following general areas of concern to the RTC:

- Assessment of RTC goals and objectives
- Overview of current Branch Line status
- Overview of critical issues associated with potential ownership of the Branch Line and operation of freight rail service, recreational rail service, and a possible future bicycle and pedestrian trail (the "Coastal Rail Trail")
- Financial analyses for freight and recreational rail service operations, capital investments in the Branch Line, and likely RTC costs and revenues associated with the foregoing
- Schedule and next steps in the Branch Line acquisition process

While this Business Plan does include a discussion of issues related to the future Coastal Rail Trail, it does not include a financial analysis of the construction or operation of the Rail Trail. We understand that the RTC will address the Rail Trail project separately following acquisition and that a detailed analysis will be prepared at that time.

Finally, this Business Plan was prepared without the benefit of access to UP's Branch Line maintenance records, or records providing information concerning UP's revenues from its Branch Line freight rail operations. In addition, the RTC's due diligence inspections of the Branch Line and its structures during escrow (assuming the RTC and UP reach agreement on the Branch Line acquisition) may affect some of the conclusions concerning capital investments and annual expenses needed to continue freight operations and to institute recreational operations. The projections set forth in this Business Plan can be updated once that information is made available.

[1] See Appendix A.

1.2 Business Case for Acquisition

Using State of California Proposition 116[2] and other transportation funds, the RTC is poised to acquire the Branch Line, so that existing and future uses of the Branch Line can be publicly and locally controlled.

UP currently provides freight service on the Branch Line. This report assumes that the RTC, through a contracted short line operator, would be responsible for the continuation of freight service upon acquisition.

Proposed passenger rail service has been previously studied from a market/operations perspective[3] and, in May 2003, the RTC decided to pursue start-up recreational passenger rail service between Capitola and the Seascape Resort, a distance of approximately six miles.[4] The provision of passenger rail service is of no interest to UP and would be implemented under RTC ownership; passenger rail service is a requirement of using Proposition 116 funds.

The RTC's long-range plan also includes as a priority project, construction of the Coastal Rail Trail within the Branch Line right-of-way next to the rail line. Because of cost and liability issues, a trail would be unacceptable to UP under its ownership, while it could be implemented under RTC ownership.

While under negotiations with UP for the acquisition of the Branch Line, the RTC is undertaking the preparation of this Business Plan to determine the conditions under which it can reasonably expect that:

- Freight services can continue profitably;
- Passenger service can be implemented without public subsidy;
- The Coastal Rail Trail project can be implemented over time; and
- Public ownership would not place an unreasonable financial burden on the RTC.

1.3 A Brief History of Acquisition Process

For several years, the RTC has been studying the feasibility of acquiring the Santa Cruz Branch Line. In August 1999, as part of the MTIS Program of Projects, the RTC voted to pursue acquisition of the Santa Cruz Branch Line right-of-way. In 2000, the RTC programmed $10 million in State Transportation Improvement Program (STIP) funds for the Branch Line acquisition project, and included the project in the 2001 Regional Transportation Plan (RTP) and the 2002 Regional Transportation Improvement Program (RTIP). In April 2002, the Commission completed an environmental review for acquisition of the rail line. In August 2003, the RTC received approval from the California Transportation Commission (CTC) of its

[2] Clean Air and Transportation Improvement Act of 1990.
[3] *Santa Cruz Branch Line Intra-County Recreational Rail Options, Preliminary Analysis*, March 2003.
[4] Note: The terms "recreational rail service" and "passenger rail service" are used interchangeably throughout this Business Plan.

$300,000 Proposition 116 application for pre-acquisition activities, setting the stage for using the additional $10.7 million in Proposition 116 funds to purchase the rail line and construct the facilities needed for proposed recreational rail service. Over the years, the public has been deeply involved through numerous public hearings and RTC meetings.

RTC consultants presently are preparing the following reports instrumental to the acquisition: *Environmental Impact Report* (Public Affairs Management), *Going Concern Valuation* (Wilbur Smith Associates), *Valuation Study of the Track, Signals, Structures and Other Railroad Improvements* (Woodside Consulting), and *Real Estate Appraisal* (Arthur Gimmy).[5]

[5] See Appendix B.

2. GOALS AND OBJECTIVES

Acquisition of the Santa Cruz Branch Line has been established as a capital project in local planning documents, including the *1999 Major Transportation Investment Study (MTIS) Approved Project List,* the *2001 Regional Transportation Plan (RTP)* and the *2000, 2002 and 2004 Regional Transportation Improvement Programs (RTIPs).* The goals and policies contained in the RTP set the framework for regional transportation investment. The acquisition of the Branch Line meets all of the six goals and is directly related to many of the policies, including:

2001 Regional Transportation Plan Goal and Policies

1.3.11	Encourage the diversion of goods movement from truck to rail.
1.5.3	Prohibit use of existing railroad rights-of-way which would prevent their use for rail or transit purposes in the future.
2.3.3	Protect the potential for future commute transit service on existing rail lines.
2.5.2	Encourage private transit service for visitor-serving trips.
2.5.3	Use the existing rail line for recreational/coastal access to minimize visitor impact on local streets and highways.
5.3.3	As a high priority, aggressively pursue new and additional funding sources for needed transportation improvement and programs including transit needs, elderly and disabled transportation, and rail demonstration projects.
5.3.4	Seek additional funding sources to support and expand alternative transportation mode facilities and services.
5.4.5	Assign high priority to projects approved during the *1999 Major Transportation Investment Study* decision-making process [including the Santa Cruz Branch Rail right-of-way acquisition and the Coastal Rail Trail].
5.4.12	Give priority to any long-term measures which reduce dependence on single-occupant vehicles.

An overriding goal of the purchase is to preserve the Branch Line for shared freight, passenger, and recreational use, while minimizing the costs and risks to the RTC. Multipurpose use of the line will add to its public utility and economic benefit, and will allow costs and liabilities of the ownership of the line to be allocated to all users.

The proposed goals and objectives of the Santa Cruz Branch Line Acquisition are listed below.

2.1 Preserve Right-of-Way for Shared Freight, Passenger, and Recreational Use through Acquisition

- Ownership provides maximum opportunity for a range of transportation uses of the Branch Line in both the near and long term

2.2 Minimize Costs and Risks to the RTC and Maximize Use of Existing Federal, State, and Private Funds

- Improvements to rights-of-way are eligible for federal, state and other non-local, or private, funds

- Costs associated with liability and the operation of freight or passenger services, or the rail trail, are minimized

2.3 Maximize Benefits and Revenues to the Community

- Revenues from transportation and other uses are greater than, or equal to, operating costs
- Community impacts are minimized
- Improvements to rights-of-way provide broad transportation, economic, and recreation benefits within the County's primary east-west corridor

3. CURRENT STATUS OF BRANCH LINE

3.1 Right-of-Way Ownership

The Santa Cruz Branch Line was owned by Southern Pacific until 1996, when Southern Pacific merged with UP. The rail right-of-way extends from Pajaro in Monterey County to Davenport in north Santa Cruz County (see Figure 3-1).

The segment under consideration for acquisition extends from Watsonville Junction, at the South edge of Salinas Road (MP 0.42) to the derail on the Davenport sidetrack at MP 31.4. The tail of the Watsonville wye track at the Watsonville Junction would be the new limit of UP ownership and Davenport would be the northern terminus of the Branch Line. A total of approximately 31 route miles of main branch track is included.

3.2 Right-of-Way Condition

Current right-of-way conditions have been rated as satisfactory for ongoing low-speed freight operations. however, ongoing track maintenance and renewal must be continued. All track is "FRA Excepted Track," which permits 10 mph freight operation and no passenger operation.[6] UP has, however, made recent improvements to the tracks and ties that could warrant an FRA "Class 1" designation, which would allow passenger service up to 15 mph. UP's improvements include:

- Several new private at-grade crossings have been installed and some existing public at-grade crossings have been rehabilitated by installing continuous welded rail (CWR) through the crossings, renewing the crossties under the rail, and replacing all the hardware;
- Culvert reconstruction work and lining of uphill stream channels with hand placed rocks;
- Other drainage improvements consisting of earth ditches to redirect the irrigation water that otherwise would flood the tracks;
- Resurfacing of track bed with ballast along the entire line; and
- Installation of 37,000 new crossties along the entire line (approximately 12 miles of new tie work).

Due to the recent repairs by UP, 48% of the track structure has between 60-80% remaining useful life. The balance (52%) of the track structure is estimated to have less than 10% remaining useful life. In theory, this means that the track would be able to sustain current traffic for approximately no more than 10 years;[7] in practice, however, railroad tracks often are used well beyond their theoretical "useful life." The remaining "useful life" of railroad trackage is used more as a measure of its remaining value than as a predictor of when trackage must be replaced.

[6] Source: Alan DeMoss, Woodside Consulting Group.
[7] Ibid.

Within the territory in which passenger service is proposed, nearly all of the track has less than 10% remaining useful life. However, this track is in sufficiently good shape to allow passenger operations at low speed (maximum of 15 mph) with one exception: some of the joint bars (which connect the 33 foot-long sections of rail) in much of the passenger rail territory (and in other portions of the Branch Line) are in poor condition and need to be replaced. Replacement joint bars to fit this older rail are no longer made, but may be found through a rail materials broker. These repairs can be made at nominal cost. Alternatively, a section (up to one mile) of the older rail could be replaced, and the good joint bars salvaged for replacement of bad joint bars throughout the remainder of the passenger territory.

Other than the foregoing, there appear to be no track defects that would require capital improvements to maintain the track to Class 1 standards.

The width of the Branch Line between Watsonville and Santa Cruz is generally 50-80 feet; however, in some sections, it is narrower or is encroached upon by the surrounding land uses. Between Santa Cruz to Davenport the width ranges from about 100 to 350 feet.

There are 26 culverts ranging from 36" pipes to 12'X12' box culverts. There are 22 timber trestle bridges, 9 steel bridges, and 6 concrete bridges, for a total of 37 bridges along the right-of-way, including major crossings such as the Pajaro River, Highway 1, Soquel Creek, the Santa Cruz Yacht Harbor, and the San Lorenzo River. There are 41 public grade crossings, 3 semi-private crossings with substantial vehicular traffic, and 47 "farm type" vehicular crossings.

Figure 3-1: Regional Rail Map

3.3 Freight Service and Markets

UP services the Branch Line's shippers today. If the RTC acquires the Branch Line, it would be responsible for the continuance of freight services with a short line operator. The short line would be responsible for interchanging with UP at Watsonville Junction and then hauling the rail cars to and from shippers in Santa Cruz County.

3.3.1 Shippers and Existing Carload Volumes

There are eight shippers on the Branch Line, generating about 4,800 rail carloads a year in business for the Union Pacific. Volumes cited in this Business Plan are based on interviews conducted with the shippers during January 2004 and are best estimates of their likely volumes that can change upward or downward in the future (see Appendix D for more detailed freight volumes).

The biggest shipper on the line is RMC Pacific Materials, a cement maker in Davenport at the north end of the Branch Line. This shipper has been in operation in that location for over 95 years. Carloads total about 3,600 per year, with most of the inbound traffic consisting of coal and most of the outbound traffic consisting of cement. The company related that the outbound shipments are very sensitive to the differential between rail and truck rates and the company asserts that future rail rate increases may cause a diversion of outbound shipments to truck. However, RMC's use permit requires it to ship a minimum of 15% of their total annual cement production by rail (March 2, 1990 permit from the County of Santa Cruz). RMC is shipping approximately 17% of its production by rail today.

There is just one shipper in Santa Cruz, San Lorenzo Lumber Co., which recently was acquired by Lumbermen's of Washington, Inc., a subsidiary of Lanoga Corp., based in Washington State. Its traffic, consisting of about 165 carloads a year, is interchanged with the Santa Cruz, Big Trees & Pacific (SCBT&P) short line railroad at the Santa Cruz yard. SCBT&P reports that lumber shipments have increased since Lumbermen's of Washington took over and that it is now using box cars because it ships higher quality lumber.

Most of the remainder of the Branch Line's shippers are located in Watsonville. These six shippers generate about 850 carloads a year. The majority of the Watsonville traffic is perishable commodities, i.e. frozen fruits and vegetables. One shipper receives carloads of lumber for local distribution.

The Watsonville shippers could be served by Union Pacific by short switch moves from the yard at Watsonville Junction, and are not key to continued operation of the Branch Line. They could continue to receive and send rail shipments even if the balance of the branch were abandoned for freight service in the future.

3.3.2 Union Pacific Operating Issues

UP receives revenues from the operation of the Santa Cruz Branch Line for car-miles traveled both on the branch (on-line revenues) and for car-miles traveled off the branch (off-line revenues). Given the transportation requirements of the shippers, where three round trips per week of 30-40 cars per round trip are needed, and the expenses of maintaining the line, UP is reported to be losing money on the Santa Cruz Branch Line, but making a modest profit for the off-line transport of these rail cars. Previous estimates have been developed showing that UP is losing approximately $323,000 on a cash basis and $1.8 million annually on an accounting basis (which includes the assignment of avoidable costs to the Branch Line) from the Branch Line operations. The off-line net income is a gain of $1.5 million (cash basis) and $0.3 million (accounting basis).[8]

3.3.3 General Freight Operations Schedule

UP currently operates round trips on Mondays, Wednesdays, and Fridays. The successor short line operator could continue similar operations. This allows the performance of maintenance-of-way (MOW) tasks on Tuesdays and Thursdays.

Whether the short line operates three days a week, as UP does today, or modifies the freight operation schedule, it will have to coordinate with UP for an efficient interchange of carloads and empties at Watsonville Junction.

[8] *Santa Cruz Branch Line Economic Analysis, Alta/Banks,* November 2002.

4. CRITICAL ISSUES

4.1 Right-of-Way Acquisition and Ownership

The RTC does not now own real estate. However, legislation passed in 2001 authorizes the RTC to acquire and own real estate, in addition to implementing services on the Branch Line.

The issues that face the RTC in making this purchase include:

- Arrangements to manage and oversee the Branch Line – Identification of an oversight and management function, the necessary staff and/or contractors, the specific duties and responsibilities, and the splitting up of these responsibilities among one or more agencies.

- Allocation of liabilities – Detailed description of the liabilities associated with ownership and a carefully implemented plan to allocate these liabilities to others or to provide adequate insurance to cover them.

- Insurance – The amounts and holders of adequate insurance to meet any obligations that may arise from the consequences of ownership.

- Long-term cost of repairing and maintaining the assets – Assuring that the overall financial package adequately identifies and accrues funds to pay for "capital investment" as portions of the assets require repairs or replacements.

- Freight Rail Service – Management of the freight service contract.

- Recreational Rail Service – Implementation of the recreational passenger service, and management of the operator's contract (which may be combined with the freight contract).

- Rail Trail – Future possible implementation of a Coastal Rail Trail along the Branch Line.

These issues are discussed in more detail below.

4.1.1 Management of Real Property

As shown in Table 5-10, it is expected that revenue to the RTC from the ownership of the Branch Line, freight service contract, and/or recreational passenger service contract, would offset the management costs incurred by the RTC.

Management duties typical of a public property owner, irrespective of the railroad-related activity, include:

- Property maintenance, unless delegated by lease to the rail operator(s);

- Security from trespassing, litter abatement, illegal dumping, etc.;
- Administration of existing occupancy permits, easements, and licenses for utilities and any other uses along the Branch Line that would transfer to the RTC with the acquisition;
- Management of liability exposures and contractual indemnification and insurance requirements;
- Property marketing, either for public betterment or to obtain revenue, through outright sales of excess property, easements, leases, licenses, and occupancy permits; and
- Dispute resolution with adjacent property owners, local neighborhoods, and local governments.

These management activities naturally fall into two general areas. One would be responsibility for overseeing freight and passenger contracts, enforcing contract requirements, making sure any lease income is paid and/or received, and coordinating maintenance and capital improvements (even if the short line is responsible). The other area would be responsibility for duties related to marketing, community and business relations, periodic passenger station and equipment inspections, and general administrative assistance.

Current RTC staffing includes an Executive Director (1), Deputy Director (1), Fiscal Officer (1), Transportation Planners (7), and a few administrative positions. If the RTC could not absorb the senior management activities, the hiring of one full-time-equivalent (FTE) staff member to cover the above-mentioned management functions, would be suggested. An annual cost of $95,000 (salary and benefits) is assumed.

The RTC could also use the resources of staff from other local jurisdictions (e.g., legal counsel, risk management) as is currently being done by contract. Additional support could also be provided by outside consultants.

The above-listed FTE staff member's functions cover on-going ownership issues. Start-up activities are also needed for the rail line acquisition, including the development and execution of freight and passenger contracts. Since the start-up activities have short durations, consultants and contractors, rather than additional staff, should be utilized.

4.1.2 Negotiated Lease(s) with Recreational Rail and Freight Operator(s)

The freight service lease would provide for the continuation of freight service, placement of all liability on the operator, and a method of returning revenue to the RTC.

Normally, the owner of the rail line would keep the liability associated with damage to infrastructure along the Branch Line through property insurance. Also, capital investments such as bridge and retaining wall rehabilitations (which may be eligible for reimbursement from external funding) would be borne by the owner, and so a framework for drawing on required expertise to administer these functions needs to be developed. Possible options include obtaining a consulting engineer through an on-call contract with the RTC, or tapping into current engineering functions via the County of Santa Cruz (either in-house or through an on-call

contract) with reimbursement provisions between the RTC and the County. The cost for such services would be included in the capital budget for the rehabilitation projects.

The freight operator could perform routine maintenance, such as track renewal, to the extent that the costs of such maintenance can be paid through revenues. The development/refinement of estimated revenues and operating and maintenance expenses (shown in Tables 5-1, 5-5 and 5-7) can provide guidance as to the level of routine maintenance costs that can be expected to be borne by the operator, while still providing a revenue stream to the RTC.

For recreational rail service implementation, required construction work could be included in the passenger operations lease as an operator obligation, or could be performed by the RTC, depending on funding availability. In either case, if the recreational rail operator also is taking over freight operations, then any trackwork and other right-of-way infrastructure improvements for the recreational rail service should be performed and/or managed by the operator, with reimbursement from the RTC via external funding, if so agreed.

Management activities associated with the recreational rail service should be the operator's responsibility. Management activities would involve:

- Fare collection and revenue handling;
- Advertising and marketing;
- Printed materials and schedules;
- Station maintenance and utilities (primarily electric);
- Development of capital maintenance program (starting 5 years out from start-up);
- Contract for "Next-train" program (to deal with schedule changes due to freight operations), if included; and
- Safety and security.

Many of these duties would likely be the responsibility of the operator with the RTC oversight. However, some management activities must be performed by the RTC, which include at least the management of the freight/passenger service contract(s), insurance contract(s), and capital planning.

4.1.3 Liability and Insurance

Insurance Options

There are two types of insurance required for railroad operations: 1) general liability and 2) rolling stock or property. The former would likely be purchased by the operator for both freight and passenger services, and the latter would likely be purchased by the owner agency (the RTC). General liability insurance premiums for passenger operations usually run around 10% of gross revenue; general liability premiums for freight service are based on the number of carloads transported, the percentage of carloads carrying hazardous materials, and the payroll of the freight operator. Property insurance premiums are generally $0.95 for every $100 in property replacement cost value. The owner/operator will also need to determine the limit of general liability, for example, $10 million for an operation of this project's scale. Deductibles for

passenger operations usually fall within $5,000 to $10,000, and for freight operations they tend to be $25,000. The projected general liability premium for freight operations is $50,000; the projected general liability premium for passenger operations ranges from $4,500 to $23,000, depending on revenues. Even though one operator may be selected for both freight and passenger operations, separate applications and policies for general liability would probably be required.[9]

The RTC should purchase property insurance covering damage to the Branch Line structures. A reasonable coverage limit would equal the replacement cost of the most significant structure on the line,[10] which would be in the range of $5,000,000. Insurance premiums are currently calculated at a rate of $0.95 per $100 of replacement cost.[11] The initial annual premium cost would then be $47,500.

Apportionment of Liabilities

Liability issues with respect to railroad operations can have serious cost implications. Freight train liabilities include the cost of incidents involving property and equipment, as well as third parties who could be affected by an incident. When passenger operations are added to the mix, liabilities grow because of the nature of the risks associated with carrying people. Public agencies address the potential liability of rail line ownership in a variety of ways, including making their own arrangements for insurance to cover them, delegating the insurance requirements and the liabilities to other parties who have operating rights on their property, and combinations of these types of arrangements.

The division of liability is a negotiating issue and rests on the overall business arrangements made for freight and passenger rail operations. In delegating responsibility to operators, the best position for an owner (borrowed from the position of many freight railroad owners who are asked to take on passenger operations) is language that assigns to the operator (or operators) the liability for any incident that would not have happened "but for" the existence of operating trains. Under this concept, all liability for any incident involving trains, regardless of "fault," is assigned to the operator(s). Using this language, even if an owner's employee is grossly negligent and causes a terrible incident, the operator holds the liability.

For owners of railroad rights-of-way that contract to others for freight and passenger operations, it is important to apportion liability away from the owner. Typically, the owner allocates liability to the most intense user and requires that this user take full liability for all train operations and name the owner as additional insured on its liability policy. Where multiple parties will have trackage rights, the division of liability must take into account the economic realities of the situation and the nature of the various operations.

[9] Telephone interview with Vivian Sundin, Hamman Miller Beauchamp Deeble, Inc., 4/8/04.
[10] The San Lorenzo River bridge.
[11] Vivian Sundin, Hamman Miller Beauchamp Deeble, Inc., 4/8/04. Note that the November 2002 *Santa Cruz Branch Economic Analysis* estimated a premium cost at a rate of $0.65 per $100 of replacement cost. The increase is attributed to post-9/11 insurance market conditions.

Therefore, as part of selecting and negotiating with the freight and passenger rail operator(s), the RTC will need to implement an insurance and allocation plan to protect itself from Branch Line liabilities through the purchase of insurance by, and the conveyance of liability to, the contract freight operator and/or the contract passenger operator. These requirements would need to be explicitly described in the contracts among the parties, including naming the RTC as an additional insured

Depending upon the specific insurance market, the RTC alternatively may explore assuming all of the liability exposure and purchasing insurance at its cost. The cost of insurance could then be allocated between the RTC and the operator(s).

4.1.4 Maintenance and Repairs

Ideally, the RTC would be able to lease the Branch Line to a freight short line operator (which would also be responsible for the passenger service), with the responsibility for routine maintenance and repairs transferred to the short line. However, as the owner of the underlying property, the RTC will still have some responsibility – for oversight, at a minimum, and potentially for any significant capital improvements beyond those assigned to the short line. The responsibilities of each party will have to be negotiated and clearly set forth in any lease agreement.

If the passenger operations are contracted to a different operator than the freight operations, contractual provisions will have to be negotiated to allocate responsibility between the respective operators and the RTC. In this event, the passenger rail operator likely would be responsible for any passenger-related facilities, while the short line freight operator would remain responsible for the track and right-of-way maintenance in the segment where passenger rail service operates.

More detailed maintenance and repair cost estimates than are contained in Tables 5-1, 5-5, and 5-7, will be determined by the RTC or a consultant team after UP inspection reports have been received and evaluated, and a structural assessment of major structures has been conducted.

4.2 Ongoing Viability of Freight and Recreational Rail Business

The RTC plans to acquire the Branch Line in order to preserve its viability for both freight and passenger service. Other uses of the Branch Line, including a biking and walking trail, are additional future objectives of ownership. The prospect of passenger rail service is what makes Proposition 116 funding available. The $11 million allocated in Proposition 116 is not available for a freight operation alone. With this understanding, the RTC has an incentive to acquire, manage, and lease the property in a manner that makes rail operations, and particularly the passenger operations, as viable as possible.

4.2.1 Potential for Assumption of Service by Short Line Operator

Short line operators have expressed interest in assuming freight operations from UP and/or the RTC. UP may also be interested in this arrangement, whereby they would keep the more

profitable off-line business, while giving to the short line the Santa Cruz Branch Line maintenance responsibilities. The short line may be able to operate profitably through its ability to maintain the Branch Line with a less expensive cost structure. An interchange rate (what UP would pay the short line per car at Watsonville Junction) that yields sufficient revenue to operate and maintain the Branch Line to acceptable standards appears possible, given the off-line revenues that UP will continue to realize in this type of arrangement.

4.2.2 Potential for Temporal Separation

The Santa Cruz Branch Line operates without signaling. Trains are given permission by UP through radio communication to enter and operate within the Branch Line. When coming off the Branch Line, a radio communication is sent back to UP to release the line. With these rules in place (formally called Track Warrant Control or TWC) both UP and SCBT&P, which operates both freight and passenger service on a section of Branch Line track near the Santa Cruz Boardwalk, are able to safely operate. The operation of freight and future passenger rail services would also utilize TWC rules. Theoretically, both freight and passenger service could operate in the same day. However, shippers generally want to have their cars delivered and picked up during the day when they are active. Also, switching to nighttime freight operations reportedly would create concerns over noise by residents located near the railroad. Therefore, passenger service may need to be scheduled around daytime windows for freight activity, if they were to run on the same day.

4.2.3 Risks Associated with Potential Small Profit Margins

The major financial implication of ownership relates to the success of passenger and freight operations, and the ability of these operations to make sufficient profit to offset RTC management costs.

Analyses of both freight and passenger rail operations show the potential for profitable business operations, but the margin for profit is not great.[12] If the recreational service performs poorly, the operator may abandon service, in which case the RTC will need to work with the California Transportation Commission (CTC) to develop alternate passenger rail service plans, or to return as much of the Proposition 116 funding as may be realized by selling the Branch Line assets. (See discussion in Section 4.3, below.) If freight services change negatively (economic downturn, transfer to trucking, etc.), the RTC may be required to continue freight operations, due to the common carrier obligation, causing negative returns to the RTC for an indefinite period. However, a reduction in freight traffic due to increased use of trucking is unlikely, since the majority of the rail traffic on the Branch Line cannot be diverted to trucks because of the permit conditions imposed on RMC Pacific.[13]

[12] See Tables 5-1, 5-2, 5-6, 5-8 and 5-9.
[13] See Section 3.3.1.

4.2.4 Contracting Options

The RTC has two basic options for rail service on the Branch Line:

1. Lease the Branch Line to a short line freight operator with provisions requiring the continuation of freight service and, later, enter into a lease or license agreement with an operator for the recreational rail service.

2. Lease the Branch Line to a single operator for both freight and passenger rail service.

Within these basic options, there are many variables that may be applied or negotiated into the lease(s). The general benefits and drawbacks of each option are shown below.

4.2.4.1 Combined Operator

Benefits:

- Cross-utilization of crews between freight and passenger operations;
- Easier to utilize same maintenance facilities;
- Easier development and operation of freight and recreational schedules;
- One lease to administer; results in management efficiencies to SCCTRTC;
- Potential shared use of equipment (e.g. locomotive) and other facilities/amenities; and
- Shared/constrained general and administrative costs.

Drawbacks:

- Taking advantage of cross-utilization efficiencies may force the RTC to lose some control over recreation service schedule;
- Negative economic return on either freight or passenger service may impact the other service; and
- More difficult for the RTC to change operators of either one of the services.

4.2.4.2 Separate Operator

Benefits:

- Recreational service likely would be more responsive to, and under more control of, the RTC; and
- Changing the recreational operator would not impact freight service.

Drawbacks:

- One service competing with another service could prompt claims and cross-claims between the two operators that may be difficult to resolve;

- Emergencies and unscheduled events occurring with either operation need to be addressed, which may force the RTC into a supervisory role; and
- Allocation of maintenance-of-way costs on recreational rail service territory would be required, and may be difficult to resolve.

Taking the foregoing factors into account, we believe it would be most desirable to have both services provided by the same entity. A single operator could coordinate and achieve efficiencies of scale for required services, maintenance activities, assignment of crews and equipment, and might be able to secure insurance at more favorable rates. While the limited freight service - either three days per week, or daily at best – could be provided at times when it would not require rescheduling of passenger rail operations, coordination of service is likely to be greater with a single operator. This is especially true given little opportunity to move freight operations into nights, when the passenger rail service would not operate. This is not to say that separate operations are infeasible since the leases/licenses could require coordination between the operators and could spell out the responsibilities of each in the area where both would be operating.

4.3 Recreational Rail Service to Be Implemented per Proposition 116

Proposition 116 requires that the state funds, together with matching funds from other sources, be used to establish continued passenger rail operations. It has been assumed, given CTC approval of the initial Proposition 116 application for pre-acquisition activities, that the proposed recreational rail service over a portion of the Branch Line meets that test. Final CTC approval of the remaining Proposition 116 funds ($10.7 m) will depend on development of a comprehensive operating and financing plan once the RTC has received actual data on Branch Line costs and revenues from UP.

During the review process for pre-acquisition funding, concern was raised that the RTC would be required to repay Proposition 116 funds in the event passenger rail service was initiated, but subsequently failed to become a commercial success. The CTC anticipates that projects supported by state funding normally should operate for the useful life of the capital improvements associated with such projects. According to the CTC staff, failure of the proposed recreational rail service could trigger action by the CTC to consider requiring the RTC to repay the Proposition 116 funds or, alternatively, to sell the Proposition 116-funded assets and return the proceeds of that sale. However, the CTC indicated that there are viable options to preclude that circumstance, including development of an alternate operating plan or an alternate passenger rail project within the County. The CTC also indicated that it would work with the RTC to find viable options.

Should efforts to implement alternative passenger transportation options fail, repayment of some or all of the Proposition 116 funds may be required. However, the CTC staff has stated that, while repayment conditions have been imposed by the CTC on similar funding grants, no circumstances have yet arisen whereby the CTC has had to require repayment due to failure of any service benefiting from the Proposition 116 grant. (See the CTC response of October 24, 2003 in Appendix E for further information.)

In the event that Proposition 116 funds must be returned, the Branch Line could be sold by the RTC. If that happens, the RTC would, at most, be required to pay the proceeds of that sale to the CTC. There would be no obligation to fully return the $11 million that the RTC will receive from the CTC, unless the sale proceeds equal or exceed that amount.

4.4 Co-location of Trail with Active Railroad: Miscellaneous Issues

The Coastal Rail Trail is a possible future consideration relative to this Business Plan. Rail Trail issues that could impact the acquisition process in any way are discussed here.

Liability Issues
Liability issues center around the obligation of the "trail manager" (the RTC or another entity) to compensate an individual harmed through fault of the trail manager or railroad. The trail manager could potentially be liable for claims generated by the presence of the trail. Issues are as follows:

- Trail users might not be considered trespassers should they wander onto the railroad, if a trail is located on the right-of-way. Therefore, a higher duty of care may be owed to trail users.
- Trespassing, and injuries to trespassers, may occur with higher frequency with a trail in place as trail users cross the tracks. However, many trespassers currently hike down the tracks, since there is no formal trail on the Branch Line. The presence of a trail would tend to reduce that activity.
- Trail users may be injured by railroad activities such as falling or protruding objects, hazardous materials, or derailments.
- Trail users may sue the trail manager/railroad even if the injury is unrelated, incurring legal costs for the trail manager/railroad.

Liability Protections
Research conducted for the U.S. Department of Transportation through August 2002 was unable to find a history of claims for rail/trail projects.

California public agencies are liable for personal injury to trail users to the extent specified by the California Civil Code. (*See* Civ. Code, §§ 810-996.6.) The Civil Code has established limited "trail immunity" for public agencies, which is found in Civil Code section 831.4:

> "A public entity…or a grantor of a public easement to a public entity for any of the following purposes, is not liable for an injury caused by a condition of: (a) Any unpaved road which provides access to fishing, hunting, camping, hiking, riding, including animal and all types of vehicular riding, water sports, recreational or scenic areas…. (b) Any trail used for the above purposes. (c) Any paved trail, walkway, path, or sidewalk on an easement of way which has been granted to a public entity, which easement provides access to any unimproved property, so long as such public entity shall reasonably attempt to provide adequate warnings of the existence of any condition of the paved trail,

> walkway, path, or sidewalk which constitutes a hazard to health or safety. Warnings required by this subdivision shall only be required where pathways are paved, and such requirement shall not be construed to be a standard of care for any unpaved pathways or roads." (Civ. Code, § 831.4.)

In addition, property owners adjacent to the trail would be protected from liability by California's Recreational Trail Act. Under California Public Resources Code section 5075.4:

> "No adjoining property owner is liable for any actions of any type resulting from, or caused by trail uses trespassing on adjoining property, and no adjoining property owner is liable for any actions of any type started on, or taking place within, the boundaries of the trail arising out of the activities of other parties." (Pub. Res. Code, § 5075.4.)

Notwithstanding these liability protections to the RTC and adjacent property owners, the RTC may have some liability exposure if a trail user is injured by the adjacent rail operations, as discussed previously. These issues will need to be addressed in the lease agreement between the RTC and the rail operator(s).

Trail Design Impacts on Liability
Spatial separation between the paved edge of the trail and the centerline of the railroad track is needed. However, there is no consensus on appropriate separation distance; practice varies from 10-25 feet. Over 70% of trails use some type of barrier, often fencing, which may carry its own risk of liability. Grade crossings are a potential point of conflict and will require local analysis to determine optimum treatment. Other potential design issues include utilities, structures, environmental concerns/visual quality, signage, and railroad maintenance requirements. These issues will be addressed fully in the Coastal Rail Trail Master Plan.

Impacts on Railroad Operations and Maintenance
Current and anticipated future railroad operations should be considered when locating the trail footprint. Access requirements must be determined for adequate railroad maintenance, in addition to trail maintenance needs. Access for law enforcement/emergency vehicles may be required. In addition, future railroad infrastructure improvement plans must be reviewed as part of trail design.

Financial Implications
Local jurisdictions may construct and oversee their segments of the trail; this will be determined when a Master Plan for the trail is prepared and approved. The RTC will incur one-time costs for the initial design, Master Plan, and environmental review for the trail; funding already has been programmed for this planning process. The RTC, or the local jurisdictions, will incur annual trail operations costs, including:

- Insurance, liability, and legal representation;
- Trail administration and management; and
- Trail maintenance.

5. FREIGHT AND RECREATIONAL RAIL SERVICE PLANS

5.1 Freight Rail Service Plan

Contracting with a short line operator to continue freight services should be a smooth and seamless transition, particularly since the key parties (UP, shippers, and some interested operators) have been involved with the Santa Cruz Branch Line freight business for several years and already have established working relationships. Two key issues to keep in consideration include:

- Modified revenue conditions, wherein UP, the short line, and the RTC, will need to negotiate revenue splits that are profitable for all entities, and the transference of operations. (See, e.g., Table 5-1.)

- Transfer of maintenance responsibilities from UP to the short line, which presumably has a lower cost structure.

5.1.1 Specify Terms and Conditions

As the right-of-way owner, the RTC would be responsible for setting the parameters of contracted freight rail operations. Minimizing the RTC's costs while ensuring that operator costs do not exceed revenues will be crucial.

The length of the lease should allow for full depreciation of equipment and facilities. Liability insurance, protecting the RTC as the owner, is required (the cost is estimated to be about $50,000 annually).[14] Right-of-way maintenance would be assumed by the short line operator, including the passenger rail service territory (if passenger service is a separate contract, reimbursement to the freight operator may be needed for the additional costs associated with that service).

Revenue and expense items that would be part of the lease and could be adjusted for a more profitable operation include:

Revenue: Interchange charges (what UP will pay the short line at Watsonville Junction) will need to be guaranteed.

Maintenance-of-Way Expense: These costs could be completely allocated to the short line operator, or a portion (track replacement) could be capitalized, if a source of reimbursement is identified. If capitalized, the current maintenance-of-way estimate of $7,000 per track mile per year could be reduced to $5,000. (See Table 5-1.)

Transportation Expense: Relief from car-hire expenses (use of UP railcars), the largest transportation expense to the short line, may be negotiated downward. Car-hire charges used

[14] See Section 4.1.3.

here do not consider any discount, and should be viewed as a high-side, conservative figure that might be reduced.

General and Administrative Expense: Combined passenger and freight operations should significantly reduce overall expenses.

5.1.2 Future Carload Volumes

For the foreseeable future, carload volumes are forecast to stay at current levels. RMC Pacific, the largest shipper on the line, reported that it intends to make cement in Davenport for a long time to come. Assuming no large rail rates increases, outbound rail volumes are expected to stay relatively constant. The company has a maximum outbound throughput of 200,000 tons of cement per year, or about 2,000 carloads. The company also reported that inbound shipments should remain steady. The plant is approaching capacity now (current throughput is 180,000 tons), and more shipments of coal and slag are constrained by the plant's production capacity.

All other shippers combined account for an additional 1,200 carloads. If there were increases, they would be comparatively minor. Some shippers speculated that volume could increase for one reason or another, but it is just as likely that the volume will remain constant.

5.1.3 Pro Forma Financial Performance

A *pro forma* evaluation of a potential short line operation of freight service appears in Table 5-1 below. It is based on an analysis of potential rail freight volumes[15] and as well conversations with existing and former executives with RailAmerica Inc., the largest short line railroad operator in the world. The *pro forma* is meant to be illustrative, based on (1) the likely behavior of the profit-oriented short line with regards to operations and (2) the probable realities regarding the fees the short line could collect from UP for taking over the freight operation. Actual performance of a short line operator cannot be predicted precisely. The potential adjustments mentioned in Section 5.1.1 are not considered in Table 5-1. Assumptions are described below.

[15] See Sections 3.3.1.

Table 5-1: 2005 Short Line Annual Income from Freight

REVENUE	
Switch Charges	$1,128,000
Demurrage	10,000
Other	2,000
Total Revenue	1,139,000
EXPENSES	
Maintenance of Way	231,000
Maintenance of Equipment	56,000
Transportation	445,000
General and Administrative	258,000
Total expenses	990,000
OPERATING INCOME (LOSS)	149,000
Interest Expense	32,000
Adjusted gross income (loss)	117,000
INCOME TAX	56,000
NET INCOME	$61,000
CASH FLOW	
Net Income	$61,000
Depreciation and amortization	33,000
Principal payments	-20,000
Cash flow	$74,000

Note: Minor inconsistencies in the arithmetic above are due to rounding to the nearest $1,000.

Assumptions

Revenue. Revenue is the product of total carloads multiplied by the weighted average switch charge per carload. The assumed switch charges are $110 for Watsonville and Santa Cruz carloads and $280 for Davenport carloads. The charges are based on the assessment of former RailAmerica executives.

The weighted average switch charge (in this case $237 per carload) equals the sum of the switching charges for Watsonville, Santa Cruz, and Davenport, multiplied by the proportion of total carloads going to and from each of those cities. Revenue also includes demurrage charged to shippers who keep control of cars longer than a typically allowable period (e.g. 2 days). Revenue may also include other miscellaneous income, such as a nominal payment to the short line for using the line in a television commercial or interest earned on cash balances. Not included is any potential lease revenue, as this analysis assumes the lease payments (if any) would be paid directly to the RTC. At $1.1 million, the projected revenues are higher than those estimated for the *1997 Going Concern Valuation of the Santa Cruz Branch*, which estimated annual revenues at $812,500,[16] since this analysis found more potential traffic overall and assumed higher rates for the Davenport traffic.[17]

[16] Prepared by Woodside Consulting Group for the Santa Cruz Regional Transportation Commission.
[17] The 1997 study assumed between 3,500 and 4,000 carloads per year.

Transportation Expense. This is the cost of operating trains on the Branch Line. The largest components are crew costs (2 crew per train, working 8-hour shifts, 5 days a week – including two days a week for maintenance-of-way activities – with no overtime), fuel costs (fuel is to be delivered by truck), and car hire (charges that the short line operator accrues for the period of time foreign railroad cars are on its line). Of the three expenses, car hire is by far the largest. This analysis assumes that cars will be on the property for an average of between four and five days, depending on the shipper. Furthermore, the short line will not accrue car charges for cars belonging to RMC Pacific (about ¾ of the cement cars belong to the cement maker).[18] At $12 per day per car for car hire, the expense is about $190,000. However, there is a very important caveat. The railroad-owned cars mostly will belong to UP (the connecting line haul carrier), and UP conceivably could offer "car hire relief" to its captive short line. In other words, the short line might be able to negotiate the $12 daily car charge downward (and consequently lower its switch charges to UP). Thus, the car hire charge here should be viewed as a high-side, conservative figure that might be reduced. Dropping this charge altogether, the transportation expense would be comparable to that estimated for the earlier going concern valuation.

General and Administrative Expense. This includes the costs of the short line general manager, a clerk/typist, office rent, miscellaneous contracted services for routine administrative functions (i.e. payroll, audit, and accounting), and liability insurance (the annual premium assumed is $50,000 based on $10 million of coverage and with a $25,000 deductible; the insurance does not include coverage for any passenger operations.[19] It is assumed the general manager is cross-trained to provide relief to crew who are either sick or go on vacation. The estimate above is close to the estimate generated by the earlier going concern valuation.

Interest Expense. This cost has two major components. One is securing adequate working capital for operations. The other is the financing of locomotive purchases. The purchase cost of each locomotive is $130,000 (assuming used equipment). Additional equipment needs, such as trucks, tools, radios, etc., raise capital investment to $440,000. Adequate working capital (cash) requires an additional $120,000, and organization expenses (corporate, legal, etc.) consume another $40,000 for a total $600,000. This total investment is assumed to be 54 percent debt and 46 percent equity. The debt is more than collateralized by the locomotives and assumed to be for 10 years at 10 percent. The key assumption here is that a medium to small size short line railroad will operate the Branch Line. With revolving lines of credit, a large short line holding company like RailAmerica conceivably could borrow the entire $600,000 of required working capital. However, a smaller short line company will not likely have this financial muscle. A more equal debt/equity ratio would be normal for such a railroad.

Income Tax. This is the cost of both federal and state taxes. A combined rate of 48.3 percent is assumed (federal rate of 39 percent and California rate of 9.3 percent).

Cash Flow. This is the measure of cash inflows against cash outflows. Cash-in includes net income and non-cash expenses such as depreciation, for locomotives and other consumable assets, that is part of the various expense categories above. Cash-out includes payments on the principal of loans for working capital and locomotives.

The table above indicates that a short line operation could be profitable and would generate a positive cash flow. But the net income and cash flow are not large. Rather, the venture's profit is about 5 percent of revenues. That noted, short lines are making a go of it today with similar returns.

It is important to state that the *pro forma* calculation described above is a product of the consultant team retained to develop the Business Plan for the Branch Line. It does not purport to be the operating plan for any particular short line railroad. Depending on how that short line operates and the result of negotiations with UP for a switch charge or car hire relief, the short line's costs, revenues, and incomes could be different.

[18] RMC Pacific likely will be assessing the short line and UP line mileage charges for its cars, but these likely will be negligible for the 31-mile short line.

[19] Per Aon Corporation, a typical premium for a short line railroad handling 4,500 carloads and operating 5 days a week.

Future Earnings and Cash Flow

Presented below are three alternative scenarios for the short line operator, which result in three different income streams. A *pessimistic* earnings forecast assumes that traffic volumes would decrease by 1 percent each year through 2015. A *most likely* earnings forecast assumes traffic volumes would remain where they are in 2005. (See Table 5-1.) An *optimistic* earnings forecast assumes that Davenport outbound cement shipments would increase to 200,000 tons per year, the maximum that RMC Pacific reportedly can handle without triggering an expensive reconfiguration of its plant and rail infrastructure. The future earnings estimates of a short line operator under each forecast scenario appear in Table 5-2 below.

Table 5-2: Future Short Line Earnings and Cash Flow from Freight

	Pessimistic		Most Likely		Optimistic	
	Income	Cash Flow	Income	Cash Flow	Income	Cash Flow
2005	61,000	74,000	61,000	74,000	61,000	74,000
2006	58,000	70,000	64,000	76,000	70,000	83,000
2007	55,000	65,000	67,000	77,000	80,000	92,000
2008	52,000	60,000	71,000	78,000	91,000	102,000
2009	49,000	54,000	75,000	80,000	102,000	112,000
2010	46,000	49,000	79,000	81,000	106,000	114,000
2011	43,000	43,000	83,000	82,000	111,000	116,000
2012	40,000	36,000	87,000	83,000	116,000	117,000
2013	37,000	29,000	92,000	84,000	122,000	119,000
2014	34,000	22,000	97,000	85,000	127,000	121,000
2015	30,000	67,000	101,000	138,000	132,000	175,000

Table 5-2 shows that all three scenarios result in positive income and cash flow. Net income for the *pessimistic* case declines steady through 2015, but cash flow rebounds in that year, as the 10-year loan will have been paid off and principal and interest payments will have ceased. Both the *most likely* and *optimistic* cases show increasing income and cash flow year over year. Like the pessimistic case, both these other cases have robust cash flow growth in 2015, as the result of the debt retirement. That noted, the short line could decide to purchase new locomotives in its 11th year, in which case, cash flow and net income will be less in all three cases for that year.

5.1.4 Ability to Provide Lease Payment to the RTC

It is reasonable to expect that the short line might pay a rental or lease charge for its use of the line. That charge could be anywhere between $0 and the ability of the short line to pay something more. Under the *most likely* scenario, the operator's cash flow is positive but less than $100,000 per year until year 2015. It would seem that the ability of the short line to pay more than a small fee (e.g. $5,000 to 10,000 per year) would be constrained. An agreed-upon access fee equaling 10% of net revenue is a typical access fee arrangement, and is presumed, based on the *Most Likely* scenario. In the year 2005, revenue to the RTC would be $6,100. However, the potential for car hire relief (from UP to the short line) could provide more cash to

the operator, and therefore increase its ability to make a larger lease payment. Of course, all of these assumptions must be tested by soliciting actual short line proposals.

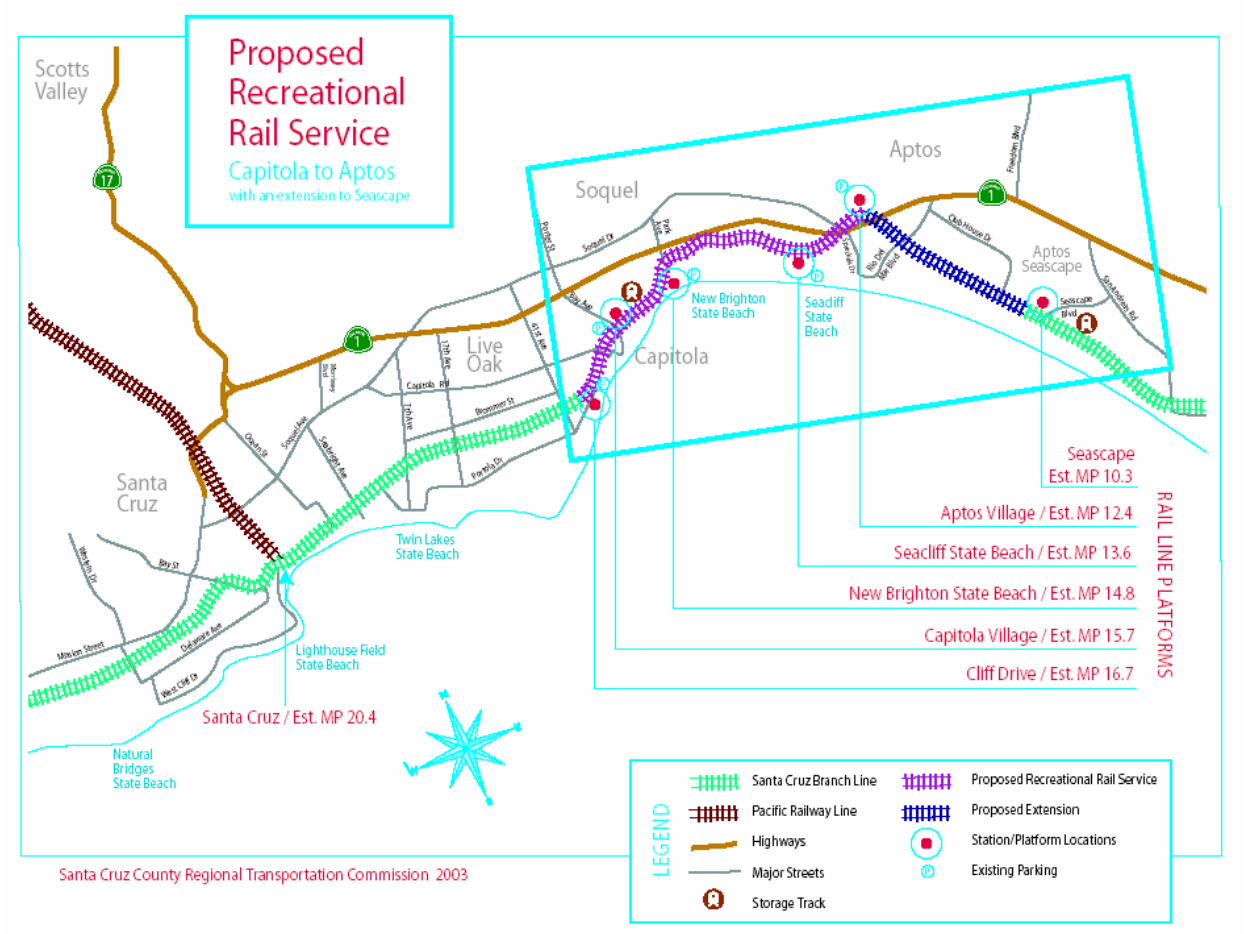
5.1.5 Short Line Vulnerabilities

The *pro forma* assessment of a potential short line operations points to a comparatively low profit for the operator – i.e., about 5 percent. However, some potential exists to improve profits – i.e., through car hire relief provided by Union Pacific, as discussed above. But such a consideration may require the short line to lower its switching fee from UP which would in turn lower revenue. Optimistically, assuming that the net effect of the relief is to lower car hire costs by 50 percent, the short line's bottom line would improve from $61,000 to $108,000 and cash flow to from $74,000 to $121,000. With an improved profit potential, the sustainability of the short line operator to handle freight volumes for shippers and to maintain the line for the RTC improves as well. It is in the best interest of UP to maintain corporate relations with the shippers and to work with the short line operator to make sure services (and profitability) continue.

5.2 Recreational Rail Service Plan

The proposed recreational rail service, called the *Village Cruzer* in the RTC's 2003 *Preliminary Project Report*, is proposed to operate over approximately six miles of the Santa Cruz Branch Line; would be a seasonal service targeted to tourists; and would be provided by a contract operator. Figure 5-1 below illustrates the proposed service alignment, station locations, and proximity to the downtown Santa Cruz area.

Figure 5-1: Proposed Recreational Rail Service: Capitola to Aptos



5.2.1 Description of the Market and Issues in Serving It

The recreational rail service proposed in the RTC's 2003 *Preliminary Project Report* would be oriented to the visitor market, would be an attraction in and of itself, and need not be considered a public transportation service although it could serve that purpose for visitors and some local residents. The proposed service would be marketed primarily to weekend and summer visitors along the Highway 1 corridor in Santa Cruz County. The service will create a new attraction for visitors to Santa Cruz County, and will relate to visitor destinations along the route in a mutually beneficial fashion. Visitors will be attracted to the railroad due to its proximity to visitor sites, and the railroad would entice travelers to underutilized markets in Capitola/Aptos.

Fares
Previous studies have developed a fare structure based on an average of $0.75/mile for recreational trips.[20] This equates to $9.00 for a full round trip. The RTC and the operator should jointly develop fare structures that cater to all markets and needs. Setting fares to capture short trips, and providing discounts for all-day or multiple-day passes should be considered.

5.2.2 Development of Operating Plan

Previous reports have indicated a desire to operate hourly round trips.[21] This would require FRA Class 2 track, so that the trainset could reach the speeds necessary to make the round trip in one hour. While the tracks in the passenger service territory may qualify for FRA Class 2 status following replacement of the joint bars, much of the rail in that segment is 90 lb. rail, which may make 25 mph operating speeds inadvisable. We would recommend that the RTC restrict maximum passenger operating speeds to Class 1 speeds (15 mph) unless the 90 lb. rails are replaced with heavier rails (e.g., 119 lbs. to 132 lbs.). The remainder of trackage outside the recreational service area could stay as "excepted" or could be maintained as Class 1 as well. With separate operators, the most likely scenario would be to have the freight operator perform all track inspection and maintenance, and then back charge the passenger operator the pre-determined increase in costs associated with the passenger rail service.

Trains would operate under track warrant control, under which control of all operations is by radio. Cab and wayside signals would not be needed. Switch operation, when needed, would be manual.

Table 5-3 below presents a summary of two different operating scenarios for a one-way trip along the six-mile route with four intermediate station stops. The first assumes that the track is maintained as FRA Class 1, operating service at 15 mph. The second assumes the track is maintained as Class 2, operating service at 25 mph.

[20] *Santa Cruz Branch Line Intra-County Recreational Rail Options Preliminary Analysis*, March 2003, page 5.
[21] *Preliminary Project Report: Passenger Platforms and Related Improvements to the Santa Cruz Branch Line for Recreational Rail Service*, September 2003, page 1.

Table 5-3: Two Operating Scenarios for Recreational Rail Service

	15 MPH MAS Operation*	25 MPH MAS Operation**
Running Time	24 minutes	14.4 minutes
Desired Cumulative Station Dwell Time (2 minutes/station with 4 intermediate stations)	8 minutes	8 minutes
Accel/decel allowance	2 minutes	4 minutes
Recovery & Turn Time	10 minutes	10 minutes
Total One Way Time	**44 minutes**	**36 minutes**
Round Trip Time (Service Frequency) with Optimization	**90 minutes**	**70 minutes**

* Requires FRA Class 1 Track
** Requires FRA Class 2 Track

Table 5-3 shows that, with one trainset, service could be provided with 90-minute round trip frequencies, assuming a maximum 15 mph track speed. At 25 mph maximum speed, 70 minute headways are possible but on-time performance may not be reliable. Optimization, including reducing dwell and recovery times, would be required.

As the service could be intentionally recreational and not part of the public transportation network, it is possible for schedules to be set at the convenience of the operator, so that the amount of service operated can be commensurate with ridership and revenue. Also, gaps in the schedule can be made to allow freight service to be operated, rather than investing in added infrastructure to allow both passenger and freight operations at the same time.

5.2.3 Viability of Recreational Passenger Service

The operation of the recreational service must be without subsidy per RTC policy. For regular transit service (as distinguished from recreational service), a transit operator would normally require subsidies, given normal operating and maintenance expenses and traditional transit fares, even without debt service for capital improvements. With recreational service, an operator could be expected to produce a profit because of the unique attractiveness of the service where a higher fare can be charged and operational flexibility can be given to the operator.

5.2.3.1 Fares and Revenues

Estimated annual revenues for recreational service are shown in Table 5-4 below. These estimates are based on a comparison with nearby recreational operations and assume a 120-day season. Table 5-4 includes trips generated by a visitor/tourist market only and does not include short trips that may be generated by passengers using the service for public transportation purposes. Short trips are difficult to estimate and may be negligible, as the service may not meet the expectations of quality and frequency that the public transportation market would require.

Still, the fare structure needs to accommodate short trips. A flat $1.50 fare may be appropriate for short trips (same fare as the Santa Cruz Metro).

Table 5-4: Estimated Recreational Rail Annual Revenues (120-day season)

	Low Ridership	High Ridership
Total Annual Passengers	10,000	25,000
Round Trip Fare	$9.00	$9.00
Round Trip (Miles)	12	12
Total Revenues	**$90,000**	**$225,000**

Source: Santa Cruz Branch Line Intracounty Recreational Rail Options, March 2003 (the Report assumed that the foregoing forecasted ridership could be realized with a 6-hour service window).

5.2.3.2 Review of Operating and Maintenance Costs

A baseline operations and maintenance annual cost estimate is shown in Table 5-5. This baseline cost estimate presumes supplying the maximum service as described in the RTC's 2003 *Preliminary Project Report,*[22] which has the following features:

- Hourly service;
- Nine-hour service window (11 am to 8 pm)– crews would be paid 10 hours; and
- 120-day season.

Table 5-5: Estimated Annual Recreational Rail Operations and Maintenance Costs (Baseline Service)

	Low	High
Transportation - Crew costs*	$43,200	$60,900
Maintenance of Equipment*	$50,000	$80,000
Liability Insurance (@ 10% of gross revenues)**	$9,000	$23,000
Administrative***	$45,000	$63,000
Total	**$147,200**	**$226,900**

*Sources: *- SCBT&P; ** - Hamman Miller Beauchamp Deeble, Inc; *** - SYSTRA*

Assumptions in Table 5-5 include:

- No efficiencies are taken with freight railroads (two separate operators).
- Crew costs are based on 2-person operation at $15/per hour + 23% wage burden (lower estimate) and $18/hour and 43% wage burden (higher estimate).
- One full-time mechanic is needed for equipment maintenance.

[22] *Preliminary Project Report, Passenger Platforms and Related Improvements to the Santa Cruz Branch Line for Recreational Rail Service*, September 2003.

Net income or loss is shown in Table 5-6. Based on the assumptions used, a passenger operator, separate from the freight operation, likely would not be able to operate the baseline passenger service profitably.

Table 5-6: Estimated Annual Recreational Rail Income or Loss (Baseline Service)

	Low	High
Annual Revenue	$90,000	$225,000
Annual Expenses	$147,200	$226,900
Net Profit (Loss)	**($57,200)**	**($1,900)**

While previous reports have assumed hourly trips over a 9-hour daytime period for 120 days per year,[23] operating and maintenance costs could be reduced while keeping ridership and revenue as estimated. Comparisons with other recreational rail services, and discussions with those operators, reveal that ridership and revenue could be generated with fewer trips. For instance, the nearby SCBT&P gets 30,000 riders over a 105-day season, with only 2 round trips per day over 12 track miles.

Potentially cost-effective alternatives, and related impacts, include:

- Provision of service over an 8-hour day
  - Avoids crew overtime
- Provision of service integrated with freight service
  - Requires freight and passenger service by one entity
  - Operator must have flexibility to set up schedules to maximize efficiencies across both freight and passenger pro-rate crew cost among passenger and freight car miles (the RTC must give up some schedule control)
  - If the same crew is used for both freight and passenger service, it may not be possible to operate freight and recreational service in the same day.
- Provision of service completely at operator's discretion
  - Operator is free to tailor schedule to tourist market (the RTC gives up all schedule control except for minimum Proposition 116 requirements)
  - Potentially uneven service that would not be reliable as a local transportation benefit
  - Maximizes net revenues to operator

Policy direction from the RTC is required as to how it desires the service to operate. The more the operation needs to be schedule-based and inflexible in the face of ridership, the less efficient the operation will be. Also, the operation must continue to comply with the requirements of Proposition 116.

[23] *Preliminary Project Report, Passenger Platforms and Related Improvements to the Santa Cruz Branch Line for Recreational Rail Service*, September 2003, page 1.

5.3 Near-term vs. Long-term Capital Investment Requirements

In the near term, the RTC would incur the full cost of acquisition. The purchase price is still under negotiation.

Freight service must continue uninterrupted with the prospective change in ownership. Part of supplying this service is the capital upkeep of the Branch Line. The RTC must be positioned to secure funding for any future capital improvements, either through the contracted freight operator or on its own. These investments normally can be made over time. Additionally, the start-up and maintenance of proposed passenger services must be adequately funded. Passenger service, however, does not need to be implemented immediately, but must be operating within 10 years after the RTC purchases the Branch Line, based on Proposition 116 funding requirements.[24]

5.3.1 Capital Program Investments for Existing Freight Operations

As noted previously,[25] the current condition of the Branch Line appears to be acceptable for ongoing freight service at 10 mph with no immediate capital investment required. Routine maintenance will, of course, need to be performed by the operator, and should include maintenance of drainage, ballast, track, crossties, and grade crossings. Since routine maintenance may not be eligible for reimbursement from external funding, the RTC may want to consider some capital investments in the near term in order to reduce the operator's ongoing operations and maintenance costs, which would result in higher profitability to the operator and the RTC.

Previous reports have indicated that bridge structures are adequate for FRA Class 2 speeds of 25 mph. An assessment of structures should be conducted prior to acquisition in order to update the condition of the structures. Because of the number of significant structures, the RTC may be vulnerable to significant repair costs in the future. Once UP inspection records are obtained and reviewed by a qualified structural engineer for the RTC, a cost estimate and timeline for any major capital investment needs to be prepared. If repairs are needed, external funding sources should be explored.

5.3.2 Capital Plan Investments for Recreational Rail Operations

Recreational rail service is currently proposed over an approximately six-mile segment of the rail line between Cliff Drive in Capitola and Aptos-Seascape. Within this segment, two terminal stations and four intermediate stations are planned, so that major trip generators along the alignment are served. Siding tracks must be constructed at or near both terminal stations, so that freight movements can be made through the passenger service territory. Also, rolling stock is required. Two refurbished rail diesel cars are proposed in the Preliminary Project Report.[26]

[24] See Section 2.2, California Transportation Commission Resolution No. PA-03-05, dated August 14, 2003.
[25] See Section 3.2.
[26] *Preliminary Project Report, Passenger Platforms and Related Improvements to the Santa Cruz Branch Line for Recreational Rail Service*, September 2003.

There is the potential for station cost savings by using fewer stations, or phasing station implementation, and by changing station amenity requirements, such as the proposed Next Train System. While the two terminal stations should be built for service start-up, a reduction in the number of intermediate stations should be considered. Also, once operating, the operator and local communities may request and fund modifications to the initial station designs and locations. Stations must meet the Americans with Disabilities Act (ADA). Normally, a platform type that allows wheelchairs to enter every railcar is required for new stations under ADA. Portable wheelchair lifts are proposed to meet ADA, if compliant.

Upgrading the track for passenger operations is also a potential cost not addressed in the Preliminary Project Report. In order to upgrade the track to FRA Class 1, so that passenger service would be allowed, track joint bars in poor condition within the passenger territory would need to be replaced (see Section 3.2). This would be the minimum scope of track improvements (projected at nominal cost) necessary for passenger operations, which would be limited to a maximum speed of 15 mph. In order to obtain a maximum authorized speed of 30 mph for passenger operations, the track would need to be upgraded to Class 2. For this, the 90 lb. rail probably should be changed out. Aiming for Class 2 standards, although not required, would allow passenger service to continue (at potentially lower speeds) if subsequent inspections show that Class 2 standards are not actually met. If the RTC aims only to rehabilitate the tracks to Class 1 standards, and subsequent inspections show that Class 1 standards are not met, passenger service would be suspended.

It may be advantageous to place track improvement costs within the recreational rail territory capital budget. Otherwise, track improvements would be included in the freight operator's maintenance of way budget. Alternatively, provisions could be included in the freight lease to make the necessary track improvements in the passenger territory in time for the institution of passenger service.

If the RTC wished to maintain the track to Class 2 standards to increase train speeds, the track would require more frequent inspections, which would increase annual per-mile maintenance costs over what needs to be performed for slower-speed freight service. The cost increase for additional inspections is considered negligible, but the freight lease should include provisions to make these inspections at the required frequency.

The California PUC has analyzed each grade crossing in the passenger service territory pursuant to the proposed increased operating speeds. While the PUC recommended that grade crossing protection improvements be implemented, it also allowed for working out alternatives on a case-by-case basis.[27] There appears to be a good possibility of agreement on low or no cost alternatives such as running trains more slowly through affected crossings, improving the sight distances at the crossings, or having the cost of improvements funded from sources other than the RTC. In any event, we are not aware of any statute or regulation granting the PUC new jurisdiction by virtue of the institution of passenger service over an existing freight line. If there are safety concerns, PUC staff would have to initiate proceedings before the PUC and would bear the burden of showing that the crossing is unsafe.

[27] PUC letter dated January 23, 2004, addressed to Luis Pavel Mendez, Senior Transportation Planner, RTC.

5.3.3 Environmental Clearance

Environmental clearance for the Branch Line acquisition is addressed in the *Final Initial Study and Negative Declaration for the Santa Cruz Branch Rail Line Acquisition*, Denise Duffy & Associates (April 2002). Environmental clearance for the recreational rail service is addressed in the draft *Environmental Impact Report for the Capitola to Aptos Recreational Rail Service with Extension to Seascape* (Draft released in May 2004).

5.4 Consolidated Freight and Recreational Rail Operations

Consolidating both freight and passenger operations is preferable to minimize operating expenses and maximize operating efficiencies (crews, maintenance, etc.). Interested short line operators contend that including the opportunity to provide a profitable freight service is necessary to attract an operator for passenger service. The established freight rail market would help to underwrite any initial losses in the start up of a limited passenger rail service until the market stabilizes.

A scenario for a minimum recreational rail service pattern, which allows the same crews to operate both passenger and freight service, would include:

- 4 round trips per day, timed for maximum recreational use.
- Two 3-hour service windows (11 am to 2 pm and 4 to 7 pm) – crews would be paid 7 hours.
- Service only on peak recreational days during the summer (Friday through Monday), or a 48–day season.
- Total transportation hours would be reduced to 336 hours, from 1,200 hours.

An estimate of annual operations and maintenance costs associated with minimum-service level operations is shown in Table 5-7. Net income or loss is shown in Table 5-8. The minimum service is set at 20% of the train-hours of the baseline service and could be taken as reduced number of days operating, reduced daily service window, or a combination thereof. With this service reduction, a conservative ridership assumption (estimated at 50% of ridership) is used.

Table 5-7: Estimated Annual Recreational Rail Operations and Maintenance Costs (Minimum Service)

	Low	High
Transportation - Crew costs*	$12,500	$17,500
Maintenance of Equipment*	$10,000	$20,000
Liability Insurance (@ 10% of gross revenues)**	$4,500	$11,200
Administrative***	$0 (use freight staff)	$0
Total	**$27,000**	**$48,700**

*Sources: *- SCBT&P; ** - Hamman Miller Beauchamp Deeble, Inc; *** - SYSTRA*

Assumptions in Table 5-7 are:

- Maintenance of passenger rail equipment is performed by crews also engaged in freight operations, and is an incremental labor cost; and
- Administrative duties handled by same staff engaged in freight operation.

Table 5-8: Estimated Annual Recreational Rail Income or Loss (Minimum Service)

	Low	High
Annual Revenue @ 50% of Baseline Service estimate	$45,000	$112,000
Annual Expenses	$27,000	$48,700
Net Profit (Loss)	**$18,000**	**$63,300**

Assuming 50% of projected baseline revenues by providing 20% of the baseline service, a consolidated freight/passenger operator would be able to operate at a profit. A small revenue stream to the RTC (using an assumed access fee of 10% of net revenues) of $1,320 to $5,640 per year is estimated.

5.4.1 Consolidated Pro Forma Projection of Freight and Passenger Services

As Table 5-9 shows, passenger service should be consolidated with freight services and schedule flexibility is required so that efficiencies can be obtained by the consolidated service operator. Otherwise, profitability likely will be difficult.

Table 5-9: Estimated Annual Consolidated Income or Loss (Minimum Service)

	Low	High
Net Freight Profit	$61,000	$61,000
Net Passenger Profit	$18,000	$63,300
Net Profit	$79,000	$124,300
Lease Revenue to RTC	**$7,900**	**$12,400**

A consolidated operator should be able to make a profit and provide a small revenue stream to the RTC.

5.5 Summary of RTC Expenses and Revenues

A summary of estimated annual expenses and revenues to the RTC, due to ownership of the railroad and operation of freight and passenger services, is shown in Table 5-10 below. A consolidated freight and passenger operator, and provision of the minimum recreational rail service scenario, is assumed.

Table 5-10: Estimated Annual RTC Expenses and Revenues

	Low	High
Expenses		
Administration[28]	$95,000	$95,000
Property Insurance[29]	$47,500	$47,500
Subtotal	**$142,500**	**$142,500**
Revenues		
Right of Way Lease, Easement, Permit and Occupancy Revenue[30]	$170,000	$170,000
Freight and Recreational Rail Lease Revenue[31]	$7,900	$12,400
Subtotal	**$177,900**	**$182,400**
Net Revenues	**$35,400**	**$39,900**

In addition to the foregoing list of expenses, the RTC, or the passenger rail operator may incur expenses related to the mitigation measures identified in the RTC's recreational rail EIR.[32] Those expenses should be added to the RTC's business plan as and when additional cost information becomes available.

5.5.1 Revenue from Current Permits and Leases

There are existing leases, easements, and occupancy permits from uses and occupancies on the Branch Line that are providing revenue to UP. This revenue stream would accrue to the RTC upon its taking ownership. The amount of such revenue now going to UP, and the status of these occupancies (if payments are up to date, if occupancies have been abandoned, or if current uses exceed what is allowed) is not now known, but presumably will be made available during escrow. A conservative estimate of the revenue stream, based on a comparison with Monterey Branch revenue accruing to the Transportation Agency for Monterey County (TAMC), is $170,000 per year.[33] Current uses that may be generating revenue as well as future considerations include:

- Making the Branch Line available for uses by utilities;
- Selling excess property for other uses and community benefit;
- Making the right-of-way and vehicles available for special activities and events to other agencies, businesses, groups, and members of the public at appropriate fees; and

[28] Assumes the RTC hires one full-time-equivalent staff member to perform Branch Line management functions. See discussion in Section 4.1.1.
[29] See discussion in Section 4.1.3.
[30] See discussion of this revenue source in Section 5.5.1.
[31] See Table 5-9.
[32] *Draft Environmental Impact Report, Capitola to Aptos Recreational Rail Service with Extension to Seascape,* March 2004.
[33] TAMC is receiving $100,862 over a 12.95 mile right-of-way, or $7,789 per mile. This would be equivalent to $241,459 for the 31-mile Santa Cruz Branch. Revenue to RTC in the amount of $170,000 is approximately 70% of the per-mile rate TAMC is receiving. Source: TAMC Board Item, "Monterey Branch Line Right of Way - Leases" June 2004.

- Making the right-of-way, station, and vehicle space available, as appropriate, for advertising possibilities.

5.5.2 Infrastructure Investments

Capital costs associated with infrastructure improvements for the continuation of freight service, as well as the implementation of recreational rail service, have been reviewed and updated. As discussed above, no capital investment in the existing tracks appears to be necessary to continue operating freight service at the current low speeds, although some drainage improvements are recommended. For recreational service, only a relatively minor capital investment is required to change cracked joint bars and bring the trackage back up to FRA Class 1 status; most of the capital investment associated with recreational service centers on station construction and acquisition of rolling stock. Table 5-11 summarizes these estimated costs.

Table 5-11: Capital Cost Estimate

	Cost	Comment
Freight Operations		
Trackwork	$0	Freight O&M cost.
Drainage Improvements[34]	$74,000	
Structure Repairs	$0	Routine maintenance is included with annual MOW cost.
Sub-total, Freight	**$74,000**	
Passenger Operations		
Stations[35]	$1,035,000	
Trackwork – Siding and Turnouts[36]	$415,000	Need for sidings and turnouts may be avoided, depending on operator.
Trackwork – Upgrade to FRA Class 1	$25,000	Replacement of cracked joint bars between MP 16.70 and MP 10.32.
Grade Crossing Improvements	$0	Assumes that PUC request (costing $1,537,000), could be deferred
Rolling Stock[37]	$900,000	Need for rolling stock acquisition may be avoided, depending on operator.
Sub-total, Passenger	**$2,375,000**	
Total	**$2,449,000**	

See Section 5.3 et seq., for discussion of capital costs.

[34] See Table I-1, Appendix I.
[35] See Table H-1, Appendix H.
[36] Ibid.
[37] Average market price for used rail diesel cars, including refurbishment.

5.5.3 Passenger Stations

- Current cost estimates are for modest station improvements. However, further opportunities for reducing/off-loading the scope of station improvements need to be identified.
- Reducing the number of stations should be considered. Six stations are proposed, representing station spacing of 1 mile on average. The need for all six stations to actualize expected ridership should be examined.
- The provision of parking needs a more in depth examination, especially in terms of its importance to draw potential passengers to the service. Conversely, promoting or encouraging access to the recreational rail service by walking or other non-automobile modes would serve other community objectives.

Current capital and operations and maintenance costs include all six stations.

5.5.4 Maintenance and Storage Facilities

- Previous reports indicate that maintenance facilities will not be part of this project, as the contract operator will rely on existing facilities nearby the recreational service territory.[38]
- The location of these facilities, the ability to use these facilities, and whether the owner of these facilities will consent to such use by the contract operator, have not been established.
- The equipment used will require servicing, cleaning, fueling, maintenance (running repairs and scheduled maintenance), and storage.
    - Some of these activities will be performed on a daily basis, requiring deadheading miles to be added to the operation, which could increase operating costs depending on the location of the facilities.
    - The owner of the maintenance facilities will expect compensation (unless the owner and contract operator are the same entity), which will increase maintenance costs.
- Equipment servicing, cleaning, fueling, maintenance, and storage must be fully accounted for so that the recreational rail operations can meet expected its reliability and service, and do so within expected costs. These estimated costs are included in the Maintenance of Equipment line items of Tables 5-5 and 5-7.

Current operating and maintenance cost estimates assume that maintenance facilities are nearby (up to 15 minutes of deadheading to a facility is included), and that no maintenance infrastructure needs to be constructed.

[38] *Preliminary Project Report, Passenger Platforms and Related Improvements to the Santa Cruz Branch Line for Recreational Rail Service*, September 2003, and *Draft Environmental Impact Report, Capitola to Aptos Recreational Rail Service with Extension to Seascape*, March 2004.

5.5.5 Passenger Amenities

To avoid the costs of maintaining and upgrading station amenities, the RTC could reach out to local businesses and community organizations to provide stewardship of stations. These parties should be interested as the service will be a benefit to them, and the appearance of the station facilities near their properties should be as important to them as to the RTC. In addition, the local customizing or accessorizing of individual stations could be handled with a stewardship program, with greater efficiency, without burdening either the RTC or the contract operator.

Current operations and maintenance, and capital estimates for the stations, assume the operator is incurring maintenance costs, and that the RTC is incurring capital costs.

5.5.6 Rolling Stock

Rolling stock could either be purchased by the RTC and provided to the operator, or provided by the operator itself. If the operator provides the rolling stock, either a lease payment or debt service on purchased equipment may be included in the operator's operating and maintenance budget.[39] It is possible that an operator would have equipment available that meets the needs of the service. This item should be further negotiated as part of the operating contract, specified as a bid alternate in the RTC's request for proposal.

If the RTC provides the rolling stock, the capital cost is estimated to be $900,000. Leasing and financing options should be considered as alternates to a full up-front expenditure.

[39] Debt service is estimated to be $87,000, based on amortizing $900,000 over 20 years at an interest rate of 7.5%.

6. SCHEDULE AND NEXT STEPS

6.1 Right-of-Way Acquisition

The acquisition process will occur in two steps: (1) negotiating a purchase and sale agreement with UP, which would place the acquisition in escrow; and (2) performing reviews and soliciting operators for freight and passenger services while the acquisition is in escrow, but has not yet closed. Further activities to supervise freight operations, implement and maintain recreational passenger operations, and implement the possible future Coastal Rail Trail will be finalized after acquisition.

6.1.1 Review Right-of-Way Condition

Prior to Escrow

- Investigate external funding opportunities.
- To the extent possible, remove capital investment and eligible right-of-way maintenance costs from the freight lease, so that future revenue to the RTC can be maximized.

During Escrow

- Obtain expertise and review UP inspection records (assuming they are available only during escrow).
- Update cost estimates for capital investments and develop a timeline for making the investments.
- Develop a financial plan demonstrating that all needed capital investments can be borne through the operator or external funding.
- Obtain records from UP of existing leases, easements, permits and occupancies, and revenue currently accruing to UP. Determine the status of these agreements to determine the revenue stream that would accrue to the RTC, should all of these agreements be brought to up-to-date condition.

6.1.2 Develop Organization for Management of Freight and Recreational Rail Services

The RTC should develop a specific organizational plan for the management of rail services in light of the discussion and analyses contained in this Business Plan. The organizational plan should be updated and refined as additional data and information become available during the acquisition process. The following areas should be covered:

- Management functions need to be quantified and the assignment of these functions needs to be determined:
    - To RTC staff;

  - To other local agency staff;
  - To outside consultants; or
  - To contract operator(s).

- Consider phasing out these functions (only needed during start-up versus throughout stable operations), the ability to obtain external funding (typically allowed for design contracts), and the conditions under which the RTC would be reimbursed by the freight and/or passenger rail service operator(s).

- As a least-desirable option, the hiring of staff should be considered if further analysis concludes that other arrangements cannot cover all required management functions.

- Owner liability and indemnity exposures need to be determined, and the cost of property insurance to cover these exposures needs to be estimated and compared to the County insurance programs currently used by the RTC to determine if premium costs could be lowered.

- The actual annual costs of owning the rail line, including one full-time-equivalent staff member and the cost of property insurance is estimated to be $142,500. (See Table 5-10.) Revenues from existing leases, easements, permits and occupancies are estimated at $170,000. (See Table 5-10.) A target minimum revenue threshold to the RTC from freight and passenger operations that would offset ownership costs and/or provide revenue should be determined after verification of all costs and revenues through review of UP records during escrow. This threshold could reflect an absolute condition, where all costs must be covered. Alternatively, it could be something less, with the understanding that intangibles such as future public betterments, control of the rail line, the ability to implement a possible future Coastal Rail Trail, etc., have value that warrants some level of expense to be absorbed by the RTC in the future.

6.1.3 Evaluate Contracting Options and Select Optimal Approach

Given the goal of minimizing risks and costs to the RTC, a single contract to operate both freight and passenger service is preferred. The timing of contract award should be such that the RTC has complete confidence that sufficient revenues will be obtained by the RTC prior to the transfer of ownership from UP to the RTC. Verification of sufficient revenues should occur through a request for proposal or negotiation process with potential freight and recreational rail operators and should include (but not be limited to):

- Determining the extent to which a combined operation yields more revenue than separate operations, and whether any drawbacks of a combined operation are outweighed by the benefits. The solicitation should include alternates to operate freight only and passenger service only, to provide this determination.
- Understanding what tradeoffs in recreational passenger service quality may occur in exchange for the efficiency of combined operations.

- Verification that the revenue stream to the RTC meets the minimum threshold to offset the RTC's owner costs.

Including the construction of certain capital investments within the operator's contract can be cost effective, especially where typical work done by the operator, such as maintenance of way work, can include the capital investment. Unit prices may be lower, and design, management and administration costs can be avoided. Should this approach be considered, external funding requirements should be reviewed and included within the operator's contract. Typical requirements are competitive bid, Buy America (usually an issue with foreign-built rolling stock and federal funding), disadvantaged business enterprise set-asides, and prevailing wages.

6.2 Summary of Next Steps in Acquisition Process

Immediate Action (Month 0 to Month 4):

Negotiations with UP

- Continue efforts to acquire Branch Line; negotiate purchase price and other terms and conditions of Purchase and Sale Agreement

Freight & Recreational Passenger Services

- Coordinate minimum and maximum service levels between the RTC, California Transportation Commission, and EIR requirements
- Refine annual operating and maintenance costs for the RTC and short line
- Certify Recreational Rail EIR
- Determine cost of environmental mitigation measures identified in Recreational Rail EIR

Capital Funding

- Refine RTC capital costs
- Identify funding sources and amounts
- Analyze existing condition of structures
- Identify priorities and reductions in operating expenses through capitalization

RTC Ownership

- Receive and approve Review Appraisal of the Santa Cruz Branch Line
- Receive and approve Going Concern Valuation Appraisal of Santa Cruz Branch Line
- Receive and approve Net Liquidation Valuation Appraisal of Track, Structures, Equipment, etc. of Santa Cruz Branch Line
- Develop detailed management budget
- Develop terms for operator of freight and passenger service, including:
    - Timing of recreational rail service
    - Agreement on common carrier status

- Rights to the RTC if operator discontinues service
- Rights to develop Coastal Rail/Trail

Advance Negotiations with UP (Month 4 to Month 6):

Negotiations with UP

- Take negotiated Purchase and Sale Agreement to RTC for approval and final determination concerning acquisition of the Branch Line

Freight & Recreational Passenger Services

- Issue Request for Proposals for lease of Branch Line, including short line freight and passenger service; RFP should include required minimum passenger service and sustainable cost structure (service must cover all costs). Determine whether to combine freight and passenger operations.

Capital Funding
(None)

RTC Ownership
(None)

While Acquisition is in Escrow (Month 6 to Month 12):

Negotiations with UP

- Review UP inspection records to determine needed capital investment and timeline

Freight & Recreational Passenger Services

- Review bids for 20-year freight stability and guarantee to maintain common carrier status and passenger service
- Determine if revenue to the RTC adequately covers ownership costs

Capital Funding

- Refine capital plan to reflect UP record review

RTC Ownership

- Determine existing occupancies, leases, easements, etc. and corresponding revenue stream through review of UP records
- Receive and approve Preliminary Title Report
- Receive and approve Phase II Environmental Site Assessment
- Receive and approve Branch Line Structures Assessment
- Receive and approve Historic Site Investigation Report
- Make determination on the acquisition of the railroad

If RTC Takes Ownership (Month 12 and Following):

- Maintain contract for freight operations with minimal interruptions;
- Initiate recreational service
    - negotiate station stewardship with local parties
    - negotiate parking agreements
    - implement design and construction of stations (with short line or separately)
- Begin advance implementation of Coastal Rail/Trail
    - Prepare Request for Proposals for Master Plan and EIR
    - Prepare Master Plan and EIR
    - Seek funding for implementation

7. RESOURCES AND CONTACTS

Table 7-1: Business Plan Contacts

Name	Firm	Address	Phone	Email
Maritza Acosta	SYSTRA	760 Market Street, Suite 320 San Francisco, CA 94102	415-982-0700	macosta@systrausa.com
Edward Berntsen	Railmove Northwest Inc.	P.O. Box 404 Gig Harbor, WA 98335	253-383-2626	emb@railmove.com
Alan DeMoss	Woodside Consulting Group	385 Sherman Avenue, Suite 1 Palo Alto, CA 94306-1840	650-233-0210	woodsideadd@aol.com
Michele DiFrancia	SYSTRA	760 Market Street, Suite 320 San Francisco, CA 94102	415-982-0700	mdifrancia@systrausa.com
Bob Glover	Wilbur Smith Associates	201 Mission Street, Suite 1450 San Francisco, CA 94105	415-495-6201	bglover@wilbursmith.com
Justin Fox	Wilbur Smith Associates	201 Mission Street, Suite 1450 San Francisco, CA 94105	415-495-6201	jfox@wilbursmith.com
Michael Hart	Sierra Railroad Company	PO Box 74093 Davis, CA 95617	530-757-7570	mg.hart@att.net
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Paul Sullivan	SYSTRA	1515 Broad Street Bloomfield, NJ 07003	973-893-6000	psullivan@systrausa.com
Vivian Sundin	Hamman Miller Beauchamp Deeble, Inc.	3363 E. Broadway Long Beach, CA 90803	(562) 439-9731	vivsun@hmbd.com
Kirk Trost	Miller, Owen & Trost	428 J Street, Suite 400 Sacramento, CA 95814	916-447-7933	trost@motlaw.com
Cliff Walters	Roaring Camp	PO Box G-1 Felton, CA 95018	831-335-3509	rcamp448@aol.com
Linda Wilshusen	RTC	1523 Pacific Avenue Santa Cruz, CA 95060	831-460-3213	lwilshusen@sccrtc.org
Graham Claytor	RailAmerica	5300 Broken Sound Blvd., N.W. Boca Raton, FL 33487	510-522-7630	
Ken Dixon	RailAmerica	5300 Broken Sound Blvd., N.W. Boca Raton, FL 33487	561-226-1714	

APPENDIX A
RTC Funding Plan

RTC Funding Plan

Santa Cruz Branch Rail Line Acquisition

Project Financial Plan (Capital)

REVENUES:		
1998 STIP (Environmental Review)	225,000	(1)
Transportation Development Act	262,000	(1)
2000 STIP Augumentation	10,000,000	(2)
FY 03 Federal Appropriation	1,500,000	(2)
Proposition 116	11,000,000	Pending
TOTAL REVENUES	**22,987,000**	
EXPENDITURES:		
Right-of-Way Acquisition, Track Upgrade and Contingency	**22,142,000**	
Acquisition Env. Rev.	20,000	Completed 4/02
Phase II Env. Site Assessment	120,000	
Rec. Rail Env. Review	85,000	
Other Acquisition Costs	620,000	(3)
TOTAL EXPENDITURES	**22,987,000**	

(1) Programmed and Allocated
(2) Programmed
(3) New Appraisals, Title Review and Insurance, Business Plan, Legal Fees, STB Filings, RFPs for Freight and Rec. Rail Service, Haz. Mat. Insurance, Public Notification, Historic Site Review

APPENDIX B
Summary of Completed and Pending Reports

Summary of Completed and Pending Reports
Santa Cruz Branch Rail Line Acquisition

Completed Reports (as of July 2004)

Completed	Report	Brief Summary of Findings
May 1993	Santa Cruz Fixed Guideway Rail Corridor Refinement Study (RTC, Parsons, Brinckerhoff, Quade & Douglas, Inc. – consultants)	Analyzed 6 alternatives – a no-build alternative, an expanded bus alternative, and 4 rail alternatives using the Santa Cruz Branch Rail Line. "It is the conclusion of the study team that this facility offers an excellent opportunity to initiate a relatively low cost (by avoiding construction of new track, costs would be considerably less than for entirely new construction) passenger rail service in the County….further review of fixed guideway/rail options in Santa Cruz County would be a worthwhile endeavor." "One means of initiating a rail service in Santa Cruz County would be to activate a minimum "starter" system to test the viability of fixed guideway/rail service in the corridor."
December 1995	Net Liquidation Value of the Track, Signals and Structures of the Santa Cruz Branch (RTC, the Woodside Consulting Group – consultants)	The gross value of the track, signals and structures is $1,852,598. The removal cost is $909,075. The net liquidation value of the track, signals and structures is $943,523.
August 1996	Intercity Recreational Rail Study (RTC, Parsons Brinckerhoff Quade & Douglas – consultants)	"The introduction of *Intercity Recreational Rail* service between the Bay Area and Santa Cruz is feasible (although funding is an issue) and should be pursued on a limited basis to test the market." The document proposes extending existing service "beyond San Jose to the City of Santa Cruz to provide service on the weekends and during special events." "Service will probably require a public subsidy to cover operating costs.…The continual expenditure of public moneys will result in a decrease in auto-related impacts – congestion, air quality problems, parking intrusion in neighborhoods, etc. – in Santa Cruz County, particularly in highly active beach areas."

Note: Quotations are from the identified document

Completed	Report	Brief Summary of Findings
March 1997	Appraisal Report Santa Cruz Branch Rail Line Davenport to Watsonville Junction as of December 31, 1995 (RTC, Arthur Gimmy International – consultants)	"The market value (net liquidation value) of the fee simple interest of the subject land (RTC net acquisition), as of December 31, 1995 was…$13,600,000." "The market value (gross liquidation value – not considering selling expenses or time) of the fee simple interest of the subject land (SP retained land), as of December 31, 1995 was…$6,600,000."
March 1997	Going Concern Value of the Santa Cruz Branch (RTC, the Woodside Consulting Group – consultants)	There are 10 active shippers on the Santa Cruz Branch Line (7 in Watsonville, 2 in Santa Cruz and RMC Lonestar in Davenport). Rail shipments to and from the RMC Lonestar at 3,500 to 4,000 annual carloads dwarf those of all other shippers combined. Due to "relatively low traffic volume,"… "the value of the income stream produced from railroad operations is negative"… "The highest and best use of the Santa Cruz Branch from and economic perspective is its conversion to net liquidation value."
March 1997	Preliminary Site Assessment Davenport and Santa Cruz Branch Rail Lines (RTC, Geomatrix Consultants – consultants)	Historical uses and events on and along the rail line have the potential for having caused contamination to the railroad right-of-way. A Phase II Environmental Site Assessment (ESA) is recommended. A list of recommended boring locations for soil samples is provided along with recommended soil analyses. Testing of groundwater is also recommended.
December 1997	Project Study Report: Track and Signal Improvements, Passenger Platforms and Related Improvements to the Santa Cruz Branch Line for Intercity Weekend Rail Service between the San Francisco Bay Area and Santa Cruz County (RTC)	$9.6 million of track and signal improvements are required between Watsonville and Santa Cruz to Class III standards to allow operating speeds between 25 and 40 miles per hour. The construction of 5 station/platforms is required at a cost of $577,000. Construction of a track storage area is required at the Santa Cruz Wye at a cost of $140,000. A track connection between the Gilroy train station and the main Union Pacific line is required at a cost of $250,000.

Note: Quotations are from the identified document

Completed	Report	Brief Summary of Findings
July 1998	Around the Bay Rail Study (RTC, LS Transit Systems – consultants)	Presuming that both counties are ready to advance their programs at the same time, "a single Monterey/Santa Cruz project could be established and maintained with greater credibility and taxpayer utility than two" through a joint powers arrangement. Otherwise, "it would be in their mutual interest to advance one of the programs to demonstrate the benefits and success of passenger rail to their mutual region and to help encourage the other county's full participation to follow."
December 1998	Major Transportation Investment Study (RTC, Parsons Brinckerhoff Quade & Douglas – consultants)	Analyzed various transportation alternatives for the Watsonville-Santa Cruz-UCSC corridor including three rail transit alternatives and busway alternative on the Santa Cruz Branch Line. The four alternative on the Santa Cruz Branch Line included a bicycle and pedestrian path along the rail line. All of the analyzed alternatives except the baseline and the separate Intercity Rail Service option require a sales tax measure to implement. The study resulted in a program of projects which includes, HOV lanes on Highway 1, acquisition of the Santa Cruz Branch Rail Line, construction of a coastal rail trail, and other projects.
September 2000	Santa Cruz Branch Line Acquisition Project Study Report (RTC)	$17 million is required to purchase the Santa Cruz Branch Rail Line between Pajaro and Davenport from Union Pacific. $1.1 million is required for pre-acquisition expenses over a two year period.
April 2002	Final Initial Study and Negative Declaration for the Santa Cruz Branch Rail Line Acquisition (RTC, Denise Duffy & Associates – consultants)	Purchase of the Santa Cruz Branch Rail Line will not result in any adverse environmental impacts.

Note: Quotations are from the identified document

Completed	Report	Brief Summary of Findings
March 2003	Santa Cruz Branch Line Intra-County Recreational Rail Options Preliminary Analysis (RTC, Hyde, Miller, Owen & Trost – consultants)	"A private operator would have advantages over a public operator." "The operations would ideally be conducted by a short line railroad also conducting freight operations on the Branch Line." "Capitola Village is a major visitor destination during peak seasonal periods." "It is likely that there is demand for additional activities including visits to nearby Aptos Village and other recreational opportunities…we believe that the potential extension to Seascape Resort, with its high-end lodging and recreational opportunities, could provide and attractive complement to this service." "This analysis considers only the endpoints…Additional analysis of intermediate stops and related attractions and activities such as State Parks and beaches, may give further support for the viability of the service."
September 2003	Preliminary Project Report for Passenger Platforms and Related Improvements to the Santa Cruz Branch Rail Line for Recreational Rail Service (RTC)	To establish recreational rail service between the City of Capitola and Aptos Village with an extension to Seascape six platform stations need to be constructed at a cost of $880,000. $251,000 of track work for two siding tracks and $465,000 in equipment purchases would also be required. The siding track would permit the freight train to pass and the equipment includes train cars.

Note: Quotations are from the identified document

Pending Reports

Status	Report	Brief Summary of Scope
Draft released May 20, 2004; Comments due July 21, 2004	Environmental Impact Report for Recreational Rail Service between Capitola and Aptos with Extension to Seascape	Analysis of impacts of the proposed recreational rail project will be provided in accordance with the California Environmental Quality Act (CEQA) and suggest mitigations for any significant impacts.
In Process	Santa Cruz Branch Line Business Plan	The report will provide an analysis of the costs and revenues of owning the Santa Cruz Branch Rail Line with continued freight operation and possible recreational rail operation.

Status	Report	Brief Summary of Scope
In Process	Real Estate Appraisal of Santa Cruz Branch Line ROW	The report will provide an appraisal of the value of the real estate encompassed by the Santa Cruz Branch Rail Line taking into consideration costs of removing the rail road tracks and equipment and viability of development.
In Process	Going Concern Valuation Appraisal of Santa Cruz Branch Line	The report will provide an analysis of the value of the freight business on the Santa Cruz Branch Rail Line.
In Process	Net Liquidation Valuation Appraisal of Track, Structures, Equipment, etc. of Santa Cruz Branch Line	The report will provide an analysis of the value of the railroad assets on the Santa Cruz Branch Rail Line and the cost of removing them to achieve a net liquidation value.
In Process	Review Appraisal of the Santa Cruz Branch Line	The report will provide an analysis of the three appraisals listed above to ensure that they conform to the approved scopes of work, Caltrans requirements, and market standards.
Not Yet Started	Santa Cruz Branch Rail Line Title Review	The report will provide an analysis of the title of all of the real estate parcels forming the Santa Cruz Branch Rail Line.
In Process – Awaiting UP right-of-entry	Phase II Environmental Site Assessment	Soil samples will be taken along the 31 mile stretch of the Santa Cruz Branch Rail Line. The soil samples will be analyzed for chemical contamination. Water will also be analyzed for contamination.
Not Yet Started	Structures Assessment	The report will provide an assessment of the condition of trestles and bridges on the Santa Cruz Branch Rail Line.

Source: *Santa Cruz County Regional Transportation Commission*

APPENDIX C
Right-of-Way Condition

The sections that follow are based on observations and information received during a hi-rail trip on the entire Branch Line conducted in January 31, 2004 and on the following documents:

"A VALUATION STUDY OF THE TRACKS, SIGNALS, STRUCTURES AND OTHER RAILROAD IMPROVEMENTS LOCATED ON THE UNION PACIFIC RAILROAD COMPANY'S SANTA CRUZ SUBDIVISION BETWEEN WATSONVILLE JUNCTION AND DAVENPORT CALIFORNIA" By: The Woodside Consulting Group, Inc. – March 2004

"CODE OF FEDERAL REGULATIONS" TRANSPORTATION SECTION 49 Parts 200 to 399 By: Office of the Federal Register National Archives and Records Administration – Revised October 1, 2003

"OBSERVATIONS OF TRACK CONDITIONS ON SP SANTA CRUZ LINE" By: Michael E. McGinley, PE – November 5, 1995

"UNION PACIFIC ROSEVILLE AREA TIMETABLE #3" By: Union Pacific Railroad - Effective 0001 Sunday, June 22, 2003

"UNION PACIFIC ROSEVILLE DIVISION, SANTA CRUZ SUBDIVISION TRACK CHART" By Union Pacific Railroad – Last revised November 15, 2001

"HIGHWAY RAIL CROSSING IMPROVEMENTS RECOMMENDATIONS FOR PROPOSED TROLLEY SERVICE" Letter from Kevin Boles, Public Utility Commission; to Luis Pavel Mendez, SCRTC– January 23, 2004

"NET LIQUIDATION VALUE OF THE TRACKS, SIGNALS AND STRUCTURES OF THE SANTA CRUZ BRANCH FROM WATSONVILLE JUNCTION TO DAVENPORT" By: The Woodside Consulting Group, Inc – December, 1995

Condition Assessment

The Santa Cruz Branch is located in the Counties of Santa Cruz and Monterey, State of California. Railroad mileposts are shown below and related to the surrounding cities and towns (per "Roseville Area timetable No. 3 - effective 6/22/03"):

MP 0.0	Watsonville JCT
MP 1.8	Watsonville
MP 15.7	Capitola
MP 19.2	Seabright
MP 20.4	Santa Cruz
MP 31.9	Davenport

The Federal Railroad Administration (FRA) classifies track on the basis of the condition of the rail, crossties, ballast, alignment, surface runoffs and superelevation on curves in accordance with the following table:

FRA Class	Freight Operation	Passenger Operation
Excepted track	10	N/A
1	10	15
2	25	30
3	40	60
4	60	80
5	70	90

The "UP Roseville area timetable No 3" indicates that between MP 0.0 to MP 19.3 and MP 20.9 to MP 31.9 the track classification is: FRA Excepted, which operates at a max. 10 mph.

Description of the Property

The Watsonville Junction to Santa Cruz Segment has 20.04 route miles of main track plus about 1.95 miles of yard, siding and spur tracks. The Santa Cruz to Davenport Segment has 11.73 route miles of main track plus about 0.88 mile of yard, siding and spur. Starting from Milepost 20.42 on the main track, the Santa Cruz yard and connection to the Santa Cruz Big Trees & Pacific Railway (SCBT&P) at Milepost 20.96 near Laurel Street is included in the yard, siding and spur track mileage of the Watsonville Junction to Santa Cruz Segment.

Between Watsonville Junction and Santa Cruz there are about thirty-four (34) curves varying from 2 degrees to 10 degrees. The gradient in this segment tends to have an undulating grade which varies from about 1.0 percent to 2.5 percent.

The Santa Cruz to Davenport Segment which lies, for the most part, between State Highway 1 and the Pacific Ocean, has thirteen (13) curves of 1.0 to 3.0 degrees except for three (3) 10 degree curves in downtown Santa Cruz. Also, the gradient is lighter, ranging from 0.5 to 1.5 percent.

There are numerous bridges, trestles and culverts along the segment. It is recommended that a separate assessment of the condition of the bridges and trestles be performed by an experienced structural engineer. The drainage and subgrade is in satisfactory condition for the most part except for an unstable stretch between Milepost 4.8 and 7.2, where the roadbed is on a side hill cut that is very unstable and where substantial investments have been made in retaining walls, etc. The Davenport segment from Moore Creek Gulch near Natural Bridge Road to Davenport Station has a long history of unstable fills. Also, soft subgrade is caused by adjacent irrigation in the Brussels sprouts fields. However, in the late 1960s the cuts and fill sections were widened and in the mid 1980s heavy weight continuous welded rail was laid and a crosstie renewal made on this segment, thus greatly improving the line. The Loma Prieta earthquake of October 17, 1989, caused a stone cap on one pier to shift at the San Lorenzo River Bridge which subsequently has been repined with steel rods. Following the Loma Prieta earthquake, the Pajaro River Bridge at Watsonville, which has three bridge segments totaling 480 feet in length, had a

three pile, steel "H" beam helper bent added for support at the through plate girder "B" segment. The earthquake also caused subgrade problems in the unstable area between Milepost 4.8 to 7.2 and a total subsidence of subgrade fill occurred at Milepost 4.75, which was subsequently rehabilitated.

The Branch is subject to Pine and Eucalyptus trees and their limbs falling on the track in high winds at locations such as Milepost 15.7.

Train Control
The Santa Cruz Branch has no train control signal system and is operated as a non-block signal or "dark" railroad. The line operates under "DTC" which means Direct Traffic Control, which means that the Branch is dispatched by radio from UPRR's central control in Omaha, Nebraska to the two-way radio in the locomotive.

Communication
There are no communication facilities of value on the Branch Line since the only communication is by two-way radio that are located in locomotives, motor vehicles and base stations off of the right-of-way.

Grade Crossings
The track chart provided to us by UPRR during the hi-rail trip shows that there are 46 main track public at-grade crossings on the Santa Cruz Branch, of which there are a total of 25 automatic grade crossing warning systems on the entire Branch which must be maintained to Federal Railroad Administration (FRA) Standards. There is one automatic warning system at a spur track crossing. These systems generally are California Public Utilities Commission (CPUC) Standard #9 or #9A, which is flashing lights and gates with an added cantilever signal at some locations. The old style CPUC Standard #3 or "wig wag" is in evidence at four (4) grade crossings and there are 21 main track at-grade crossings with a passive warning device known as a "crossbuck" sign. On January 21, 2004 the CPUC performed a safety inspection of the Rail Grade Crossings along the Aptos to Capitola segment, the following improvements were recommended as result of that inspection in letter to the RTC dated 1/23/2004.

Location	Recommended Improvement
Grove Lane	1. Install CPUC standard No9 crossing protection 2. Install concrete crossing panels 3. Improve AC surface at approaches
New Brighton	1. Install CPUC standard No.9 crossing protection 2. Install concrete crossing panels 3. Widen crossing to min 24' 4. Decrease approach grade on south side of crossing
Estates Drive	1. Install CPUC standard No 9 crossing protection 2. Install a bulb-out in the northwest quadrant of the crossing to effectively control parking near warning device and to improve visibility.
Aptos Creek Road	1. Install CPUC standard No.9 crossing protection 2. Install concrete crossing panels 3. Consider pre-signal signalization design 4. Signalization with back-up batteries could negate the need for gates at this location.

The CPUC based its recommendations on the following facts:

- Change in the use of the line,
- Presence of passengers,
- Change of design speed, and
- The likelihood of collision of any kind.

The letter also expressed that these requirements can be reviewed and reevaluated in a case-by-case basis taking into consideration the site distance, speed restrictions, stopping capabilities of the proposed passenger rail service.

Right of Way

The width of the Branch Line between Watsonville and Santa Cruz is generally 50-80 feet; however, in some sections, it is narrower or is encroached upon by the surrounding land uses. Between Santa Cruz to Davenport the width ranges from about 100 to 350 feet. There are two longitudinal railroad franchises in asphalt through city streets. One is in the middle of Walker Street in Watsonville and the other is in Beach Street in Santa Cruz.

Rail

The weight of rail is defined by its weight per yard (3 feet). Rail is further described by its cross section, rolling date (manufacturing date), "heat" number, open hearth (OH), control cooling (CC) and manufacturer's name.

Over time and tonnage, rail can develop a large variety of defects, such as detail fractures, engine burn fractures, horizontal split heads, vertical split heads, head and web separations, cracks at the ends of rail, and through bolt holes. Shop manufactured and in-field termite welds develop failures from occlusions in the weld and many other type failures. Perhaps the

worst type of failure is the "transverse fissure" which is a hidden defect that develops like a cancer in the center of the ball of rail and spreads outward until there is a sudden failure under traffic, and a derailment occurs.

The U.S. steel industry developed a control cooling process for rail manufacture in the 1935 to 1937 era which eliminated transverse fissures. Most rail rolled before 1936 is subject to transverse fissures.

The railroad industry developed rail detector cars which use both electronic and ultrasonic non-destructive testing methods to identify hidden rail defects.

On the Santa Cruz Branch, there are75 lb., 90 lb., 110 lb., and 112 lb. rail, rolled before 1936.

Between Santa Cruz and Davenport about nine (9) miles of 75 lb. rail rolled in 1898 was replaced in recent years with re-layered continuous welded rail (CWR), ranging from 112 lb. to 136 lb. in weight.

Between Watsonville Junction and Santa Cruz the rail varies from 90 lb. to 136 lb. About 60% of the rail is 90 lb. which was rolled and laid about 80 years ago. The crosstie condition varies from FRA Class 1 (10 -15 mph) to FRA Class 2 (15 - 25 mph). The ballast is mostly gravel which, for the most part, is fouled with mud. The Davenport Segment – between Santa Cruz and Davenport – was rehabilitated with new 112/136 lb. continuous welded rail (CWR) and crossties for about nine miles in the mid-1980s.

The rail detector car was last operated on the Santa Cruz Branch several years ago. Track supervisors recall that about 20 to 30 rails on the Branch were found to have defects ranging from head and web separations and vertical split heads to bolt hole cracks, mostly in the 90 lb. rail.

Rail is either jointed (bolted rail) which is secured at the ends by two joint bars ranging from 24 to 36 inches in length, having 4 or 6 bolts per joint, or it is welded rail where rail ends are electric flash butt welded in the shop into stocks of up to 1,440 LF. Also, rail joints sometimes are welded in the field by in-field thermit welds and sometimes by portable, track-mounted electric welders. The welded rail is called continuous welded rail (CWR). The jointed rail on the Santa Cruz Branch varies from 33 feet to 39 feet in length. Some relayer welded rail on curves is 72 feet in length.

The Santa Cruz Branch has about 9 TM of CWR on the Santa Cruz to Davenport Segment and CWR on a few curves and in the asphalt at transverse and longitudinal locations in streets and roads.

Crossties

UPRR's Branch Line Standard is 18 crossties per 33 feet of rail length with 22-1/2 inches center to center of ties. This translates into 2,880 crossties per TM. The crossties on the Santa Cruz Branch vary in size from 6"x 8"x 8' to 7"x 9"x 8' and 7"x 9"x 9'. All crossties have

been pressure treated with a mixture of creosote and petroleum oil and vary in wood species from Douglas Fir to southern yellow pine and mixed hardwoods. Defective crossties are defined as those which are split, decayed, plate cut, spike killed or broken and any combination thereof which results in the crosstie being unable to hold a spike and, therefore, unable to maintain gage[1] within tolerances of the U.S. Standard 4' x 8-1 /2".

During the hi-rail trip we learned that approximately 33,000 new crossties were recently installed along the Watsonville Junction to Santa Cruz segment. There are about 63,331 crossties in the 21.99 Miles of mainline, siding, yard and spur tracks in the Watsonville Junction to Santa Cruz segment of the line and 36,300 crossties in the 12.61 Miles of mainline, siding, yard and spur tracks in the Davenport segment.

Turnouts

Turnouts consist of two parts: (1) the switch section with switch points, stockrails, tie bars, floating or ridged heel blocks, slide plates, rail braces, connecting rod and switch stand, and (2) the frog section consisting of the frog, frog plates, guard rails, end blocks, spacer blocks or yokes and wedges, and guard rail tie plates.

Each turnout has a specified number of switch ties which range in length from 9 feet to 16 feet and number from about 70 to 131 switch ties depending on its length which is determined by its "number" which is the unit spread between diverging rails. Thus, a number 10 turnout diverges from the main track rail one foot for every 10 TF as it departs from the frog. Typical main track turnouts on the Santa Cruz Branch are #10's with 112 lb. rail and floating heel blocks, "high star" switch stands, and mostly manganese railbound frogs with a few springrail and self-guarded frogs. These turnouts are in satisfactory condition, with continued maintenance, for the current tri-weekly train service averaging 15 to 20 cars per train, including 100 ton coal and cement hopper cars, and authorized train speeds of 10 to 20 mph.

There are approximately 32 turnouts in the Wastsonville to Santa Cruz segment, of which 12 are either in asphalt paving or are otherwise scrap. Thus, there are about 20 turnouts which are #10s with an average weight of rail of 112 lb. There are about 14 turnouts on the Davenport segment which are mostly #10, 112 lb. with a few 90 lb. turnouts.

Ballast

Ballast is defined as crushed rock, slag, gravel or cinders upon which the track rests and for which track is dependent upon for drainage, resilience and holding strength to prevent longitudinal or transverse movement of the track. The Santa Cruz Branch has gravel ballast throughout except that 1-1/2 inch crushed granite rock ballast was applied at certain locations where rehabilitation work was performed including where about 9 TM of CWR was laid on the Davenport Segment.

APPENDIX D
Santa Cruz Branch Principal Commodities by Shipper

Table D-1: Santa Cruz Branch Principal Commodities (Carloads) by Shipper					
Shipper	**Inbound**		**Outbound**		**Total Carloads**
	Commodity	**Carloads**	**Commodity**	**Carloads**	
Watsonville					
Birdseye Frozen Foods	Perishables	80	Perishables	80	160
Americold (Riverside Dr, Salinas Rd)	Perishables	50	Perishables	50	100
Cascade Refrigerated	Perishables	100	Perishables	300	400
Cascade Properties	Perishables	10	Perishables	100	110
Del Mar Foods			Perishables	10	10
Big Creek Lumber	Lumber	72			72
Total Watsonville Traffic		312		540	852
Santa Cruz					
San Lorenzo Lumber (yard)	Lumber	165			165
San Lorenzo Lumber (door)	Lumber	200			200
Total Santa Cruz Traffic		365			365
Davenport					
RMC Pacific	Coal	1,100	Cement	1,800	2,900
	Slag	600			600
	Gypsum	50			50
Total Davenport Traffic		1,750		1,800	3,550
Total Carloads		**2,427**		**2,340**	**4,767**

Note: Americold facility on Salinas Road is east of Salinas Road, switched off the portion of the branch that the RTC will not purchase. The following analysis assumes that the short line will make the switch for UP.

Table D-2: Santa Cruz Branch Principal Commodities (Tons) by Shipper					
Shipper	**Inbound**		**Outbound**		**Total Tons**
	Commodity	**Tons**	**Commodity**	**Tons**	
Watsonville					
Birdseye Frozen Foods	Perishables	5,200	Perishables	5,200	10,400
Americold (Riverside Dr, Salinas Rd)	Perishables	3,250	Perishables	3,250	6,500
Cascade Refrigerated	Perishables	6,500	Perishables	19,500	26,000
Cascade Properties	Perishables	650	Perishables	6,500	7,150
Del Mar Foods			Perishables	650	650
Big Creek Lumber	Lumber	4,680			4,680
Total Watsonville Traffic		20,280		35,100	55,380
Santa Cruz					
San Lorenzo Lumber (yard)	Lumber	16,500			16,500
San Lorenzo Lumber (door)	Lumber	20,000			20,000
Total Santa Cruz Traffic		36,500			36,500
Davenport					
RMC Pacific	Coal	110,000	Cement	180,000	290,000
	Slag	60,000			60,000
	Gypsum	5,000			5,000
Total Davenport Traffic		175,000		180,000	355,000
Total Carloads		**231,780**		**215,100**	**446,880**

APPENDIX E
CTC Letter re: Proposition 116 Funding Requirements

STATE OF CALIFORNIA

GRAY DAVIS
GOVERNOR

Attachment 4

CALIFORNIA TRANSPORTATION COMMISSION

1120 N STREET, MS-52
P. O. BOX 942873
SACRAMENTO, 94273-0001
FAX (916) 653-2134
(916) 654-4245

October 24, 2003

Ms. Janet K Beautz, Chair
Santa Cruz County Regional Transportation Commission
1523 Pacific Avenue
Santa Cruz, CA 95060

Dear Ms.Beautz:

I received your letter dated October 17, 2003, requesting clarification regarding the Proposition 116 funds which have been and will be allocated to your county.

Your first question concerning the rail service needing to be placed in service within 10-years of the allocation, and should the plan eventually fail, would the Santa Cruz County Regional Transportation Commission (SCCRTC) be liable to the State to return Proposition 116 funds? The Commission recognizes the fact that the planned rail service could fail; however, I'd like to point out that there are a couple of very viable options available to SCCRTC that could preclude the repayment of funds. For example, SCCRTC could submit an alternate operating plan to the Commission for approval, or SCCRTC could propose an alternate project that meets the criteria of the legislation. The Commission is committed to working with SCCRTC to find any viable options for a rail project within your county should the currently proposed plan cease.

To your second question regarding how long the service/line would need to be sustained. The Commission, as well as most state agencies, generally require projects that consist of state funding be kept operating for its useful life of the capital equipment, which could be between 40 to 50 years. However, we typically look at each particular project at the time we're notified that a project that included state funding will be sold or cease to exist for its intended purpose. At that time a determination is made regarding whether any payback, if any, would be necessary.

Thank you for the opportunity to clarify your concerns. Again, the Commission is committed to working with SCCRTC to make any project selected successful or choosing

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Ms. Janet Beautz
October 24, 2003
Page 2

an alternate project if requested. If you have any additional questions about the Proposition 116 Rail Bond Program please contact me at (916) 654-7179 or Kathie.Jacobs@dot.ca.gov.

Sincerely,

Kathie Jacobs

KATHIE JACOBS
Assistant Deputy Director
California Transportation Commission

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APPENDIX F
SB 465
RTC Enabling Legislation

BILL NUMBER: SB 465 CHAPTERED
FILED WITH SECRETARY OF STATE October 4, 2001

LEGISLATIVE COUNSEL'S DIGEST

SB 465, McPherson. Santa Cruz County Regional Transportation Commission.

(1) Existing law creates and prescribes the membership and powers of the Santa Cruz County Regional Transportation Commission.

This bill would revise the membership of the governing body of the commission. To the extent that this revision would establish additional duties upon local governmental entities, the bill would impose a state-mandated local program.

This bill would revise the power of the commission, to permit it to exercise (1) the power of eminent domain, (2) the power to preserve, acquire, construct, improve, and oversee multimodal transportation projects and services on rail rights-of-way with Santa Cruz County to facilitate recreational, commuter, intercity, and intercounty travel, and (3) the authority to contract for any services to accomplish its purposes.

(2) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reason.

THE PEOPLE OF THE STATE OF CALIFORNIA DO ENACT AS FOLLOWS:

Section 1. Section 67940 of the Government Code is amended to read:

67940. (a) The Santa Cruz County Regional Transportation Commission is hereby created, as a local area transportation planning agency, and not as part of the executive branch of state government, to provide regional transportation planning and development for the area of Santa Cruz County. The commission may be known by any other name it chooses and is the legal successor to the Santa Cruz County Regional Transportation Commission, established pursuant to Section 29535, for all purposes, including those set forth in Section 67941.

(b) The governing body shall be composed of all five members of the Santa Cruz County Board of Supervisors, one member for each of the cities in the county, by each city, and three members appointed by the Santa Cruz Metropolitan Transit District.

(c) The appointing authority, for each regular member it appoints, and the board of supervisors for each of its members, may appoint an alternate member to serve in the place of the regular member when the regular member is absent or disqualified from participating in a meeting of the governing body.

Sec. 2. Section 67941 is added to the Government Code, to read:

67941. (a) The Commission has the power of eminent domain and the power to preserve, acquire, construct, improve, and oversee multimodal transportation projects and services on rail rights-of-way within Santa Cruz County in any manner that facilitates recreational, commuter, intercity, and intercounty travel. An action in eminent domain to acquire property or property interests within any incorporated city or within the unincorporated area of the county may not be

commenced unless the governing body of the affected city or county has consented by resolution to the acquisition.

(b) The commission may contract for any services that accomplish its purposes.

Sec. 3. No reimbursement is required by this act pursuant to Section 6 of Article XIIIB of the California Constitution because the only costs that may be incurred by a local agency or school district are the result of a program for which legislative authority was requested by that local agency or school district, within the meaning of Section 17556 of the Government Code and Section 6 of Article XIIIB of the California Constitution.

APPENDIX G
Liability and Insurance for Other Operators

Liability issues with respect to railroad operations can be daunting for new right-of-way owners. Freight train liabilities include the cost of incidents involving property, and equipment, as well as third partiers who could be affected by an incident. When passenger operations are added to the mix, liabilities grow because of the nature of the risks associated with carrying people. Agencies deal with these liabilities in a variety of ways including making their own arrangements for insurance to cover them, delegating the insurance requirements and the liabilities to other parties who have operating rights on their property and combinations of these arrangement types.

The division of liability is a negotiating issue and rests on the overall business arrangements made for freight and passenger operations. In delegating responsibility to operators, the most extreme position for an owner (borrowed from the position of many freight railroad owners who are asked to take on passenger operations) is language that assigns to the operator (or operators) the liability for any incident that would not have happened "but for" the existence of operating trains. This extreme language assigns all liability for any incident involving trains, regardless of "fault", to the operator(s). Using this language, even if an owner's employee is grossly negligent and causes a terrible incident, the operator holds the liability.

For owners of railroad rights-of-way that contract to others for freight and passenger operations, it is important to apportion liability away from the owner. Typically, the owner identifies an allocation of liability to the most intense user and requires that this user take full liability for all train operations naming the owner as additional insured. Where multiple parties will have trackage rights, the division of liability must take into account the economic realities of the situation and the nature of the operations.

Other versions of liability division may be fault-based and/or may provide for the owner and operator(s) to share some of the liability.

Amtrak and Union Pacific Railroad

The national agreements governing Amtrak's use of freight railroad rights-of-way for passenger operations include liability language that governs all Amtrak operations outside right-of-way that Amtrak owns (primarily the Northeast Corridor). In California, the current Capitol Corridor service arrangements do not convey any liability to Caltrans (the source of funding). All liability for these operations is divided between Amtrak and UP, where UP is the right-of-way owner. In the future, however, as Amtrak withdraws its support for these trains and requires that they are financed on a fully allocated basis (all required subsidies from Caltrans or its successor) Amtrak could require that the sponsor take on some or all of the liability.

The current division of liability between Amtrak and UP (and most other freight carriers over which Amtrak operates) provides for Amtrak liability for its property including rolling stock, its employees, its passengers and any third party it's rolling stock becomes involved with (such as grade crossing accidents). The UP (freight carrier and owner of the right-of-way) is liable for its property, its rolling stock, its employees, and its involvement with third parties (including trespassers). This provision applies regardless of fault (no-fault) and means, to give a dramatic example, that if a freight train and a passenger train collide, Amtrak is liable for damage to its assets and its passengers and the freight carrier is liable for its assets and its freight. As

compensation to the freight railroad for sharing liability Amtrak pays a "residual risk" fee of approximately four (4) cents per train mile to the freight railroad. For the Capitol Corridor the amount of this fee is approximately $20,000 per year.

Metrolink

In Southern California, the Southern California Regional Rail Authority (SCRRA) contracts with Amtrak to operate Metrolink trains over rights-of-way it owns and other rights-of-way owned by the freight railroads. The division of liability for the SCRRA is a mix depending on ownership of each segment. In some cases, it has divided liability in layers and proportioned on the basis of fault. On the Saugus Line, for instance, a line owned by UP and used by SCRRA passenger trains, each party takes the liability for its employees, "invitees" (passengers) and property on a no-fault basis for the first $25 million of liability in a given year and splits the liability in proportion to the degree of fault above $25 million to a maximum liability for each party of $125 million. Above $125 million each party is responsible for its own losses. This agreement requires that both parties cover the liability with insurance up to a maximum of $100 million per occurrence. Self-insurance is permitted for the first $10 million.

APPENDIX H
Estimated Capital Costs – Passenger Service

Table H-1: Estimated Capital Costs – Passenger Service

BID		QUANTITY						GENERAL COMMENTS
ITEM #	ITEM DESCRIPTION	U.C.	Qty	Unit	ESTIMATE	ESTIMATE WITH CONT.	MAKE INVESTMENT?	& ASSUMPTIONS
1.0	**GENERAL**							
1.1	Mobilization	$230,000	1	LS	$230,000			Approx. 8% of Subtotal Construction Cost
1.2	Remove & Salvage Rail & OTM	$12,408	5.5	TM	$68,244	$106,133	No - only needed for Class 2 track. To upgrade to Class 1 track, only joint bar replacement will be done. Cost = $25,000	Removal and hauling of all rail and other track material (OTM) listed in Appendix G of the NLV report dated March 2004 as having a 10% or lower life remaining. Per Table 5 (NLV) approx. 90% of the track along the recreational segment falls in the less than 10% remaining life category.
1.3	Remove & Dispose Crossties	$3	4,651	EA	$13,952	$21,699		Removal and disposal of all crossties with 10% or lower depreciated value, per Appendix G of the NLV, March 2004. It has been assumed that 20% of the ties that need to be replaced fall within the recreational segment.
1.4	Handling and disposal of contaminated soil			LS				TBD
	Sub Total				**$312,196**	**$127,832**		
2.0	**STATION PLATFORMS**							
2.1	Cliff Drive	$103,220	1	LS	$103,220	$160,528	Yes	Per PSR, Sept 2003 with a 10% contingency added
2.2	Capitola Village	$90,926	1	LS	$90,926	$141,408		Per PSR, Sept 2003 with a 10% contingency added
2.3	New Brighton State Beach	$179,267	1	LS	$179,267	$278,796		Per PSR, Sept 2003 with a 10% contingency added
2.4	Seacliff State Beach	$110,440	1	LS	$110,440	$171,756		Per PSR, Sept 2003 with a 10% contingency added
2.5	Aptos Village	$90,772	1	LS	$90,772	$141,169		Per PSR, Sept 2003 with a 10% contingency added
2.6	Seascape Village	$90,772	1	LS	$90,772	$141,169		Per PSR, Sept 2003 with a 10% contingency added
	Sub Total				**$665,397**	**$1,034,825**		
3.0	**Trackwork**							
3.1	Mainline Track	$60	29,040	TF	$1,742,400	$2,709,780	No - only needed if upgrade to Class 2 track	5.5 miles (90% of track along the recreational segment) of track is replaced with new mainline track 113 CWR or heavier
3.1	Capitola Storage Track	$55	150	TF	$8,250	$12,830	Yes - but could be avoided depending on operator	Furnish and install112/113 CWR, including OTM
3.2	Seascape Storage Track	$55	150	TF	$8,250	$12,830		Furnish and install112/113 CWR, including OTM
3.3	No. 10 Turnout	$120,000	2	EA	$240,000	$373,248		Includes labor and OTM
3.4	Bumping posts	$5,000	2	EA	$10,000	$15,552		Includes labor
	Sub Total				**$2,008,900**	**$3,124,241**		
4.0	**Grade Crossing Improvement**							
4.1	CPUC No 9 Crossing Warning System	$175,000	4	EA	$700,000	$1,088,640	No - assume passenger operation will be slow speed so as to avoid need for crossing protection	Per PUC recommendation letter dated January 23, 2004. Cost from NLV, March 2004 Appendix G
4.2	Concrete Panels	$8	4,320	SF	$34,560	$53,748		Per PUC recommendation letter dated January 23, 2004.
4.3	Improve AC approached	$4	280	LF	$1,120	$1,742		Per PUC recommendation letter dated January 23, 2004.
4.4	"Pre signal" system & panelization	$250,000	1	LS	$250,000	$388,800		Includes labor for installation of warning systems at Grove Ln, New Brighton, States Dr & Aptos Creek Rd.
	Sub Total				**$985,680**	**$1,532,930**		
	SUBTOTAL CONSTRUCTION COST				**$3,972,173**	**$5,819,828**		$2,733,436
6.0	**Rolling Stock**							
6.1	2 cars train set	$450,000	2	LS	$900,000			Average of quotes from used RDC vendors, inlcuidng refurbishmnet allowance
	Sub Total				**$900,000**	**$900,000**		
7.0	**Storage and Maintenance**							
7.1	Storage and Maintenance Facility				$0			TBD
	Sub Total				**$0**			
8.0	**Provisions**							
8.1	Maintenance of Freight rail traffic during construction				**$0**	**$0**		All construction work will be done during the windows of non-freight operation.
9.0	**Other Costs**							
	Design Cost (10% Construction Cost)				**$397,217**			LF: Lineal Foot
	Construction Mngmnt (10% Construction Cost)				**$397,217**			TM: Track Mile
	Contingency (20% Design & Construction Cost)				**$953,322**			EA: Each
								SF: Square Foot
	TOTAL COST				**$6,619,930**	**$9,844,069**		

Source: SYSTRA Consulting, Inc.

APPENDIX I
Estimated Capital Costs – Freight Service

Table I-1: Estimated Capital Costs – Freight Service

BID ITEM #	ITEM DESCRIPTION	QUANTITY U.C.	Qty	Unit	ESTIMATE $	MAKE INVESTMENT?	GENERAL COMMENTS & ASSUMPTIONS
1.0	**GENERAL**						
1.1	Mobilization		1	LS	$700,000.00		Approx. 8% of Subtotal Construction Cost
1.2	Remove & Salvage Rail & OTM	$12,408.00	13.76	TM	$170,734.08	No - frieght service can continue on existing track	Assumed removal and hauling of all rail (19.26 miles) and other track material (OTM) listed in Appendix G of the NLV report dated March 2004 as having a 10% or lower life remaining, except for the 5.5 miles that falls within the recreational segment.
1.3	Remove & Dispose Crossties	$3.00	18,603	EA	$55,809.60		Removal and disposal of all crossties with 10% or lower depreciated value, per Appendix G of the NLV, March 2004 Except for the 20% that falls within the recreational segment.
1.4	Handling & Disposal of Contaminated Material				$0.00		
	Sub Total				**$926,543.68**		
3.0	**Trackwork - Furnish and Install**						
3.1	New 112/113 CWR & OTM	$273,240.00	13.76	TM	$3,759,782.40	No - frieght service can continue on existing track	All removed rail & OTM are replaced with 112/113 lb. Cost derived from NLV, March 2004 Appendix G, Replacement Cost New (RCN) including labor cost.
3.2	Crossties	$50.00	18,603	EA	$930,160.00		Replace all crossties with 10% or lower depreciated value shown on NLV, March 2004 Appendix G
3.3	Ballast	$14.00	7,706	TON	$107,884.00		20% of the ballast within the 19.26 TM gets scattered and lost with the removal and replacement of rail and crossties and using the value of 2,800 Tons/TM per NLV, March 2004
	Sub Total				**$4,797,826.40**		
4.0	**Other Trackway Improvements**						
4.1	Initial Drainage Inspection & Minor Repair	$48,173.00	1	LS	$48,173.00	Yes - with contingencies = $74,000	02% cost of the RCN value listed in the NLV Report, May 2004, for initial inspection and minor embankment repair.
4.2	Initial Grade Crossing Improvement				$0.00	No	Operating speed for freight traffic will remain at 10 MPH as it is today and therefore no initial investment for grade crossing improvement would be needed to maintain freight operation.
4.3	Initial Inspection and Repair of Timber Trestles	$242.00	2,380	LF	$575,960.00	No - assume structures can support frieght service at current speeds and loads	5% of full replacement cost per RCN value listed in NLV Report, May 2004 for inspection by a qualified Structural Engineer and minor repair work.
4.4	Initial Inspection and Repair of Steel Bridges	$249.00	1,840	LF	$458,160.00		2% of full replacement cost per RCN value listed in NLV Report, May 2004 for inspection by a qualified Structural Engineer and minor repair work.
4.5	Initial Inspection and Repair of Concrete Deck Bridges	$100.00	941	LF	$94,100.00		2% of full replacement cost per RCN value listed in NLV Report, May 2004 for inspection by a qualified Structural Engineer and minor repair work.
	Sub Total				**$1,176,393.00**		
	SUBTOTAL CONSTRUCTION COST				**$6,900,763.08**		**Abbreviations**
	Maintenance of Freight rail traffic during construction				**$250,000.00**		LS: Lump Sum
	Design Cost (10% Construction Cost)				**$690,076.31**		LF: Lineal Foot
	Construction Mngmnt (10% Construction Cost)				**$690,076.31**		TM: Track Mile
	Contingency (20% Design & Construction Cost)				**$1,518,167.88**		EA: Each
							SF: Square Foot
	TOTAL COST				**$10,049,083.57**		

Source: SYSTRA Consulting, Inc.

APPENDIX J
Interested Short Line Operators

Santa Cruz Big Trees and Pacific Railway Company (SCBT&P), also known as Roaring Camp Railroads, has been providing successful recreational rail service in Santa Cruz County since 1986. It operates a passenger train, using a diesel engine and old passenger cars, between its Felton site and the Beach/Boardwalk area of Santa Cruz through the San Lorenzo River Gorge along right-of-way (the Felton Branch) it purchased from the Southern Pacific Company. Since 1963, it has also operated a narrow-gauge steam train on a six-mile round-trip route at its site near Felton. Service to the Beach/Boardwalk is seasonal (May to December), operating about 105 days per year, and carried approximately 30,000 passengers in 2002 at a cost of $16/round trip. The SCBT&P also operates limited freight service on the line.

The Beach Train offered by the SCBT&P offers a 3-hour round trip at a $20 fare for adults and $15 fare for children 3-12 years. Offering two roundtrips for the Suntan Special/Redwood Express, schedules are as follows (Suntan Special in the southbound direction and Redwood Express in the northbound direction):

Depart Roaring Camp	Arrive Beach/Boardwalk	Depart Beach/Boardwalk	Arrive Roaring Camp
10:30 am	11:30 am	12:30 pm	1:30 pm
2:30 pm	3:30 pm	4:30 pm	5:30 pm

Founded in 1897, **Sierra Railroad** offers dinner train excursions based in the central valley town of Oakdale. It is a common-carrier freight railroad, handling over 6,000 carloads of freight each year. It operates several passenger excursions and has a fleet of passenger coaches available to the proposed service. It has the largest private maintenance of way fleet in California capable of maintaining the tracks. Sierra Railroad presently operates in Tuolumne, Stanislaus, Yolo, Sacramento and Mendocino counties.

Other recreational rail operations in Northern California include the California Western Railroad ("Skunk Train"), the Napa Valley Wine Train (dinner trains), the Niles Canyon Railroad (historic society), the McCloud Railway Company (dinner trains), and the Yolo Shortline Railroad (excursion trains).

APPENDIX K
Glossary

Ballast:	Gravel or broken stone laid in a railroad bed to support ties and tracks.
Branch Line:	The Santa Cruz Branch Line currently owned by UP
CPUC or PUC:	California Public Utilities Commission
CTC:	The California Transportation Commission
CWR:	Continuous welded rail
FRA:	Federal Railroad Administration
Interchange Rate:	The division of freight shipping revenues between Branch Line operations (which will be received by the Commission's short line operator) and the main line operations (which will be received by UP for carrying the freight from Pajaro Junction to its ultimate destination).
LF:	Linear feet
Next Train System:	An automated system consisting of display panels at passenger stations to inform waiting passenger of the length of time until the next train arrives. This system is normally used for transit passenger operations with greater passenger volumes than the proposed RTC recreational rail service.
O&M:	Operations and maintenance
SCBT&P:	The Santa Cruz, Big Trees & Pacific Railroad
Rolling Stock:	A trainset consisting of self-propelled cars, or a locomotive with passenger cars.
RTC:	The Santa Cruz County Regional Transportation Commission
TM:	Track miles
UP:	The Union Pacific Railroad Company