FINANCIAL PLAN

Q

The Finance Plan assumes a $950 million federal grant and the proceeds of a $1.0 billion TIFIA loan will be available for deposit in an interest bearing account on January 1, 2002. However, both of these programs are administered as reimbursement programs, with cash made available to pay incurred costs in parallel with the other sources of funding. We would like to discuss how adapting to this requirement might affect the financial plan, and why you believe that at the expected interest rate and bond coverage ratios the $2.8 billion in tax-exempt revenue bonds will be marketable.

A

Yes, the model shows a deposit to the construction and capitalized interest accounts from Bond Proceeds and from TIFIA loan proceeds.

Interest is being earned at an assumed rate equal to the borrowing cost. Therefore, the model shows the proceeds earning interest and at the same time accruing an interest cost. If the model were to be changed to reflect TIFIA disbursements on a reimbursement basis, the investment income would decrease in the same amounts as interest costs, and the economics of the model would be unchanged. The $950 million from FRA is assumed received as cash.

As to any assurance that municipal bonds would be available in such amounts and at such rates as are assumed in this model, none can be made for a domestic startup MAGLEV system. All that can be said is that if sufficient guarantees can be obtained from the private sector for

- Construction completion,
- Technology functionality, and
- Insurance for force majeuer events,

then those guarantees combined with the TIFIA commitment and FRA's $950 million, should satisfy potential bondholders and bond insurers with the projected coverage ratios. That series of actions will allow the bonds to be sold and provide MAGLEV funding. No private sector third party would ever provide guarantees that bonds in sufficient amounts and at market rates would exist for such a large and complicated startup MAGLEV project.

Q

The financial plan information in Appendix E includes a table, "Major Schedule Maintenance Escrow Account," that shows a maintenance draw of $600 million in 2009 and $500 million in 2010. Please provide additional information about these entries, i.e., what activities and costs they cover, when they will be spent, etc.

A

As stated elsewhere, the $1.1 billion in costs in 2009 and 2010 were placed into the cash flows in the Major Scheduled Maintenance Account because they occur after revenue startup. This has been corrected to include all major capital items in the construction schedules.

Q

Given the uncertainties associated with forecasting future airline operations, how did you estimate the potential amount of transfer air traffic between LAX and Ontario airports? What would be the impact on the financial plan if this market segment failed to materialize?

A

Air passengers moving between airports were forecast using the Regional Air Demand Allocation Model (RADAM). To gauge the effect of such an impact on the finance plan one would simply have to measure the decrease in ridership and other revenue associated with the elimination of this segment. Presumably one could use the 75% revenue scenario that has been run for this analysis to get an idea of impacts on the finance plan. As in any downside case, the TIFIA loan would be the first financial instrument to be effected. As the subordinate lien holder, the USDOT would become the "first dollar loss" creditor on these projects. Bondholders should be unaffected in just about every possible downside scenario.

.

Q

On page 6 of the Cashflow Model – 13 in Appendix E, the Construction Fund disburses only $3.5 billion for construction over the construction period. Where does the remainder of the funds needed for construction come from?

A

The scenario show in Cashflow Model 13 was based on a configuration for a $4.8 billion project. The cashflow split the costs into two pieces, one marked "Construction Fund" for the $3.5 billion in project costs occurring during the nonrevenue producing period, and $1.3 billion in continuing project costs after revenue service has begun. This $1.3 billion cost portion can be found being funded in the Major Scheduled Maintenance Fund.

Our subsequent scenarios, 14a–d (described later in this section), are based on a $6.0 billion project with an enhanced ridership configuration. These scenarios were run with all major construction cost components included in the construction fund, with no regard given to revenue service date.

Q

Please reformat the financial plan into the standardized format (attached and provided to you electronically). In contrast to the present value analysis, the financial analysis can be done using nominal interest rates and inflated revenues and costs, and it was suggested that all projects use an inflation rate of 3% per year unless there was well-documented reasons to select an alternative for some or all measures. The interest rate in your financial plan is about 6.5% and thus seems to be a nominal rate and costs and revenues should be inflated accordingly (interest rates and interest expenses seem to be in nominal terms, i.e., include inflation). Indicate what inflation rate you are using and how this assumption affects the financial plan. Provide a sensitivity analysis using the 3% inflation rate if an alternative rate is used as a base case

A

The tables showing this work are included in this section. The file is gsfrasum.xls and has four tabs showing the suggested analyses. All of the suggestions in the question have been included.

Q

Separate financial and present value sensitivity analyses using 75% of system revenues and an increase in capital costs of $150 million are requested. Also provide a combined case reflecting these assumptions. Note: It would be appropriate to reduce O&M costs to be consistent with the lower ridership (revenues), but a simple proportional reduction is not realistic.

A

The finance plan worksheet shown in the Project Description was 13, based on the EA alignment. The Enhanced Constrained Alignment submitted to FRA on September 1 had higher costs and revenues. The following changes, included in Case 14, were based on Excel file Profrm8I.xls. The FRA's $950,000,000 was assumed to be on a reimbursement basis. The increased capital costs, revenues, and operating expenses were included.

- Inflation changes everything. A 3% inflation of revenues and costs and O&M produces an inflated base case (14a) with an accumulated surplus in 2045 of $13 billion.
- The spreadsheet in the FRA format with five results, as explained below, is included in this section.
- *14 – Base Case* (constant $2000). No inflation, no change in capital cost, no reduction of revenues
- *14a – Inflated Base Case*. Inflation at 3% (all revs, O&M, capital costs), no change in capital cost, no reduction of revenues
- *14b – Sensitivity to Cost.* Inflation at 3% (all revs, O&M, capital costs), +$150 million in capital cost, no reduction of revenues
- *14c – Sensitivity to Revenue Decrease*. Inflation at 3% (all revs, O&M, capital costs), no change in capital cost, 75% reduction of revenues
- *14d – Sensitivity to Cost and Revenue Decrease*. Inflation at 3% (all revs, O&M, capital costs), +$150 million in capital cost, 75% red. of revenues

Q

Please provide a diskette with files containing spreadsheets used for the present value and financial tables discussed above.

A

Enclosed.

GUIDEWAY COSTS

Q

Please provide a table that estimates the time pattern of annual expenditure for system development (construction, vehicle and equipment acquisition, testing, etc.). Indicate whether the estimates are in real (constant) year 2000 dollars, or inflated year of expenditure dollars. If inflated estimates are used, an inflation rate of 3% per year may be used without explanation, but use of an alternative rate should be justified.

A

The included spreadsheet, profrm8i.xls, is revised with inflation and sensitivity test adjustments. The assumptions are that all revenues, O&M costs, and capital costs are inflated from 2000 by 3% a year. Base year 2000 capital cost is $6 billion and there is change in parking, freight or concessions base year estimates.

Q

The Pro Forma projections of Appendix E indicate “annual riders” for the years 2007 through 2055, along with “annual yield” and “annual gross” for the corresponding years. “Annual yield” appears to be an average fare. “Annual gross” appears to be farebox revenue estimated as the product of “annual riders” and “annual yield.” (It was not possible to duplicate the “annual gross” figures exactly, presumably due to rounding errors.) “Annual yield” changes over the period 2007 to 2010 as the system is phased in. However, “annual yield’ or average fare is held constant from 2007 to 2055 at $14.42. It is suggested that fares should be assumed to increase at least in order to keep up with the general rate of inflation. An escalation rate of 3%/year in fares is suggested. Indicate the impact this would have on the project’s financial feasibility.

A

The included spreadsheet, profrm8i.xls, is revised with inflation as suggested.

Q *The project description seems to provide an unescalated capital cost estimate of $4.869 million in Table 6.1-1, Estimated Initial Capital Cost. The financial plan of Appendix E assumes a fined price construction contract of $4.8 billion with construction occurring over the years 2003 to 2010. If our interpretation is correct, what would be the escalated (inflated) capital cost of the project assuming costs escalated at 3%/year utilizing the year by year contract payment schedule similar to that shown in Appendix E? If relevant, indicate the impact this change would have on the project's financial feasibility as part of a revised base case.*

A The Expanded Constrainable Alignment has an estimated construction cost of $6 billion. The finance plan shown in spreadsheet gsfrasum.xls shows the results of the inflation assumptions.

Q *Total guideway costs may be underestimated based on our comparisons of costs per guideway mile for major cost categories. In particular, although substructure costs are very difficult to estimate based on the lack of information available at this stage of the project, your costs of about $2.9 million per guideway mile for substructures seems low. Please review your estimates and provide any explanation or information on this item. It is also requested that in developing the sensitivity analyses noted above that you include an increase in capital costs of $150 million to reflect this concern.*

A The guideway foundation costs were based on volume estimates for the proposed structures as developed using a Caltrans model. The unit price of concrete for these structures was based on actual bid prices from Bechtel for FY 2001 construction. The typical structure is about $2.4 million/km for single track and $3.2 million/km for double track. This is more like $5 million/mile for foundations and columns. Those are the numbers used for the cost spreadsheets.

Q *The analysis of the project description did not inflate O&M costs for the purpose of the financial analysis. An escalation rate of 3%/year in O&M costs is suggested. Indicate the impact this would have on the project's financial feasibility.*

A The finance plan shown in spreadsheet gsfrasum.xls shows the results of the inflation assumptions.

Q *The analysis of the project description did not inflate future replacement costs for the purpose of the financial analysis. An escalation rate of 3%/year in future continuing investment costs is suggested. Indicate the impact this would have on the project's financial feasibility.*

A The finance plan shown in spreadsheet gsfrasum.xls shows the results of the inflation assumptions.

PRESENT VALUES

Q

Present value analyses should be done for a 41 year operating period, be expressed in real year 2000 dollars, and discounted to the base year 2000 using a 7% discount rate. A sensitivity analysis using a 4% discount rate may be prepared but is not required. Your estimates use a base year of 2003 but otherwise seem to conform to the FRA request for methodological standardization. You may choose the 41 year operating period beginning in either 2007 or 2010, but if 2010 is used, the revenues and costs of the preceding years should be treated as part of the construction period costs and revenues.

A

The requested tables are shown in this section. The benefit-cost summary tables were revised according to FRA's request. The analysis continues to be presented in constant year 2000 dollars; however, all values are discounted to the year 2000 instead of 2003. The assumed discount rate is 7.0%. Costs and revenue streams reflect project construction/development expenditures beginning in 2003 and initial, partial revenue operation in 2007.

However, the first full year of revenue operation for the entire system is assumed to be 2010. Costs and revenues are estimated to the year 2050, providing the required 41 years of system operation for analysis purposes.

Under the baseline scenario, the project would generate substantially greater revenues and benefits than costs (both capital and operating). The estimated benefit-cost ratio, for all discounted costs and benefits, is 1.96. This benefit-cost ratio clearly shows that the present value of benefits is almost double the present value of costs. The ratio continues to significantly exceed 1.0 in the revenue and cost sensitivity tests suggested by FRA. In the event that operating revenues from fares, parking, concessions and freight traffic are only 75% of that estimated under the baseline scenario, the project benefit-cost ratio would only decline to 1.60. This scenario assumes no comparable decrease in operating costs and also adjusts the estimated Consumer Surplus downward in proportion to the decrease in fare revenue.

For a case where capital costs increase by $150 million above the baseline cost estimate, the benefit-cost ratio would only decline to 1.92. Under a combined scenario of revenues being 75% of baseline and capital costs being $150 million above baseline, the benefit-cost ratio declines to 1.56, indicating the present value of project total benefits still remains substantially greater than the present value of project total costs.