California Transportation Commission (CTC)

FINANCIAL ANALYSIS OF PUBLIC PARTNERSHIP HIGH OCCUPANCY TOLL (HOT) LANE PROJECT PROPOSALS

FINDINGS

March 26, 2008

Table of Contents

Overview

This draft report summarizes the main findings of System Metrics Group, Inc. in association with Jeffrey A. Parker & Associates and Aldaron, Inc. (the "Consultant Team") in evaluating the eligibility from the standpoint of financial feasibility of the application filed by the Riverside County Transportation Commission (RCTC) in seeking legislative authority to develop High-Occupancy Toll Lanes ("HOT Lanes") in the entire length of the I-15 corridor in its jurisdiction. RCTC's application was filed in accordance with Assembly Bill (AB) 1467 and California Transportation Commission (CTC) HOT Lane guidelines promulgated pursuant to AB1467. The CTC guidelines specify numerous eligibility criteria, amongst which is "Financial Feasibility."

RCTC's application was based on a number of initial analyses and was necessarily submitted prior to RCTC expending additional resources to undertake more detailed studies and forecasts and in advance of environmental approvals. Thus, the data and assumptions contained therein and reviewed in this report must be viewed as being preliminary and subject to refinement during later stages of project development. Accordingly, our finding of financial feasibility is based on a level of due diligence that is appropriate and possible given the technical analyses that have been performed to-date. It can be anticipated that additional analyses and refinements, including an investment-grade toll revenue study, will be conducted prior to RCTC's seeking financing from capital markets.

RCTC's application contemplates initially developing a portion of the corridor under a project scope that comprises HOT Lanes as well as new general purpose lanes and HOV Lanes. **This report finds that the construction of HOT lanes along the I-15 corridor (which is the subject of the legislative authority being sought by RCTC) appears to be financially feasible, given the preliminary information provided, including the availability of subsidy from RCTC and the assumption of all cost and schedule risks being assumed by RCTC.** The construction of the new general purpose lanes and HOV lanes shown in the initial project concept may require RCTC to reprogram additional 2009 Measure A or other funds. It should be noted, however, that such lanes are outside the scope of the authority being sought by RCTC from the Legislature.

Given the relatively early stage of project development, a number of issues have been identified that cannot reasonably be definitively resolved at this juncture, and these are described at appropriate points in this report. The identification and subsequent resolution of such issues is typical for any project of the magnitude being contemplated. None of these issues can be said, at this stage, to render the project financially *infeasible*, but instead should be viewed as matters that require further refinement and resolution prior to final project financing arrangements being put in place.

RCTC's application includes a draft MOU with Caltrans for the Project Report/Environmental Document phase that explicitly allocates essentially all project development costs and overrun risk to RCTC for the current phase. The MOU is silent on operating and renewal costs which

RCTC and Caltrans have indicated to the Consultant Team will be addressed in a future MOU with Caltrans. However, RCTC and Caltrans have both indicated that the responsibilities for these costs in respect to the HOT Lanes portion of the project will be allocated to RCTC as well. The CTC and Caltrans may wish to reach a clear understanding on this point during the application review and approval process.

This report is comprised of four sections:

1. Assessment of Project Objectives;
2. Review of Financial Plan and Model;
3. Review of Financing Arrangements;
4. Attachments

1. Assessment of Project Objectives

The Riverside County Transportation Commission (RCTC) is seeking legislative approval to develop HOT lanes along the entire length of I-15 within the county. The goal of the application is obtain approval to toll I-15 within RCTC's jurisdiction.

RCTC's application describes an initial project (the "Project" or "Segment A") consisting of:

- Adding two HOT Lanes and one General Purpose Lane per direction of traffic between the San Bernardino County Line and the intersection of I-15 with SR-74;
- Building one HOV lane per direction of traffic between the intersection with SR-74 and the junction with I-215 near the town of Murrieta.

As noted above, RCTC is seeking legislative authority to develop HOT lanes in the entire I-15 corridor in Riverside County from the San Bernardino County line to the San Diego County line. RCTC has offered the "Segment A" project, as defined, so as to provide the basis for assessing the financial feasibility of HOT lanes in the corridor.

1.1 Project Scope

RCTC has included scope beyond HOT lanes in its application. The scope included in the application is consistent with that of the project currently in development through the standard Caltrans Project Development process. This project is in the Project Report/Environmental Document Phase. As discussed below, this broader scope negatively impacts the feasibility of the HOT lanes. However, because RCTC has indicated in its application that development of the additional, non-tolled lanes could be delayed or potentially funded from other sources, in effect de-linking them from the HOT lanes from a financing standpoint, the Consultant Team has considered them optional for the purposes of assessing the feasibility of the HOT lanes.

The decision to include the entire length of the I-15 corridor in the application rather than simply the initial project is reasonable and will help to ensure that the project objectives are realized: should congestion become significant between the junctions of I-15 with I-74 and I-215, and the San Diego County line, then RCTC will have the flexibility add capacity on the southern segments. Otherwise, congestion at the terminus of the initial project HOT lanes could result in back-ups on the HOT lanes which by definition should have free-flow at all times.

1.2 Benefit / Cost Analysis

System Metrics reviewed the benefit-cost analysis submitted by the Riverside County Transportation Commission (RCTC) in support of its I-15 High Occupancy Toll (HOT) lane application. RCTC provided project input sheets and the results pages from California Life-Cycle Benefit/Cost Analysis Model (Cal-B/C). RCTC submitted data for the project section from the I-15/SR-74 junction to the Riverside/San Bernardino County Line, including an expansion of the general purpose travel lanes in addition to HOT lanes. The data indicate that a total of six lanes (four HOT and two general purpose) are being added to the freeway.

Based on information provided elsewhere in RCTC's application, System Metrics identified a number of changes (described below) that might be appropriate to make to the B/C analysis to more accurately reflect the project. While some of these changes would lower and others would increase the B/C Ratio for the Project, System Metrics believes that the net effect of the above omissions will be higher benefit-cost ratios and a more defensible and detailed analysis. Taking into account all of these changes, the highway section could have a benefit-cost ratio between 2.0 and 3.0. By contrast, RCTC reports a benefit-cost ratio of 1.1. Our analysis indicates this ratio does not take into account the following factors:

a. No-Build Project Hourly High Occupancy Vehicle (HOV) Traffic. Cal-B/C is currently unable to estimate benefits accurately if different numbers of HOVs are entered in the no-build and build cases.

b. High Estimates of HOV Traffic – According to the 2003 edition of the HOV Operations Manual, Caltrans considers level of service (LOS) C to occur at approximately 1,650 vehicles per hour per lane (vphpl). Some Caltrans districts assume that the capacity of an HOV lane is even lower at about 1500 vphpl. In the application and accompanying correspondence, RCTC and its consultants indicate that they estimated low toll revenues to make a conservative financial case, but it also results in higher estimates of HOV traffic. The project information sheets suggest that 3600 vph for the two HOT lanes in each direction. This exceeds the assumed capacity and results in speeds on the HOV lanes of about 35 miles per hour (mph), which is slower than on the general purpose lanes. A reduction in the HOV traffic estimate to 1,650 or 1,500 would increase speeds and project benefits.

c. Low HOV Lane Capacity – The benefit-cost analysis indicates a capacity of about 1500 vphpl. This is a conservative estimate of capacity, which could be higher since demand will be actively managed. A higher capacity would be consistent with the HOV Operations Manual.

d. High Average Vehicle Occupancy (AVO) – The project information sheet and benefit-cost analysis indicate an AVO on the HOT lanes of about 2.05. This is probably a high estimate, since the HOT lanes would carry a combination of HOVs and toll-paying non-HOVs.

e. Operating and Maintenance Costs – The benefit-cost calculation does not include operating and maintenance costs for the facility.

2. Review of Financial Plan and Model

This section presents an overview and brief discussion of the financial elements of the submission. The financial team was not provided with a soft copy of the financial model; hence, only limited comments can be made about its robustness.[1] The level of detail in the model and the support for its assumptions reflect that the project analysis to-date is preliminary and has been conducted over the course of a series of non-contemporaneous studies. For example, the "Financial Model Assumptions Book" in Attachment V of the Application was prepared in October of 2007 for a different project scope than the Project described in the Part IV of the Application and the Financial Model Results shown in Attachment V. This is reasonable given the state of the Project. However, this report and the application would be more conclusive if the Assumptions Book, dated October 2007, were updated to match the assumptions in the March 2008 financial model results.

RCTC's application includes two sets of results: "Segment A – Base Case Run" (hereafter referred to as the "Original Run"), and "Segment A – JPA Assumptions w/DSCR=1.75" (hereafter referred to as the "Revised Run"). For purposes of this feasibility review, the Consultant Team believes that the Revised Run is the appropriate base case for considering feasibility (it should not be considered a "stress" or conservative case). As further discussed below, this is because: (a) the Original Run contains cost indexation assumptions that are considerably more aggressive than those used by Caltrans in its cost projections and than are typical in the experience of the Consultant Team and rating agency professionals consulted by the Consultant Team; and (b) because the Original Run shows that construction will be funded in part by a toll revenue bond issue sized given potentially unrealistic assumptions that the bonds will receive an A rating with a 1.0x debt service coverage ratio ("DSCR"). While not indicated in the RCTC application, it is implicit that RCTC would have to back these bonds by pledging additional RCTC funds (such as Measure A monies) to the Project. The Revised Run includes this subsidy and uses a more realistic, but not conservative 1.75x DSCR. (According to the

[1] In the "Financial Model Assumptions Book" in Part IV of the Application, RCTC's consultant states, "The Assumptions Book should be read in conjunction with the electronic version of the Model… KPMG makes no representation or warranty as to the consistency of the assumptions contained in this Assumptions Book… Users should satisfy themselves independently that the Assumptions Book and the Model are consistent with the scope and terms governing the Project." For the purposes of this report, the Consultant Team *has* assumed that the Model and the Assumptions Book are consistent unless otherwise indicated.

results shown in the RCTC application, the Revised Run requires over $400 million (in 2007 dollars) in additional subsidy than the amount shown in the Original Run.[2])

Based on the current project scope, funding proposal and available information regarding their entire Measure A program, RCTC appears able to build the HOT Lane portion of the project with adequate fund subsidy available for this purpose. RCTC has available to it a number of options for addressing potential funding shortfall issues. These include:

a) Deferring or, if necessary, removing the general purpose and HOV lanes from the Project scope;
b) Allocating some share of future federal and State formula and/or discretionary funds to the Project;
c) Reprogramming Measure funds from other projects;
d) Increasing toll revenues by ensuring the use of optimized toll policy parameters;
e) Accessing Federal credit programs such as TIFIA, an important source for subordinate borrowing on advantageous terms; and
f) Developing other, more efficient borrowing structures involving subordinated debt.
g) Using recourse financing.
h) Using the net proceeds from other toll projects for which revenues exceed costs.

RCTC has indicated that it intends to consider some or all of the above as well as other options as the financial analysis of the Project evolves from its current preliminary state.

2.1 Financial Model Assumptions

A. Funding Sources

Toll revenues are forecasted by Stantec (formerly Vollmer Associates), under contract from PB Consult. The forecast is preliminary and is not investment grade. Stantec predicts traffic patterns throughout Riverside County based on extrapolations from pre-existing population and economic forecasts.

According to RCTC, total toll revenues for the Project are expected to generate a Net Present Value ("NPV") of $1,397 million in 2007 dollars, assuming a 5% discount rate. However, this total includes revenues through 2080. Given the uncertainty of revenue models so far in the future and the relative lack of long-term, municipal debt instruments which extend beyond 40 years, this figure does not represent revenues available to support the project construction. An NPV of revenues for 45 years from the time of debt issuance is $955 million in $2007.

---

[2] Because the DSCR creates a cash-flow cushion, KPMG estimates that under the Revised Run there will be approximately $75 million (in $2007) in additional free cash flow returned to RCTC once the Project is in operations AND if revenues projections are realized, as compared to the Original Run. However, RCTC indicates that the subsidy would be provided during the construction period, so the additional revenue does not directly offset the subsidy from a cash flow perspective.

The main traffic assumptions of the forecasting model are:

a) Two toll rates: $0.30 per mile during peak hours; $0.15 per mile during off peak hours (in 2006 $).
b) Tolls assumed to be escalated yearly at 3% (which is in excess of the 2.5% rate for CPI assumed elsewhere in the financial plan).
c) Same toll structure for all vehicles.
d) Buses use the lanes without charge.
e) No charge for HOV 3+.
f) No trucks in HOT lanes.
g) Maximum free-flow volume for the two Express Lanes is 3,200 vehicles per hour.
h) Ramp up 60% of forecast in first year, 80% in second and 100% in third year.
i) Long run traffic growth of 1% per year (takes effect after 2030).
j) 280 traffic revenue days/year.
k) SR-91 Express Lanes extension is open to I-15 in 2015.
l) The Mid County Pkwy is not built.

Caltrans reviewed these assumptions and found them to be reasonable. SR-91 seems to be a primary traffic generator for the Project. The proposed peak toll rates are lower than those levied on SR-91. It seems likely that the toll rate elasticity on I-15 will be affected by the rates charged on SR-91.

Some issues relating to the traffic model remain open and will have to be addressed in the future. For instance, according to Caltrans, the acceptable range for maintaining free flow conditions (65 mph, LOS C) is between 1,100 to 1,600 vehicles per lane per hour. The observed maximum usage of the SR-91 toll lane is approx 2,800 vehicles (1,400 vehicles per lane per hour) – lower than the 3,200 assumed by RCTC. However, PB Consult indicated (in response to a question from the Consultant Team) that RCTC would use a higher toll rate when needed to constrain traffic to an optimal level. PB Consult assumes that the increase in tolls would at least offset the revenue lost due to decreased vehicle counts.

Traffic and revenue levels could also be impacted by design choices and capacity constraints at the SR-91 interchange, a key traffic generator for the project. According to the Application, only one-lane ramps are envisioned to connect the I-15 HOT lanes with the SR-91 HOT lanes. RCTC's consultant PB Consult indicated that two lane ramps were considered but believed likely to cause traffic backup on SR-91 due to excess traffic from I-15. If the ramp capacity is constrained to create a bottleneck then the effective capacity of the I-15 HOT lanes may be less than 2,800 near the SR-91 interchange. RCTC has indicated that this issue will be studied further as the project is developed and a solution will be achieved.

Measure A tax revenues are an important source of revenue for The Project, as RCTC is accepting complete responsibility for overruns and subsidies. Measure A is identified RCTC's sole local funding source for the project for purposes of these analyses. (RCTC has suggested to the Consultant Team that its transportation projects can be funded from

a variety of funding sources.) RCTC estimates that the total nominal Measure A revenues over the 2009-2039 interval will be $11,143m, divided between three geographical areas: Western County (74.6%), Coachella Valley (28.84%) and Palo Verde (0.7%). Within each region, the funds will be further subdivided for as economic development, regional arteries, bond financing and highway development. It should be noted that in 2007 receipts from the Measure A tax decreased by some 2%, reflecting a slowdown in the regional economy. RCTC indicates in its application that estimates provided reflect this slow-down.

RCTC has indicated that the Project will be funded from the Western County Highways fund, expected to be collect some $2,518m in nominal terms over the lifetime of the tax. Fully assessing this forecast was beyond the scope of our analysis. According to RCTC, this amount represents the minimum allocation to this fund based on the voter-approved expenditure plan, and RCTC may have the discretion to allocate an increased amount of total receipts to this fund if needed. According to RCTC, the current 10-year Western County Highway Delivery Plan commits 2009 Measure A moneys to four major projects: Route 91 ($814m), I-215 ($294m), I-15 ($827m) and I-10 ($47m). In total, RCTC expected in this plan that these Projects would require some $1,982m in nominal Measure A funding or other funding, according to RCTC's correspondence with the Consultant Team.

Because the bulk of the Measure A funds will be collected in the later years of the period and project spending is to occur in the early years, there may be a funding gap that RCTC will have to address as discussed in Section 2 above. Specifically, as currently allocated the Measure A Western County Highways funds by themselves appear to be insufficient to fund the likely shortfalls for the initial project described as "Segment A" in the RCTC application. However, pending further study, it seems reasonable to assume that total funds available could fund at least the HOT Lanes portion of the Segment A project (i.e. excluding the new general purpose and HOV lanes).

Table 1 below summarizes RCTC's projection for the Western County Highways fund as currently allocated and provides a very rough estimate of the borrowing capacity of those funds for upfront subsidy as calculated by the Consultant Team in $2007 (in RCTC's application, the financial model results are summarized in $2007 net present value terms).

Table 1: Summary of 2009 Measure A Funds Available to RCTC

Western County Program, Total Highways Funds			
Year	RCTC Projection*	Y-o-Y Growth Rate	Estimated Upfront Subsidy Capacity**
FY09/10	$29,752,421	-	$22,038,830
FY10/11	30,347,469	2.0%	22,479,607
FY11/12	31,561,368	4.0%	23,378,791
FY12/13	33,455,050	6.0%	24,781,519
FY13/14	35,984,876	7.6%	26,655,464
FY14/15	38,823,852	7.9%	28,758,409
FY15/16	41,791,697	7.6%	30,956,813
FY16/17	44,939,034	7.5%	33,288,173
FY17/18	48,305,401	7.5%	35,781,779
FY18/19	51,865,485	7.4%	38,418,878
FY19/20	55,607,878	7.2%	41,191,020
FY20/21	59,431,140	6.9%	44,023,067
FY21/22	63,477,450	6.8%	47,020,333
FY22/23	67,758,747	6.7%	50,191,665
FY23/24	72,294,735	6.7%	53,551,656
FY24/25	77,206,175	6.8%	57,189,759
FY25/26	82,215,897	6.5%	60,900,665
FY26/27	87,342,899	6.2%	64,698,444
FY27/28	92,835,156	6.3%	68,766,782
FY28/29	98,672,344	6.3%	73,090,626
FY29/30	104,805,687	6.2%	77,633,842
FY30/31	111,301,936	6.2%	82,445,879
FY31/32	118,092,331	6.1%	87,475,801
FY32/33	125,116,495	5.9%	92,678,885
FY33/34	132,511,392	5.9%	98,156,587
FY34/35	140,201,214	5.8%	103,852,751
FY35/36	148,115,090	5.6%	109,714,882
FY36/37	156,374,713	5.6%	115,833,121
FY37/38	164,977,612	5.5%	122,205,638
FY38/39	173,765,487	5.3%	128,715,176
Net Present Value in $2007***	**$936,015,863**		**$693,345,084**

* RCTC estimates, Official Application, March 13 2008, Attachment VI

** Assumes 1.35x Debt Service Coverage Ratio requirement

*** Uses 5% discount rate from RCTC's financial model

Federal Funding. In its revised application, RCTC indicated that a variety of additional funding sources may be available for The Project. For instance, according to RCTC, over $600 million of state and federal revenue in the form of formula funds may be available over the 30-year life of Measure A (2009-2039). This would likely equate to a total Present Value of $200 - $300 million depending on when such funds are available. However, assessing the reasonableness of any assumption that these funds could be available for this Project and/or that they would not create a shortfall on another Measure A project of equal priority was beyond the scope of our analysis. The Consultant Team does expect that Federal credit programs such as TIFIA could be an important source for subordinate borrowing on advantageous terms, should such programs remain in place.

Excess Toll Revenue. Finally, RCTC expects some additional revenues from the SR-91 HOT lanes project to be allocated to the Western County Highways fund. A revenue forecast for the SR-91 project was not provided with the application, so no assessment of this option can be made.

B. Costs

Initial Capital Expenditure. The current initial capital cost assumptions are outlined in Attachment 1 hereto. According to Caltrans, these assumed costs are generally consistent with Caltrans practice/expectations for the corridor. RCTC has indicated the Capex estimates include a 25% contingency for most line items, although this is not included as a separate line item in the Part V of the application. The recently completed Project Study Report (PSR) included as Attachment III of Part IV of the Application details a different project scope than one currently contemplated in the Project – essentially four lanes within the median only. However, on a rough order of magnitude basis, the PSR costs seem to correlate with the cost-per-mile of the HOT Lanes portion of the Project shown in Part V.

Operating and Rehabilitation & Renewal Expenditures. Attachment 2 hereto outlines the projected Operating costs for the Project. The costs do not include those associated with the general purpose or HOV lanes because current policy does not require local agency sponsors to fund these costs. Caltrans' Maintenance records for Fiscal Year (FY) 2007 shows that the annual cost for routine maintenance of the existing 6 lane segment of roadway between the SR-74 and San Bernardino County Line (30 miles) was $1,100,000, or $36,700 per mile. This includes pavement, drainage, landscape, electrical, storm water, litter, and graffiti maintenance. The actual incurred cost for maintaining the (4 lane) SR-91 HOT Lanes was $47,000 per mile. Caltrans indicates that estimates provided for the Project by RCTC seem reasonable. RCTC has indicated that it included a 20% contingency for most O&M costs.

Ideally, Caltrans strives to provide preventive maintenance (chip seals, open grade, crack seals) every 5-7 years. Larger rehabilitation projects are programmed in the 10-year SHOPP. This is consistent with the rehabilitation and refurbishment (R&R) schedule proposed by RCTC for the Project (see Attachment 3 hereto). Like the Operating cost

estimates, the R&R costs estimates are for the HOT lanes only as the other facilities apparently will be incorporated into Caltrans inventory.

Scheduling The proposed project schedule is provided in Attachment 3 hereto. RCTC currently assumes it will have design-build authority for the Project. In commenting on the schedule, Caltrans cited an FHWA survey that found that the overall duration of projects were reduced by 14 percent and total cost by 3 percent due to design-build. Should RCTC not obtain design build authority, it expects the project to continue on schedule until 2011, at which time procurement of the design-build contractor would otherwise commence. Instead, final design would start in 2012, construction would begin in 2018, and the HOT lanes would open to traffic in 2022. RCTC did not provide a sensitivity analysis demonstrating how this would affect the project cost. Caltrans indicated that it finds the project schedule shown to be reasonable and potentially achievable without design-build.

In Part IV of the Application, RCTC expresses its flexibility in constructing the general purpose lanes at a later date than what is proposed in the Project, but before the Measure A extension expires in 2039, in order to enhance the feasibility of the Project. This could result in some cost savings, as hard costs for the GP lanes are forecast at some $516.3 million in $2007. However, RCTC did not provide a financial model result showing this delayed option. Incurring hard costs at a later date would reduce financing costs and result in a more feasible project. Still, the amount saved may be reduced due to lost economies of scale for hard costs. Similarly, delaying these lanes may not result in a commensurate savings of soft costs. Currently soft costs allocated to the general purpose lanes are $169m out of a project total $326m.

In Section 2.2, below, the Consultant Team undertook a rough estimate of savings that might be achieved if the non-tolled HOV and general purpose lanes are excluded from the project.

Indexation. A summary of the cost escalation rates that RCTC uses its Part V financial model runs is shown as Table 2 below (Caltrans' recently adopted standard assumptions are also provided as a reference).

Table 2: Summary of Cost Escalation Assumptions

Escalator	Original Run	Revised Run	Caltrans
Operations & Management	2.50%	2.75%	3%
Rehabilitation & Resurfacing	2.50%	3.50%	5%
Right-of-Way ("RoW") acquisition	8%	8%	20%
Capital expenditure w/o RoW	3.50%	5%	5%

Original Run indexation figures seem aggressive compared to national practice, particularly since costs are being escalated from $2006. The Consultant Team believes that the Revised Run is a more reasonable base case. (Caltrans ROW expenditures inflation estimates reflect recent history but may prove overly conservative beyond 2007. In any case, ROW is a limited cost for the Project.)

C. Financing Structure

The financial model results shown in the RCTC application indicate that pre-development costs will be paid for with Measure A proceeds prior to environmental approval. Short-term loans, referred to as "Traditional Construction Financing" in the RCTC application, is used to repay Measure A pre-development expenditures and to initiate construction of portions of the Project. The bulk of the Project is financed using what the model shows as a RCTC Measure A-funded subsidy during the construction period and non-recourse capital appreciation bonds (CABs) leveraging future toll revenues.

Traditional Construction Financing. While the current short-term securities market is in flux, it is a reasonable assumption that this market will be available to the Project by 2012 as contemplated in the Financial Model Results. For the Revised Run, RCTC assumes that approximately $50m of short-term financing will be used until CABs are issued and additional Measure A subsidy is provided. RCTC currently has the capacity to issue $185m of such financing and it is a reasonable assumption that similar capacity will exist in the future (subject to availability of unpledged Measure A funds).

Capital Appreciation Bonds. The Financial Model Assumptions Book in Part IV of the Application indicates that CABs are assumed to be issued on the following terms:

a) Bonds would receive an "A" category rating;
b) 5% annual yield;

c) One year grace period;
d) Financing fee of 1.5% paid at financial close;
e) Amortization: sculpted repayments based on available cash flows that would meet coverage ratios based on mortgage style repayment; principal deferred until construction.
f) Debt Service Reserve Account equal to one year of debt service.

In subsequent correspondence with the Consultant Team, KPMG indicated that a 1.75x DSCR was considered reasonable for the bonds. The Consultant Team finds that this is an aggressive assumption for A rated bonds issued pre-construction – but that it is an acceptable plug for this stage of the project analysis because more efficient borrowing structures involving subordinated debt, including TIFIA, might be assumed in the future. As discussed above, the Original Run assumed a 1.0x DSCR which is not realistic without an ongoing subsidy from RCTC to provide additional coverage.

The Consultant Team also discussed the expected bond rating for non-recourse HOT lane-based toll revenue bonds with rating agency professionals familiar with SR-91's bond issuances. SR-91 bonds achieved an "A" rating, but this came after construction was complete and seven years of successful, documented revenue operations. For non-recourse bonds on I-15 pre-construction a more reasonable assumption would be BBB or BBB-. The Revised Run assumes a 6% annual yield, which is not conservative based on the long-term yield curve and prospective rating. The rating agency would also expect greater liquidity reserves for construction overruns and ramp-up of revenue operations. Accordingly, the Consultant Team finds the Revised Run to be a more reasonable, not overly conservative base case from a debt perspective.

RCTC Contributions provide all subsidy for the Project. According to the Financial Model Results in the Application for the Revised Run, this contribution is expected to amount to a Net Present Value ("NPV") of more than $1.1bn in $2007 and nearly $2 billion in nominal dollars. All subsidy is shown as provided prior to 2020, implying funding through the issuance of Measure A revenue bonds or other sources. As shown in Table 1, the upfront subsidy potential of the projected 2009 Measure A Western Country Highways funds may be approximately $700 million in $2007 and in any case, no more than $950 million, representing a shortfall of $400 million under reasonable assumptions. Further, I-15 is not the only project for which the Western County Highway funds are currently pledged. Options for addressing potential funding shortfalls are summarized in Section 2 above.

However, as described below, the Consultant Team expects that the available Measure A subsidy would be sufficient to fund the HOT Lanes alone.

2.2 Financial Model Testing

As noted above, a soft copy of the financial model was not provided, so its robustness could not be fully evaluated. However, output data for a number of model runs was provided. The difference between the various model runs was summarized in the following table which was provided by RCTC with the application (note that the "Original Run" is the Base Case Assumptions row shaded in gray, and the "Revised Run" is row #9").

Table 3. Model results, US$000' in 2007 NPV *(Excerpted from RCTC)*

Summary of Sensitivity Runs on the I-15 Project Segment A Base Case

	Variables/ Assumptions			Results in $000's ; Present Value to 1/1/2007		
	Item	Base Case	Sensitivity	Project Development Cost	Required Subsidy	Distributions to RCTC
	Base Case Assumptions	see note below	N/A	1,199,188	700,666	347,015
1	Operating Expenses Escalation Rate	2.50%	2.75%	1,199,188	718,681	332,866
2	Initial Capex (excl. ROW) Escalation Rate	3.50%	5.00%	1,381,175	883,803	347,523
3	Rehabilitation & Refurbishment Escalation Rate	2.50%	3.50%	1,199,188	718,201	291,775
4	DSCR	1.00 X	1.40 X	1,199,188	845,917	512,423
5	DSCR	1.00 X	1.75 X	1,199,188	917,686	594,153
6	Interest Rate on CABs	5.00%	6.00%	1,199,188	806,439	330,637
7	DSCR & Initial Capex Escalation Rate	DSCR=1.00 InCapex=3.5%	DSCR=1.40 InCapex=5%	1,381,175	1,028,730	512,794
8	All JPA assumptions: DSCR=1.40	see note below		1,381,175	1,122,274	424,229
9	All JPA assumptions: DSCR=1.75			1,381,175	1,174,863	501,112

As discussed above, the Consultant Team considers that the Revised Run (#9) should be considered the base case. Discussions with rating agency executives and Caltrans support this conclusion.

To begin to consider the feasibility of a HOT lanes only project (as this application only pertains to HOT lanes), the Consultant Team utilized information provided by RCTC in Part V to test rough estimates of the reduction in subsidy requirements that could be achieved, as shown in Table 4. Allocation of capital costs between HOT Lanes and non-tolled lanes was estimated based on the relative weighting shown in Attachment 1 hereto but using the costs from the Revised Run. Because the financial model for the project was not provided, these estimates should only be considered useful for gauging order of magnitude differences, if at all.

Table 4: Considering the Feasibility of a HOT Lanes-only scope

Funding Shortfall Estimates: Considering a Reduced Scope with HOT Lanes Only (Rough Estimates and Stress Test Adapted from RCTC Revised Run)					
Revenue and Expense Estimates (as NPV in $2007)	Revised Run (per RCTC Application)	HOT Lanes Only Assumptions*	HOT Lanes Only	HOT Lanes Only Stress Case*	HOT Lanes Only
Toll Revenues thru 2053, less:	$841	115%	$967	95%	$799
Operating Expenditures	(399)	100%	(399)	110%	(439)
Rehabilitation & Resurfacing	(181)	55%	(100)	65%	(118)
Capital Expenditures	(1,381)	55%	(760)	65%	(898)
Rough Estimate of NPV Shortfall	(1,120)		(291)		(655)

* Percentages applied to revenue and expense amount used in Revised Run as provided by RCTC

Note that according to RCTC, hard costs of HOT Lanes comprise approximately 53% of the total hard costs.

Table 4 shows a rough, order-of-magnitude test of a HOT Lanes-only scope.[3] The HOT Lanes-only test assuming some increase in revenue as additional general purpose lane capacity will not be added, and assuming reduced costs. Operating costs are assumed unchanged as RCTC estimates already excluded General Purpose and HOV lanes to be maintained by Caltrans. The Stress Case assumes a "perfect storm" of events that could conceivably combine to adversely affect the financial feasibility. These events include significant losses in economy of scale for Capital, O&M and R&R costs, as well as toll revenues being less than forecast in the PB Consult estimate and thus also low in the HOT Lane only scenario. To be clear: the fact that these events *could* happen is not a prediction that they *will* happen, but they do serve to illustrate the due diligence that RCTC will need to continue to exercise during the project development process to ensure the financial integrity of the project.

There appears to be sufficient 2009 Measure A Western County Highway funds available for either HOT Lanes-only scenario (see Table 1 and), and thus the HOT Lanes can be considered feasible under the given assumptions. The Stress Case considers a simultaneous shortfall in revenues and overrun in costs and should be reviewed for reasonableness in future studies. However, in the event of such a scenario, funding now allocated to major Western County Highway projects during the first 10 or more years of 2009 Measure A may need to be utilized to support the I-15 HOT Lanes. Should it wish to pursue the full Segment A Project, RCTC may need to review and potentially re-prioritize its 2009 Measure A commitments, pending the results of more detailed cost and revenue analysis of the Project.

[3] In all Table 4 cases, DSCR and debt convenants are not directly considered, but will be part of RCTC's constraints and subject to more complete analysis as project development proceeds.

3. Findings and Conclusions

Based on the materials provided to CTC by the applicant, the construction of HOT lanes themselves on the I-15 corridor appears feasible from a financial perspective. The feasibility analysis undertaken thus far is preliminary, which is not unexpected given the early stage of the project. A number of concerns remain, particularly regarding the Project scope, and must be addressed before RCTC can raise financing from capital markets. RCTC has agreed in the draft MOU with Caltrans to bear the development costs required to answer these questions, including nearly all of the pre-environmental approval costs – as well as all future construction costs. Thus, it remains RCTC's and its constituent's prerogative to allocate available Measure A funds as they so choose.

4. Attachments

Attachment 1: Construction Cost Estimates (from Part V of RCTC Application)

SEGMENT A: I-15 CORRIDOR AND HOT LANE PROJECT

February 27, 2008
Revision 1

COST ESTIMATE IN 2006 DOLLARS

		TOTAL SEGMENT A PROJECT			
		I-15 GENERAL PURPOSE AND HOV LANES	I-15 EXPRESS LANES (OUTSIDE PORTION)	I-15 EXPRESS LANES (MEDIAN PORTION)	TOTAL
Soft Costs					
	Project Approval and Environmental Document	$ 25,819,000	$ 6,488,000	$ 22,679,000	$ 54,986,000
	Preliminary Design & Design Review	$ 15,492,000	$ 3,893,000	$ 13,607,000	$ 32,992,000
	Final Design	$ 36,147,000	$ 9,082,000	$ 31,750,000	$ 76,979,000
	Total Development Cost	$ 77,458,000	$ 19,463,000	$ 68,036,000	$ 164,957,000
	Legal/Procurement Support	$ 1,250,000	$ -	$ 3,750,000	$ 5,000,000
	Construction Services	$ 51,637,000	$ 12,975,000	$ 45,355,000	$ 109,967,000
	Subtotal Project Soft Cost	$ 130,345,000	$ 32,438,000	$ 117,141,000	$ 279,924,000
Hard Costs					
	Right of Way Acquisition Cost	$ 5,460,000	$ 1,821,000	$ -	$ 7,281,000
	Roadway Items Cost	$ 350,493,649	$ 85,141,000	$ 329,017,000	$ 764,651,649
	Additional Roadway Items for Express Lanes	$ -	$ -	$ 1,000,000	$ 1,000,000
	Structure Items Cost	$ 155,450,071	$ 42,763,000	$ 97,037,000	$ 295,250,071
	Subtotal Construction Cost	$ 505,943,720	$ 127,904,000	$ 427,054,000	$ 1,060,901,720
	Toll Collection System Cost	$ -	$ -	$ 8,676,000	$ 8,676,000
	ITS Cost	$ 4,945,251	$ -	$ 11,208,000	$ 16,153,251
	Building Cost	$ -	$ -	$ 6,600,000	$ 6,600,000
	Subtotal Project Hard Cost	$ 516,349,000	$ 129,725,000	$ 453,538,000	$ 1,099,612,000
Total Capital Cost					
	Subtotal Project Soft Cost	$ 130,345,000	$ 32,438,000	$ 117,141,000	$ 279,924,000
	Subtotal Project Hard Cost	$ 516,349,000	$ 129,725,000	$ 453,538,000	$ 1,099,612,000
	Total Capital Cost	$ 646,694,000	$ 162,163,000	$ 570,679,000	$ 1,379,536,000

Basis for Cost Estimate	
I-15 GENERAL PURPOSE LANES	Cost estimate is based on PB cost estimate prepared for RCTC on 03-30-07.
I-15 EXPRESS LANES	Cost estimate is based on the cost estimate jointly prepared for Phase 1 of the I-15 Managed Lanes by Bechtel and PB submitted to RCTC on 10-6-2006.
ITS Cost	Cost estimate is based on modification to the cost estimate prepared for Phase 1 of the I-15 Managed Lanes by PB on 11-10-2006.

Attachment 2: O&M Costs (estimates and comparables provided by PB Consult / RCTC)

	Actual COSTS INCURRED, SR-91						
DESCRIPTION	12 MONTHS ENDING 6/30/05	11 MONTHS ENDING 5/31/06	ANNUALIZED COSTS ENDING 5/31/06	COST/MILE FOR COSTS THAT VARY WITH LENGTH	**OCTA ANNUALIZED COSTS OR BUDGET FOR 2005/06**	**ESTIMATE PREPARED FOR SR-91**	**I-15 ESTIMATE GIVEN TO KPMG FOR TOLL FEASIBILITY STUDY**
Contracted Services	$5,336,765	$5,046,254	$5,505,004		$5,505,004	$1,400,000	$1,400,000
Administrative Fee	$1,526,590	$1,400,449	$1,527,763		$1,527,763	$585,000	$585,000
Other Professional Services/Refinancing Costs	$1,302,235	$1,835,128	$2,001,958		$1,701,174	$2,100,000	$2,100,000
Credit Card Processing Fee	$971,054	$973,082	$1,061,544		$1,061,544	$265,000	$265,000
Toll Road Account Servicing	$1,075,505	$751,382	$819,689		$819,689	$205,000	$205,000
Transponders Issued*	$903,100	$678,071	$739,714		$739,714	$185,000	$185,000
Other Insurance Expense	$338,763	$221,408	$241,536	$24,154	$241,536	$174,000	$174,000
Toll Road Maintenance Contract - Caltrans	$492,582	$427,514	$466,379	$46,638	$1,131,654	$815,000	$815,000
Patrol Services	$397,366	$348,799	$380,508	$38,051	$397,366	$400,000	$400,000
Advertising Fees	$119,374	$89,609	$97,755		$97,755	$100,000	$100,000
Other Services	$143,329	$209,468	$228,511				
Utilities	$234,246	$129,789	$141,588	$14,159	$141,588	$102,000	$102,000
Office Expense	$496,949	$487,500	$531,818		$531,818	$250,000	$250,000
Bad Debt Expense (To be adjusted at year end)	$1,067,550	$25,394	$27,703		$218,695	$55,000	$55,000
Toll Road Maintenance Supply/Repairs					$466,379		
Building Equipment Repairs and Maintenance	$326,777	$349,500	$381,273		$381,273	$152,000	$152,000
Miscellaneous**	$77,465	$200,470	$218,695				
Travel and Mileage	$4,203	$6,093	$6,647		$6,093	$5,000	$5,000
Training and conferences	$359	$0	$0		$0	$2,000	$2,000
Books and Subscriptions	$1,570	$545	$595		$595	$1,000	$1,000
Dues and memberships	$14,702	$16,400	$17,891		$17,891	$10,000	$10,000
Bond Issuance Expense					$142,335	$150,000	
Leases	$267,244	$317,074	$345,899		$345,899	$100,000	$100,000
Property Taxes	$0	$0	$0		$0		
Depreciation and Amortization	$9,108,316	$8,357,060	$9,116,793		$0		
			$0				
Total Operating Expenses	$24,206,044	$21,870,989	$23,859,261		$15,475,765	$7,056,000	$6,906,000

Note: a 20% contingency has been added into the O&M costs for the project according to RCTC.

Attachment 3: Construction and rehabilitation schedules assumed for I-15 HOT Project
(from Part V of RCTC Application)

Scenario 2 Construction Schedule		
	Completion year	Constructed mile lanes
Phase 1	2016	9.4 HOT + 23.3 GP
Phase 2	2020	59.2 HOT + 23.6 GP
Phase 3	2020	62.5 HOT + 29.0 GP
Phase 4	2030	37.3 HOV + 16.4 GP
Phase 5	2030	61.8 HOV + 29.4 GP
Source: Attachment V.		

Note: the above "scenario 2" phasing schedule differs slightly from "Segment A" as proposed in the latest version of the RCTC application. Based on the information available, this variance does not appear to impact feasibility of the HOT Lanes portion of the project.

Year*	Description	Cost
2026	Crack seal – roadway	$173,000
2030	Crack seal – roadway	$1,217,000
2036	5% Slab replacement/grinding	$3,460,000
	Crack seal – structures	$346,295
	Upgrade/replace toll equipment	$780,000
	Phase Cost	$4,587,295
2040	5% Slab replacement/grinding	$24,340,000
	Crack seal – structures	$1,666,560
	Crack seal – roadway	$0
	Upgrade/replace toll equipment	$3,847,000
	Phase Cost	$29,583,560
2046	5% Slab Replacement/Grinding	$3,4600,000
2050	5% Slab Replacement/Grinding	$24,340,000
	Crack seal – structures	$0
	Upgrade/replace toll collection equipment.	$0
	Phase Cost	$24,340,000
2056	Lane Reconstruction – Roadway	$34,600,000
	Crack seal – structures	$346,925
	Upgrade/replace toll collection equipment.	$781,000
	Phase Cost	$35,727,295
2060	Lane Reconstruction – Roadway	$243,400,000
	5% Slab Replacement/Grinding	$0
	Crack seal – structures	$1,666,560
	Upgrade/replace toll collection equipment.	$3,487,000
	Phase Cost	$248,913,560
2066	Crack seal – roadway	$173,000
2070	Crack seal – roadway	$1,217,000
	Crack seal – structures	
	Lane Reconstruction – Roadway	
	Upgrade/replace toll collection equipment.	
	Phase Cost	$1,217,000
2076	5% Slab Replacement/Grinding	$3,460,000
	Crack seal – structures	$346,295
	Upgrade/replace toll collection equipment.	$781,000
	Phase Cost	$4,587,295
2080	5% Slab Replacement/Grinding	$24,340,000
	Crack seal – roadway	$1,666,560
	Crack seal – structures	$0
	Upgrade/replace toll collection equipment.	$3,847,000
	Phase Cost	$29,853,560

Exhibit 10: Rehabilitation and Refurbishment costs in 2006$ - Scenario 2