

# TOLL ROAD PROJECT FINANCE CASE STUDY

## 1. CASE STUDY OVERVIEW

A Government of Panama has recently announced that it intends to construct a new highway by means of attracting a private capital. The highway will be a Build – Own – Transfer concession project whereby the private party will have to construct the highway, manage the highway for 30 years and transfer the ownership to the Government after 30 years. The private party shall recover its investment and return on investment into the highway project through charging a toll fee during the 30 years once the highway is operational.

The Government expects several private companies to be interested in undertaking this project and the most important selection criteria will be the toll fee charged. Apart from the toll fee, financial position of the bidding company, reputation of the bidding company, EPC (Engineering, Procurement & Construction) contractor, O&M (Operations & Maintenance) contractor and availability of indicative loan term sheet are other criteria.

You work as a financial analyst at one of these infrastructure investment companies interested in bidding for the project and have been instructed by the managing director of the company to come up with toll fees that the project shall charge which results in investment's IRR (equity IRR) of 15%.

The managing director expects to fund the majority of the investment with loans from commercial banks, which will be secured only by a newly incorporated entity or Special Purpose Vehicle ("SPV"), with the remaining amounts being funded via equity investment from the company.

You have recently met with a possible lender, which can arrange the financing to the project, and received an indicative term sheet for construction funding and the term loan (refinancing facility). You also received a proposal from EPC firm and O&M firm.

For your analysis you should assume the financial close date of December 31, 2019 and construction start date of January 1, 2020. The construction shall be complete in 24 months, at which time operations shall start.

## 2. HIGHWAY CONSTRUCTION COST

Highway construction cost consists of the following items:

Lump sum EPC contract – US\$200,000,000, has to be paid in equal end-of-month installments in 24 months.

Development cost – US\$15,000,000, has to be paid at financial close.

Contractor mobilization cost – US\$5,000,000, has to be paid in the last construction period and has to be escalated as per 2% annual CPI in 2020, 1.5% in 2021 and 1% thereafter.

Owner General and Administration (G&A) expenses – total of US\$5,000,000 to be incurred during construction, has to be escalated as per 2% annual CPI in 2020, 1.5% in 2021 and 1% thereafter.

Construction cost overruns contingency of 10% has to be assumed in the model.

### 3. CONSTRUCTION DEBT

Indicative construction debt terms:

<b>Borrowings</b>	Borrowings are made at closing and the end of each month to fund up to 85% of toll road CAPEX incurred in that month. CAPEX include all budgeted capital costs, including contingency for cost over-runs, and construction-period financing costs, including amounts required to pre-fund reserve account(s). Hence CAPEX are equivalent to all uses of funds currently being modelled.
<b>Construction debt commitment</b>	Up to US\$200,000,000
<b>Upfront fee</b>	1.5% of construction debt commitment payable at financial close
<b>Commitment fee</b>	60bsp on annual basis on undrawn debt balance
<b>Agent bank fee</b>	US\$1,000,000 payable during construction period in equal end-of-months instalments. Agent bank fee shall be escalated as per 2% annual CPI in 2020, 1.5% in 2021 and 1% thereafter.
<b>Interest base rate</b>	2% p.a. LIBOR rate, (ACT/360)
<b>Interest margin</b>	5.5% p.a. over base rate
<b>Repayment</b>	Either convert to the term loan (refinancing) or full repayment at the end of construction period.

**Shareholder’s investment**

The shareholders will invest the remaining funding requirement monthly ‘pro rata’ with the construction debt draws.

## 4. TERM LOAN

Indicative term loan terms:

<b>Amount</b>	Term loan amount shall equal to the amount drawn under construction debt.
<b>Funding date</b>	End of construction period.
<b>Repayment term</b>	15 years, payable semi-annually, first interest expense payment and principal repayment 6 months from the funding date.
<b>Repayment profile</b>	Cash flow sculpted repayment profile
<b>Interest base rate</b>	2% p.a. LIBOR rate, (ACT/360)
<b>Interest margin</b>	4% p.a. over base rate
<b>Minimum cover ratios</b>	When in operation, the project shall meet the minimum DSCR, LLCR and PLCR ratios.  Minimum DSCR - 1.4 Minimum LLCR - 1.4 Minimum PLCR - 1.4
<b>Debt Service Reserve Account</b>	Debt Service Reserve Account (“DSRA”) shall be set up during the repayment term to support debt service payments. Subject to adequate cash being available following payment of (senior) debt service, monies will be deposited to the DSRA to achieve a required balance equal to the next 6 months of projected senior debt service. If on any given repayment date, the current DSRA balance proves greater than required, monies can be released from the DSRA.  US\$20,000,000 shall be deposited into DSRA at the end of the construction period.

As a part of the financing to the project, lenders also agree to provide revolving credit facility (revolver) to the project in the amount of US\$60,000,000 to cover any unexpected shortfalls in cash flow during the project's operations. The interest rate on the revolver is 10% p.a. (ACT/360).

## 5. REVENUE

Revenue sources are primarily from charging light vehicles (cars) and commercial vehicles (trucks) a pass (toll) fee. The following shall be assumed before model optimization:

Car pass fee - US\$3.85 per car

Car traffic - 60,000 per day

Truck pass fee - US\$8.00 per truck

Truck traffic -15,000 per day

Revenue has to be escalated on a semi-annual basis as per 2% annual CPI in 2020, 1.5% in 2021 and 1% thereafter.

The project will not generate accounts receivable as fees are collected on the spot and booked as revenues.

## 5. OPERATING COST

Toll road project operating costs are divided into variable and fixed costs. Variable costs are associated with maintenance of the toll road and is calculated per vehicle passed. The fixed costs are the management of the project and preventive maintenance for the project. All costs are under O&M contract.

Variable maintenance cost - \$0.55 per vehicle, payable monthly.

Fixed maintenance cost - US\$60,000,000 per year, payable monthly.

Fixed management cost – US\$15,000,000 per year, payable monthly.

The terms of payment for the operating cost to the O&M contractor is 30 days after incurring the cost.

Operating cost has to be escalated on a semi-annual basis as per 2% annual CPI in 2020, 1.5% in 2021 and 1% thereafter.

## 6. FIXED ASSET DEPRECIATION

Depreciation of the highway shall be over project's life of 30 years.

The project shall undergo 4 major maintenance programs, detailed below, and these shall be registered on the company accounts as improvement to the project. Each such major maintenance shall be depreciated over 5 years.

Maintenance capex date	Amount
30-Jun-32	US\$ 7,500,000
30-Jun-37	US\$ 7,500,000
30-Jun-42	US\$ 7,500,000
30-Jun-46	US\$ 7,500,000

Major Maintenance Reserve Account (MMRA) shall be set up during the operation period of the project. Cash shall be deposited to MMRA according to the following schedule:

Maintenance capex provision in period n - 1	50%
Maintenance capex provision in period n - 2	25%
Maintenance capex provision in period n - 3	25%
Maintenance capex provision in period n - 4	25%

where n is a period when maintenance expenditure takes place.

## 7. TAXES

Corporate tax rate is 25%.

Accelerated depreciation of 7.5% of the fixed asset value per semi-annual period is allowed for the tax purposes. Tax loss carry forwards are allowed.

## 8. INVESTMENT RETURNS

Shareholder will invest into the project pro-rata to debt draws in the form of equity investments and loans to the company. The loan amount shall be US\$30,000,000 and shall carry interest rate of 10% p.a. The loan shall be junior to term loan, DSRA, MMRA and revolver.

You need to carry out the net present value (NPV) and internal rate of return (IRR) analysis of the project. The required rate of return is 15% for this type of infrastructure projects and valuation date shall be at financial close date.

## 9. MODEL OPTIMIZATION

You have to optimize your model with regards to the required rate of return of 15% and minimum cover ratios of 1.4 as specified in the term loan indicative terms. This may require meeting the lender and renegotiating the construction debt commitment to the project as long as leverage ratio is below 85%.