



## **Mitigating Toll Road Forecasting Risks**

Scott Trommer,  
Senior Director

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## Forecasts: Can't Live With Them, Can't Live Without Them

- > Key input into determining credit quality
- > Forecasts provide a sense of magnitude, but not certainty
- > Risk of aggressive assumptions to demonstrate:
  - “Comfortable” margin for meeting debt service obligations
  - Ability to generate reasonable shareholder returns—in the case of concessions
- > While lessons learned are being incorporated into new forecasts, meaningful improvement unlikely in the short term
- > More flexible financial structures essential to compensate for forecasting risk



## General Performance

- > A few have exceeded forecast
- > Many have not
- > Less than expected performance can be significant with actual results for some facilities equaling 50-60% of forecast



## Common Threads

- > Model input risk
  - Unadjusted travel demand models initially developed by regional planning body/metropolitan planning organization for long range studies
  - Steady state assumptions
  - Simplified weekend/truck usage assumptions
  - Value of time and land use assumptions
- > Ramp-up risk
- > Event and political risk
- > Model error



## Forecasting Evolution

- > Modeling process has not been static
- > Lessons learned being incorporated into newer forecasts
  - Use of independent socioeconomic consultants and incorporation of more conservative population, employment and land use assumptions
  - Increased application of sensitivity analyses to assess forecast risk
  - Additional attention to weekday/weekend and time of day travel as well as impacts due to transportation network changes
  - Protracted ramp-up assumptions for greenfield projects
- > Nevertheless, further improvements are necessary



## Varied Approaches to Credit Analysis

- > Statistical adjustments based on track record
- > Stress-testing by country or sponsor
- > Unsuitable given limited data
- > Ignores unique characteristics and complexity of projects



## **Fitch's Approach to Assessing Forecasting Risks**

- > Basis/source for underlying regional economic, demographic projections and traffic model
- > Existing traffic conditions relative to opening year assumptions
- > Expected traffic growth rates during ramp-up and over the medium to long term relative to expected economic and demographic trends and, if applicable, peer facility performance
- > Dependency on future development



## Fitch's Approach to Assessing Forecasting Risks

- > Toll setting flexibility—number and magnitude of toll increases assumed
- > Basis for value of time assumptions
- > Expected economic, population and land use trends relative to historic trends and assessment of the service area's ability to accommodate future growth
- > Potential transportation network changes that may contribute to/or detract from the toll road
- > Traffic forecasting firm prior experience





## Fitch Base Case

- > Benchmark against which Fitch will evaluate the debt structure
- > Traffic assumptions may be based on consultant's estimates, if reasonable
- > Alternatively, historical patterns of growth, current zoning, and approved future development needs are evaluated and appropriately discounted
- > Site visit and an analysis of the service area
- > Base case toll structure reflects the legal, economic and political conditions under which the facility operates
- > Assumptions for operating costs reflect experience at comparable facilities—annual increases not simply set at inflation



## Fitch Stress Case

- > Assesses debt structure's ability to withstand a combination of downside risks:
  - Delayed project completion
  - Higher project costs
  - Lower initial traffic
  - Lower toll rates or average toll
  - Limited and/or delayed development
  - Higher elasticity to toll increases
  - Impacts of an economic downturn or cycle
  - Higher interest rate costs in a refinancing
  - Swap termination scenarios



## Forecasting Risk Mitigants

- > Internal liquidity
- > Lower leverage--appropriate debt/equity split
- > Flexible debt structures



## Appropriate Liquidity Levels

- > Capitalized interest during construction extending 12 months beyond scheduled completion
- > Ramp-up reserves
- > Debt service reserve fund (DSRF)
  - Sized between 6-12 months of future debt service obligations
  - Increases as needed over time if back-loaded debt structure
- > Renewal and replacement or mandatory cap-ex reserves
- > Sizing of reserves based on acceptable stress case results
- > Reserves pre-filled to minimum levels; not dependent on revenue performance
- > Release of ramp-up reserves tied to achievement of acceptable steady-state performance; based on historical/projected debt service coverage ratio (DSCR) and loan life/project life coverage ratio tests (LLCR/PLCR)



## Lower Leverage/Appropriate Debt/Equity Split

- > Debt load sized to project risks
- > Rule of thumb of at least 20-25% equity, maybe higher/lower
- > Higher equity stake if technology and/or deal structure complex to hand over
- > Lower equity stake if project risks and responsibilities easily transferable
- > Equity distributions tied to meeting DSCR, LLCR and/or PLCR performance benchmarks (e.g. 1.50x historical DSCR, 1.70x projected DSCR, 2.00x PLCR)
- > Phased equity lock-up if coverage falls below historical/projected benchmarks (e.g. 50% lock-up at 1.50x historical DSCR, 75% at 1.40x and 100% at 1.30x)
- > Equity release once historical DSCR achieves benchmark (e.g. 1.70x)
- > Future leverage tied to meeting at least a minimum DSCR on a historic and projected basis. LLCR/PLCR covenant may also be incorporated



## Flexible Debt Structures

- > Appropriate tool to mitigate forecasting risk, or where uncertainty may exist in revenue stream – either at the beginning or the end of debt life span
- > Structure's ability to handle a Fitch stress case within legal term of debt
- > Legal term of debt should be limited to least of economic life of asset or concession
- > Rate covenant or cash distribution test incorporate scheduled prepayments
- > Given the accretion inherent in flexible debt structures, covenants include provisions that ensure:
  - Phased in lock-up;
  - At least meeting a minimum LLCR
  - Sufficient liquidity remains to cover operating and maintenance and rehabilitation and replacement needs



## Conclusions

- > While a key input in determining a toll road's credit quality, traffic and revenue forecasts provide a general magnitude of potential demand
- > Fitch assesses forecasting risk on a project by project basis
- > Although forecasting procedures are evolving, uncertainty remains a considerable issue—particularly for start-up, greenfield projects
- > Structural protections including adequate liquidity levels, cash trap/additional bonds tests, the appropriate mix of debt to equity and flexible repayment mechanisms can help mitigate traffic and revenue risk and enhance credit quality.



**Fitch Ratings**

*www.fitchratings.com*

**New York**

One State Street Plaza  
New York, NY 10004  
+1 212 908 0500  
+1 800 75 FITCH

**London**

Eldon House  
2 Eldon Street  
London EC2M 7UA  
UK  
+44 207 417 4222