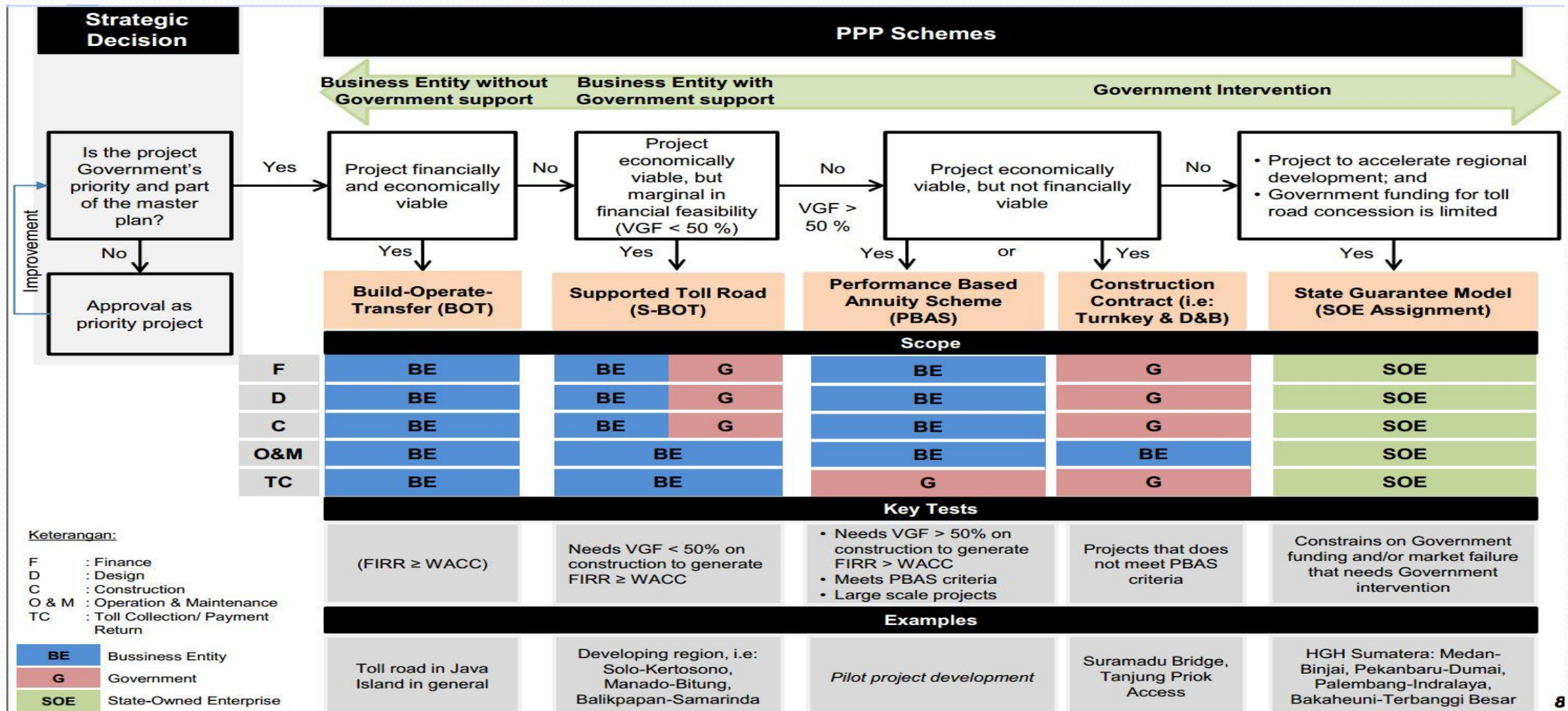


Toll Road Investment Scheme



The Objectives of exercise

1. To see the proposed scheme effect toward the financial viability of the toll road compared with the “conventional” scheme
2. To see the Stake holder perception to the proposed scheme
3. To see the risk of the proposed scheme

Land Development Costs

Based on study on the Karawang International Industrial City (KIIC), land uses development costs on industrial area is as follow:

- Land uses development costs are around Rp.350,000/m² for land acquisition and Rp. 400,000/m² for facility development.
- Operational and Maintenance costs USD 0.07/m²/month

Simulation Example (Toll Road)

| KETERANGAN | TAHUN | | | | | | | | | | | | | | | | | | |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 |
| BIAYA (M.Rp) | | | | | | | | | | | | | | | | | | | |
| Konstruksi Jalan Tol | | | | | | | | | | | | | | | | | | | |
| Pengadaan Lahan Jalan Tol | 1,190.91 | | | | | | | | | | | | | | | | | | |
| - Biaya Konstruksi Seksi I | 2,052.50 | | | | | | | | | | | | | | | | | | |
| -Biaya Konstruksi Seksi III | 3,759.14 | | | | | | | | | | | | | | | | | | |
| -Biaya Konstruksi Seksi IIII | 526.72 | | | | | | | | | | | | | | | | | | |
| -Biaya Konstruksi Seksi IV | | 1,170.57 | | | | | | | | | | | | | | | | | |
| -Biaya Konstruksi Seksi V | | | 1,999.17 | | | | | | | | | | | | | | | | |
| -Biaya Konstruksi Seksi VI | | | | 704.78 | | | | | | | | | | | | | | | |
| -Biaya Desain & Supervisi (5% Kons) | 316.92 | 58.53 | 99.96 | 35.24 | | | | | | | | | | | | | | | |
| Konstruksi Lahan Pengusahaan | | | | | | | | | | | | | | | | | | | |
| Pengadaan Lahan | 148.75 | 148.75 | 148.75 | 148.75 | | | | | | | | | | | | | | | |
| Pembangunan Infrastruktur Lahan | 119.00 | 119.00 | 119.00 | 119.00 | | | | | | | | | | | | | | | |
| Kontigensi (10%) | 692.30 | 149.68 | 236.69 | 100.78 | | | | | | | | | | | | | | | |
| Total Investasi | 8,806.23 | 1,646.53 | 2,603.57 | 1,108.55 | | | | | | | | | | | | | | | |
| Pajak (10%) | 880.62 | 164.65 | 260.36 | 110.85 | | | | | | | | | | | | | | | |
| Total + Pajak | 9,686.86 | 1,811.19 | 2,863.92 | 1,219.40 | | | | | | | | | | | | | | | |
| Subsidi Pemerintah | - | - | - | - | | | | | | | | | | | | | | | |
| Investasi Badan Usaha | 9,686.86 | 1,811.19 | 2,863.92 | 1,219.40 | | | | | | | | | | | | | | | |
| Project Financing | | | | | | | | | | | | | | | | | | | |
| Ekuitas | 2,906.06 | 543.36 | 859.18 | 365.82 | | | | | | | | | | | | | | | |
| Loan | 6,780.80 | 1,267.83 | 2,004.75 | 853.58 | | | | | | | | | | | | | | | |
| Total Loan Prinsipal | 10,306.96 | | | | | | | | | | | | | | | | | | |
| Biaya Rutin | | | | | | | | | | | | | | | | | | | |
| Interest Payment | | | | | 1,309 | 1,274 | 1,234 | 1,190 | 1,141 | 1,086 | 1,024 | 955 | 877 | 790 | 693 | 584 | 462 | 325 | 172 |
| Principal Payment | | | | | 293 | 328 | 367 | 411 | 460 | 516 | 577 | 647 | 724 | 811 | 909 | 1,018 | 1,140 | 1,277 | 1,430 |
| Total Debt Service | | | | | 1,601 | 1,601 | 1,601 | 1,601 | 1,601 | 1,601 | 1,601 | 1,601 | 1,601 | 1,601 | 1,601 | 1,601 | 1,601 | 1,601 | 1,601 |
| Remaining Prinsipal | | | | | 10,614.39 | 10,286.71 | 9,919.71 | 9,508.66 | 9,048.30 | 8,532.69 | 7,955.21 | 7,308.43 | 6,584.03 | 5,772.71 | 4,864.03 | 3,846.31 | 2,706.46 | 1,429.83 | (800) |
| -Biaya operasi & Pemeliharaan rutin Tol | | | | | | 22.0 | 23.49 | 25.14 | 26.90 | 28.78 | 30.80 | 32.95 | 35.26 | 37.73 | 40.37 | 43.19 | 46.22 | 49.45 | 52.91 |
| - Biaya Pemeliharaan berkala 3 tahun Tol | | | | | | | | 23 | | | 24.29 | | | | 29.76 | | | | |
| - Biaya Pemeliharaan berkala 5 tahun Tol | | | | | | | | | | 30 | | | | | 42.33 | | | | |
| - Biaya Pemeliharaan berkala 10 tahun Tol | | | | | | | | | | | | | | | 3 | | | | |
| -Operasional dan Pemeliharaan Kawasan | | | | | 0.05 | 0.12 | 0.19 | 0.27 | 0.35 | 0.46 | 0.57 | 0.70 | 0.84 | 1.00 | 1.17 | 1.37 | 1.59 | 1.83 | 2.09 |
| TOTAL BIAYA | 2,906.06 | 543.36 | 859.18 | 365.82 | 1,601.46 | 1,623.48 | 1,625.09 | 1,649.52 | 1,628.66 | 1,660.83 | 1,657.07 | 1,635.05 | 1,637.50 | 1,669.89 | 1,688.59 | 1,645.97 | 1,685.67 | 1,652.69 | 1,656.41 |
| TOTAL BIAYA (PV) | 2906.06 | 507.81 | 750.44 | 298.62 | 1221.75 | 1157.52 | 1082.86 | 1027.24 | 947.89 | 903.38 | 842.37 | 776.80 | 727.07 | 692.95 | 654.86 | 596.57 | 570.99 | 523.20 | 490.07 |
| MANFAAT (M.Rp) | | | | | | | | | | | | | | | | | | | |
| Jalan Tol | | | | | | | | | | | | | | | | | | | |
| Pendapatan Tol (LHR * Tarif) | | | | | 593.77 | 573.20 | 722.93 | 789.36 | 962.78 | 1,017.68 | 1,256.45 | 1,311.76 | 1,613.57 | 1,678.84 | 2,058.42 | 2,058.42 | 2,131.42 | 2,601.33 | 2,687.74 |
| Pendapatan lain2 (2 % Toll) | | | | | 10.60 | 11.46 | 14.46 | 15.99 | 19.26 | 20.35 | 25.13 | 26.24 | 32.27 | 33.58 | 41.17 | 41.17 | 42.63 | 52.03 | 53.75 |
| Lahan Pengusahaan | | | | | | | | | | | | | | | | | | | |
| Tambahan Pendapatan Toll | | | | | 33.32 | 35.65 | 38.15 | 40.82 | 43.68 | 46.73 | 50.00 | 53.50 | 57.25 | 61.26 | 65.55 | 70.13 | 75.04 | 80.30 | 85.92 |
| Pendapatan Penjualan Kavling Industri | | | | | 143.10 | 160.53 | 180.08 | 202.01 | 226.62 | 254.22 | 285.18 | 319.92 | 358.89 | 402.60 | 451.63 | 506.64 | 568.35 | 637.58 | 715.23 |
| Estate Service Fee | | | | | 0.06 | 0.13 | 0.21 | 0.30 | 0.41 | 0.52 | 0.65 | 0.79 | 0.96 | 1.14 | 1.34 | 1.56 | 1.81 | 2.09 | 2.39 |
| Perpanjangan HGB | | | | | | | | | | | | | | | | | | | |
| TOTAL MANFAAT | | | | | 720.93 | 780.98 | 955.83 | 1027.89 | 1252.74 | 1339.51 | 1617.42 | 1712.21 | 2062.93 | 2177.41 | 2618.11 | 2677.93 | 2819.26 | 3373.32 | 3545.04 |
| TOTAL MANFAAT (PV) | | | | | 549.99 | 556.82 | 636.91 | 640.12 | 729.10 | 728.60 | 822.21 | 813.46 | 915.97 | 903.55 | 1015.35 | 970.61 | 954.98 | 1067.91 | 1048.85 |
| B - C | (2,906.06) | (543.36) | (859.18) | (365.82) | (880.53) | (842.50) | (669.26) | (621.63) | (375.92) | (321.32) | (39.65) | 77.16 | 425.43 | 507.52 | 929.52 | 1,031.96 | 1,133.59 | 1,720.64 | 1,888.62 |
| B-C (After Tax) | (2,906.06) | (543.36) | (859.18) | (365.82) | (880.53) | (842.50) | (669.26) | (621.63) | (375.92) | (321.32) | (39.65) | 69.44 | 382.89 | 456.77 | 836.57 | 928.77 | 1,020.23 | 1,548.57 | 1,699.76 |
| PV(B-C) | (2,906.06) | (507.81) | (750.44) | (298.62) | (671.76) | (600.69) | (445.96) | (387.12) | (218.79) | (174.78) | (20.16) | 32.99 | 170.01 | 189.54 | 324.44 | 336.63 | 345.59 | 490.24 | 502.90 |
| NPV | (2,906.06) | (3,413.87) | (4,164.30) | (4,462.92) | (5,134.68) | (5,735.37) | (6,181.33) | (6,568.45) | (6,787.24) | (6,962.01) | (6,982.17) | (6,945.18) | (6,779.17) | (6,589.63) | (6,265.19) | (5,928.56) | (5,582.98) | (5,092.74) | (4,589.84) |

| | | |
|---------------------|----|-------|
| Disc Rate | 7 | % |
| Estalasi Konstruksi | 7 | % |
| Bunga Pinjaman | 12 | % |
| Debt Ratio | 70 | % |
| Jangka Waktu Hutang | 15 | Tahun |
| Subsidi Pemerintah | 0 | % |

| | | |
|---------------------|-----|-----------|
| Parameter Kelayakan | IRR | 13.01% |
| | NPV | 19510.430 |
| | BCR | 2.308 |

Conclusion

1. The proposed scheme could increase financial viability of toll road. However, it still depends on the area and purpose of their use.
2. With same amount of government funding, the proposed scheme results in better financial benefits compared to VGF scheme.
3. The proposed scheme is also considered to be better by the private sector. However, there is higher risk that should be considered, especially when dealing with the land aquisition and funding required.

Recommendations

1. Study on law aspects to complete the legal umbrella to implement this policy is required.
2. Study on different land use purpose to see the variation effect on corridor development with different area characteristics is needed.
3. Deeper risk management should be undertaken in this proposed scheme.