OPTIONS EVALUATION REPORT (OER)

Replacement of Motor Vehicles

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Project reason: The replacement of aged TransGrid's Motor Vehicle and Mobile Plant fleet
Project category: Motor Vehicles - Fleet

Approvals

Author	Andrew Prentice	Fleet Manager
Endorsed	Sunny Bhasin	Manager Training, Logistics and Property
	John Howland	Manager, Portfolio Management
Approved	Anthony Englund	Manager, Investment Strategy and Solutions
Date submitted for approval	28 June 2016	

1. Need/opportunity

A reliable and fit for purpose fleet of motor vehicles and mobile plant is critical to provide safe and efficient network maintenance services and construction work for our assets within NSW and the ACT. The current level of fleet investment is based on adding no incremental risk to meeting key network asset restoration and maintenance service levels or otherwise negatively impacting broader network and business operating performance, including safety and environmental outcomes.

A number of vehicles will reach the end of their economic life during the 2018/19 to 2022/23 regulatory period. Maintaining the current service level provided by the fleet will necessitate their replacement or lease.

2. Related needs/opportunities

None

3. Options

Base Case – No replacements supplemented with vehicle hire

The base case is not to replace the existing assets with vehicle downtime addressed through hiring external vehicles. The incremental maintenance and compliance check costs on the existing assets would be funded as an operating expense.

Option A - Replacement through capital spend

This option replaces motor vehicles through least cost capital spend. Replacements have been costed at $50.1m over the period, taking the following into account:

- Suitability – selection on the basis of the vehicle's ability to perform the intended duties;
- Safety – selection on the relative safety characteristics for comparable suitable vehicles;
- Economics – selection of the least whole of life cost vehicle with comparable suitability and safety weighted equally with environmental impact;
- Environment – selection of the vehicle with least environmental impact with comparable suitability and safety, weighted equally with Economics; and
- Standardisation – selection of a vehicle which is in keeping with others used for similar tasks.

4. Evaluation

Option A - Replacement through capital spend

NPV analysis on option A compared to the base case is positive for each of the three asset categories as follows:

- TG mobile plant $8.71m
- TG business vehicles $0.12m
- TG 100% private vehicle $0.03m

These results are based on the following benefits:

- avoided compliance cost $0.96m,
- avoided external vehicle hire cost $2.15m,

- avoided vehicle maintenance cost $4.32m,
- $23.3m sales value of the vehicles being replaced.

The benefits are detailed in Attachment 1.

The commercial evaluation of the options is set out in Table 1.

Table 1

Option	Description	Capex ($m)	Benefits ($m) pa	Post project risk cost ($m)	NPV ($m)	Rank
Base case	No replacements supplemented with vehicle hire	-	($7.4m)	-	-	
A	Replacement	$50.1m	$7.4m	-	$8.9m	1

The commercial evaluation considers annual benefit of $7.4m pa which is from the avoided costs discussed in the Option A evaluation above. The total incremental cost over the investment period is $74m.

The commercial evaluation is based on a 10% discount rate, with sensitivities based on TransGrid's current AER-determined pre-tax real regulatory WACC of 6.75% (NPV of $16.3m) and 13% (NPV of $4.0m) for the upper bound;

Capital and operating expenditure

Option A will result in a trade-off between capital and operating expenditure that is, if there is no capital expenditure there will be an increase in operating expenditure and visa-versa.

Regulatory Investment Test

No RIT-T or other regulatory test is required as the investment is to replace existing assets.

5. Recommendation

It is recommended that Option A be implemented and each vehicle identified as requiring replacement be assessed and replaced in accordance with the Control and Use for Motor Vehicles and Mobile Plant procedure.

Attachment 1 Summary of benefits

The below table provides a summary of the benefits between Option A and the base case:

Total for the Regulated Period 2018-23	Compliance Avoidance	External Hire Cost	Maintenance Cost	Total Benefits	Capex	Sale Return
Mobile Plant	$963,000	$909,625	$549,068	$2,421,694	$13,943,406	$4,146,782
Business Vehicles	-	$1,187,278	$3,676,385	$4,863,663	$35,107,694	$18,501,899
100% Private Vehicles	-	$52,800	$98,938	$151,738	$1,093,185	$608,648
Total	**$963,000**	**$2,149,703**	**$4,234,391**	**$7,528,827**	**$50,144,285**	**$23,257,329**

Mandatory compliance cost avoidance, external hire cost, maintenance cost and vehicle sale returns were calculated are based on the below;

- Mandatory compliance costs as imposed by Work Cover Australia have been used to calculate the economic return of replacing a vehicle. Compliance inspections require high risk assets to be stripped, inspected and repaired (where required) on a periodic basis in accordance with Australian Standards. This period varies depending on vehicle type, but typically is 10 years for the first inspection and 5 years thereafter. The cost of this work ranges from $25,000 to $50,000.
- The cost of vehicle downtime has been included in the economic return calculations as a cost of hiring an external replacement vehicle. It was determined that as a vehicle aged, the vehicles reliability will decrease resulting in the vehicle being off road by up to 5 days per annum for unscheduled repairs.
- Increased maintenance costs are a result of retaining vehicles beyond their economic life have been included in the economic return calculations. It is expected that the defect maintenance cost will increase with the age of the vehicle by 5%pa and one time increase of 20% in year 7 to account for the fact spares will have to be sourced offshore;
- The estimate sale returns from the sale of the replaced vehicle has been built into the economic return calculations. The sale returns were based on historical sales of equivalent vehicles;

The replacement of aged vehicles also delivers a number of intangible benefits to TransGrid, such as:

- Improved ANCAP safety rating of motor vehicles, which is the industry measure to indicate the level of safety a vehicle provides for occupants and pedestrians in the event of a crash, as well as its ability, through technology, to avoid a collision;
- Improved fuel efficiencies and lower emissions. New engine and transmission technologies enable fuel burn to be reduced whilst providing improved performance this in turn reduces the air pollutants and greenhouse gases;
- Increased engine service intervals reducing vehicle downtime and regular servicing costs.

The intangible benefits have been noted for information only and have not been included in assessing the economic return of replacing a vehicle.