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| Fleet management |
| Improving fleet efficiency in the health sector |

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# Introduction

This guidance has been designed to assist fleet managers in managing the costs and environmental impacts of operating and maintaining corporate fleets. Effective fleet management can reduce costs, improve safety and reduce environmental impacts. Opportunities to reduce costs through investing in low-emissions technologies and operating practices can help deliver beneficial environmental outcomes while ensuing continued value for money.

It is clear that there is often a need for specialist vehicles and that some workplace agreements require a specific type of vehicle. Opportunities for achieving efficiency gains should still be sought in these areas, though not at the expense of vehicles not meeting their operational requirements.

# Using this guidance

There is a baseline self-assessment checklist that identifies relevant actions and/or opportunities that apply to fleet management. The more items selected ‘Yes’, the more likely good management practices are in place. If actions are marked ‘Unsure’, more data or information may be needed to evaluate the action.

For the opportunities selected ‘No’, the opportunity should be reviewed to see if it could be implemented. More information about each opportunity is provided later in this guidance. Two to five opportunities could be investigated and/or implemented each year. It is important to consider the relevance of the opportunity to your health service and the availability of data to measure your progress. Consider prioritising opportunities that you can measure and will have a material impact on your costs and environmental footprint.

In some instances staff across finance, operations, assets and fleet will need to work together, so collaboration and consultation across these areas is strongly encouraged when identifying and implementing opportunities. Ideally, fleet managers should review the action plan annually to assess the effectiveness of the selected opportunities and to identify further opportunities.

# Fleet efficiency baseline assessment

#### Baseline assessment applies to reporting year:

*Check the appropriate box to indicate whether the nominated action is being implemented. Use the ‘Implement’ box to indicate any actions to be adopted in the coming reporting year.*

#### 1. Data collection Yes No Unsure Implement

* 1. Data collected per vehicle (kms, litres, fuel) [ ]  [ ]  [ ]  [ ]
	2. Fleet statistics collected: trip count, distance and purpose [ ]  [ ]  [ ]  [ ]
	3. Taxi data collected: total spend and count of trips [ ]  [ ]  [ ]  [ ]
	4. Grey fleet data collected (kms claimed, number of vehicles) [ ]  [ ]  [ ]  [ ]
	5. Report fleet data in environmental data management system [ ]  [ ]  [ ]  [ ]

#### 2. Fleet efficiency

* 1. Review vehicle utilisation annually  [ ]  [ ]  [ ]  [ ]
	2. Active and public transport encouraged for short trips (< 2 km) [ ]  [ ]  [ ]  [ ]
	3. Booking system enables staff to book and cancel easily [ ]  [ ]  [ ]  [ ]
	4. Vehicles are matched to trip purpose and type in booking system [ ]  [ ]  [ ]  [ ]
	5. Major vehicle users known and engaged with (trip types and purpose) [ ]  [ ]  [ ]  [ ]

#### Vehicle efficiency

* 1. Preventative maintenance done on all vehicles [ ]  [ ]  [ ]  [ ]
	2. Replace vehicles by age (oldest first) or efficiency (litres per 100 km) [ ]  [ ]  [ ]  [ ]
	3. Vehicles have an efficiency under 10 L/100 km (where possible) [ ]  [ ]  [ ]  [ ]

#### Behaviour change

* 1. Videoconferencing available for meetings and/or telemedicine [ ]  [ ]  [ ]  [ ]
	2. Clear standards defined on grey fleet use and novated leasing [ ]  [ ]  [ ]  [ ]
	3. Review/audit to assess if vehicle policies are adhered to [ ]  [ ]  [ ]  [ ]
	4. Induction/training on efficient driver behaviour offered to staff [ ]  [ ]  [ ]  [ ]

#### Alternative transport modes

* 1. High-frequency routes identified by location and trip purpose [ ]  [ ]  [ ]  [ ]
	2. Alternative modes offered for high-frequency routes [ ]  [ ]  [ ]  [ ]
	3. Public transport use encouraged by health service [ ]  [ ]  [ ]  [ ]
	4. Bicycles or e-bicycles encouraged by health service [ ]  [ ]  [ ]  [ ]

#### Disruptive technologies

* 1. Electric vehicle plan feasibility study/masterplan [ ]  [ ]  [ ]  [ ]

# Data collection and reporting

## Public environmental reporting on vehicle fleet

### Minimum requirements

The department’s *Policy and funding guidelines* requires public reporting on the environmental impact of fleet vehicles for all public hospitals and health services.

Health services are required to input fuel usage (kilolitres) and distance travelled (kilometres) for petrol, E10, diesel and LPG, as well as for air travel (kilometres), into the environmental data management system. Data must be provided for 12 continuous months and can either align with the FBT (April to March) or financial (July to June) reporting period. The public environment report will generate a document that complies with reporting requirements.

The department uses data in the environmental data management system to report on the environmental performance of the health system vehicle fleet.

### Potential future reporting requirements

The Department of Environment, Land, Water and Planning is reviewing Financial Reporting Direction 24 with a view to expanding public environmental reporting requirements to large government organisations, including health services. The potential reporting metrics being considered are:

* total energy consumption by vehicle fleet segmented by vehicle/fuel type (megajoules)
* total vehicle travel associated with operations segmented by vehicle/fuel type (kilometres)
* greenhouse gas emissions from vehicle fleet segmented by vehicle/fuel type (tonnes CO2-e)
* greenhouse gas emissions from vehicle fleet segmented by vehicle/fuel type (tonnes CO2-e / 1,000 kilometres)
	+ total greenhouse gas emissions from air travel (tonnes CO2-e).

Other metrics being considered are the number, or proportion of, petrol hybrid, plug-in hybrid and electric vehicles in a fleet, and/or the percentage of staff using sustainable transport to get to and from work.

Once the reporting metrics have been finalised, the department will update the environmental data management system to generate the necessary public environment report. The department will also work with VicFleet to investigate the opportunity to secure fleet data for central upload into the environmental data management system.

## Recommended practices for internal reporting

Fleet managers can collect additional data, as outlined in Table 1, to assess fleet efficiency.

Table 1: Key benchmarks that indicate an efficient fleet

| Aspect of fleet management | Metric | Indicator of good performance |
| --- | --- | --- |
| High vehicle utilisation within fleet | Distance utilisation | More than 10,000 km travelled per vehicle per year but varies depending on type of use |
| Time utilisation | Booked out > 80% of the time (operational hours) |
| Efficient vehicles | Stated (theoretical) vehicle efficiency | Refer to Table 2 for typical vehicle efficiencies by vehicle size |
| Actual vehicle efficiency |
| Alternative transport modes used | Short trips (< 2 km) taken using vehicles | Less than 10% of short trips taken by vehicle |

Table 2 summarises the expected performance of vehicles and can be used as a benchmark for individual vehicle assessments (refer to vehicle-based improvement opportunities).

Table 2: Average fuel efficiency of vehicles in VicFleet-approved vehicle list, April 2019

| Vehicle size | Standard (L/100 km) | Hybrid (L/100 km) |
| --- | --- | --- |
| Small  | 5.8–7.4 | 1.1–4.1 |
| Medium  | 5.2–9.9 | 4.2–4.5 |
| Large | 5.6–9.3 | n/a |

# Fleet-based improvement opportunities

Fleet-based opportunities aim to optimise fleet configuration to deliver cost-effective health services by increasing the availability of fleet vehicles and reducing fleet size where possible. Efficient fleet management involves understanding fleet composition and the way staff use vehicles. This can reduce the costs of purchasing and running vehicles that are not essential to service delivery. The table below describes the main fleet-based improvement opportunities that health services can implement.

This category of opportunities aligns with items 2.1 to 2.5 of the baseline self-assessment checklist. If ‘No’ was selected for any of these options, navigate to the relevant item in the table for suggested steps on how to implement the desired action.

2. Fleet efficiency

| No. | Opportunity | Actions or steps to implement | Data requirements | Target date | Who? |
| --- | --- | --- | --- | --- | --- |
| **2.1** | Review vehicle utilisation annually | Collect data on yearly kilometres driven by vehicleIdentify vehicles that are under-utilisedInvestigate time utilisation of these vehicles using log books or online management systemIf vehicle also has a low time utilisation, investigate reasons, and consider reducing fleet size | Total annual kilometres travelled per vehicleNumber of days/hours each vehicle is utilised (for example, qualitative description, report from fleet booking system or other measure) |  |  |
| **2.2** | Active and public transport encouraged for short trips (< 2 km)  | Refer to section 5 ‘Alternative transport modes’ (5.3 and 5.4)  | n/a |  |  |
| **2.3** | Booking system enables staff to book and cancel easily (due to software functionality, user behaviour, or both) | Interview staff to get feedback on vehicle availability in the booking systemAssess how often vehicles are booked outInvestigate updating the booking system if required | Time (days or hours) that vehicles are booked out (as gauged from instantaneous checks over a period of time to collect data points)Vehicle utilisation rate based on average kilometres per vehicle over time  |  |  |
| **2.4** | Most efficient vehicles are prioritised and/or matched to trip types in booking system | Review booking system functionality, including if:vehicle type can be matched to trip lengthtrips can be grouped for ride-sharingalternative modes of transport are suggested for particular tripsInstall or set up software to automatically select suitable vehicles by trip distance and type (if possible)Establish a policy for selecting vehicles for all relevant staffScreen vehicle bookings to check policy implementation and change bookings if they do not align | Fleet register with vehicles by type or fuel efficiencyRecord of trips taken (by distance) by vehicle typeQualitative description from staff on effectiveness of booking system |  |  |
| **2.5** | Identify and engage with major vehicle users (discussing trip types and purpose) | Identify staff who drive more than 5,000 km/yearInterview staff to understand vehicle usageInvestigate suitability of alternative measures for certain tripsSupport staff to implement changes to reduce kilometres travelled for relevant trips | Annual kilometres travelled by employeeRecord of trips taken by employees by distance and purpose (for example, qualitative description, report from fleet booking system or other measure) |  |  |

# Vehicle-based improvement opportunities

Vehicle-based improvements relate to the characteristics of the vehicles in a fleet and how these vehicles are maintained. Replacing older, less fuel efficient vehicles with more fuel efficient vehicles can reduce fuel consumption and cost. Scheduling preventative vehicle maintenance is generally a low-cost option to optimise fuel consumption and increase driver safety.

3. Vehicle efficiency

| No. | Opportunity | Actions or steps to implement | Data requirements | Target date | Who? |
| --- | --- | --- | --- | --- | --- |
| **3.1** | Preventative maintenance done to optimise running efficiency of vehicles | Review current vehicle maintenance schedule and proceduresDetermine if the schedule and procedures are adhered toUpdate the maintenance schedule and procedures to align with vehicle manufacturer recommendations Communicate responsibilities to staff  | Record of maintenance undertaken for each vehicle (cost and work done) |  |  |
| **3.2** | Replace vehicles by age or efficiency to improve fleet efficiency over time | Select one measure below to rank your fleet vehicles:expected fuel efficiency (Green Vehicle Guide)actual fuel efficiency (data collected)vehicle ageGather data to measure efficiency (availability of data may influence your efficiency metric)Document a vehicle-replacement strategy that considers:how vehicles should be replaced over timeoverall targets for replacing vehicles minimum performance standards for new vehiclesImplement, review and update strategy over time | Fleet register with vehicles by make, model, year and fuel efficiency |  |  |
| **3.3** | Vehicles have an efficiency under 10 L/100 km (where possible) | Calculate the actual efficiency of fleet vehicles by dividing fuel consumed by kilometres travelled per vehicleCompare vehicles’ actual efficiency with expected efficiency (as per manufacturers specifications or Green Vehicle Guide)[[1]](#footnote-1)Consider replacing vehicles that cannot be optimised/maintained to meet the minimum efficiency requirementsTighten vehicle efficiency goals over time (reduce 10 L/100 km to 8 L/100 km after two years) | Fleet register with vehicles by make, model and year Total annual kilometres travelled per vehicleTotal annual fuel consumption per vehicleCalculation: vehicle fuel efficiency (L/100 km) |  |  |

# Behaviour change

Behaviour change refers to both organisational and individual behaviours affecting how vehicles are used. Effective vehicle policies and business practices can optimise the use of your fleet. This affects how staff deliver services, such as holding meetings via teleconference or using active transport instead of vehicles for work-related travel. Programs targeting behaviour change should be undertaken over a sustained period with ongoing support to help people adjust to the change. It can be aided by:

* management leading by example
* making it part of an organisation-wide strategy
* regular communication and training
	+ starting small and promoting success stories.

Individual driver behaviour can increase vehicle fuel use by up to 30 per cent. Fuel consumption is affected by behaviours such as heavy braking and accelerating, excessive short trips and speeding. The benefits of other fleet management opportunities can be assisted by effectively modifying driver behaviour to reduce fuel consumption. Implementation may require a combination of ‘carrot’ and ‘stick’ approaches.

4. Behaviour change

| No. | Opportunity | Actions or steps to implement | Data requirements | Target date | Who? |
| --- | --- | --- | --- | --- | --- |
| **4.1** | Videoconferencing available to replace vehicle trips for corporate meetingsTelemedicine (telehealth) available for patients | Assess suitability of videoconferencing software regarding capabilities and usage by staff and to deliver telemedicineGather feedback from staff on the use and effectiveness of videoconferencing services to identify barriers to useConsider addressing any barriers to using videoconferencingCommunicate option for staff to use teleconferencing in place of vehicle bookings for meetings and telehealth | Qualitative description on availability and quality of teleconferencing servicesEstimate on number of trips to meetings that could be or have been replaced by teleconference |  |  |
| **4.2** | Clear standards defined on grey fleet use and novated leasing | Review relevant policies in place to understand if they are up to dateCollect data on grey fleet use: number of trips, distance travelled, staff survey to identify trip purposes for grey fleet Develop standards/criteria for use of personal vehicles for work-related trips. For example:limit on kilometres claimedvehicle screening for safety and efficiencydefine types of trips that can be claimedstaff to demonstrate that they have considered alternatives before using personal vehicleCommunicate changes to staffMonitor staff adherence to policy | Total costs of claims made by staff for business trips made in private vehiclesQualitative description on organisational policies related to using of personal vehicles for work purposes |  |  |
| **4.3** | Review/audit to assess if vehicle policies are adhered to | Review current policies related to vehicle useDevelop a monitoring program that tracks staff adherence to specific, important policies using key performance indicators (such as percentage of trips recorded in the logbook and number of inducted staffs)Implement monitoring program | Register/record of policies related to vehicle useMeasure of adherence to policies |  |  |
| **4.4** | Induction process or training course offered to encourage efficient driver behaviour | Induction process for drivers:induction pack prepared to highlight impact of driver behaviour on fuel efficiencymandate completing the induction pack yearly to be able to use vehiclesmaintain a register of staff who have completed the induction packThird-party training provider:review training course providers in local areaidentify staff who use vehicles regularly (and set criteria to capture) | Register of staff who have completed induction process or training |  |  |

# Alternative transport modes

Reducing the number of trips taken by car is the most effective way to reduce costs, and this can be achieved by identifying trips where alternatives to private vehicle transport are viable. These opportunities involve understanding trip patterns, purpose and frequency to identify what trips can be taken using an alternative transport mode. It can also build the evidence base for carpooling or shuttle bus services arranged by the health service for high-frequency routes.

This may be challenging given the varied and responsive nature of work undertaken and could be assisted by using booking software that can automatically identify similar trips or provide data on high-frequency routes. Refer to section 2 for a discussion on booking systems to assist fleet-based opportunities.

5. Alternative transport modes

| No. | Opportunity | Actions or steps to implement | Data requirements | Target date | Who? |
| --- | --- | --- | --- | --- | --- |
| **5.1** | High-frequency routes identified by location and trip purpose | Select a team or division of the health service to focus on; this may be easier at a small scale to begin with Work with staff to map:locations of regular trips takentrip purposestrip times and durationsIf fleet management software is used to schedule trips, group trips by the above categoriesIdentify high-frequency routes that could be:replaced by alternative modes (public transport)combined with other staffreplaced by a shuttle bus or similar | Description of trip purpose and location, and scheduling of trips |  |  |
| **5.2** | Alternative modes offered for high-frequency routes | Based on the analysis undertaken in opportunity 5.1, assess the viability of replacing trips by carpooling or shuttle bus for high-frequency routesUndertake a detailed analysis of the costs and benefits of running such a service with the aid of other departments | Outcomes of opportunity 5.1 |  |  |
| **5.3** | Public transport encouraged by health service | Map out available public transport in the areaProvide information bulletins, real-time displays of scheduled public transport services and maps to communicate public transport options for staff (and visitors)Investigate initiatives that encourage staff to use public transport for work trips – for example, easy access to Myki cardsCommunicate to staff and support uptake | Qualitative description of trips taken by public transportAnnual Myki usage report (if relevant) |  |  |
| **5.4**  | Bicycles or e-bicycles encouraged by health service | Survey staff to identify vehicle routes by trip purpose that could be replaced by bikesMap out off-road and grade-separated bike paths in the area for staff to useProvide information bulletins and maps to communicate bike path options for staffDevelop a business case for an electric (or regular) bike fleet for staff useAdd or improve end-of-trip facilities and infrastructure on site | Number of bikes available for staff useNumber of trips taken by bikesQualitative description on usage and quality of end-of-trip facilities |  |  |

# Disruptive technologies

Electric vehicles present an opportunity to reduce fuel consumption and maintenance costs, and save time by reducing the need to refuel on trips if range is sufficient. The number of electric vehicles is small but growing in Australia: between 2016 and 2017 electric vehicle purchases and installations of charging stations increased by around 60 per cent. As an emerging technology that is developing rapidly, electric vehicle options should be reviewed regularly (every six to 12 months) to stay up to date with vehicle options.

The higher capital cost makes the payback for switching to electric vehicles as a standard fleet option unattractive. This is particularly the case where the VicFleet *Standard vehicle motor policy* requires lease terms of three years

Health services should, however, consider planning for the uptake of electric vehicles. This could include, for example, trialling electric vehicles to familarise them with staff, installing charging infrastructure to encourage use within the broader community, or future proofing car park infrastructure to enable charging stations to be installed at a later date.

6. Disruptive technologies

| No. | Opportunity | Actions or steps to implement | Data requirements | Target date | Who |
| --- | --- | --- | --- | --- | --- |
| **6.1** | Electric vehicle feasibility study/masterplan | Review the guidance on planning for electric vehicles in the health sector available from the [department’s website](https://www2.health.vic.gov.au/hospitals-and-health-services/planning-infrastructure/sustainability/transport) <<https://www2.health.vic.gov.au/hospitals-and-health-services/planning-infrastructure/sustainability/transport>>Ensure masterplans for redevelopments are ‘future-proofed’ for electric vehiclesInstall an electric charging station to encourage electric vehicles use by staff, visitors and patientsTrial the use of an electric vehicle to understand the costs and benefits of using electric vehicles | Knowledge of electric vehicle market: available vehicles, range, price, charging requirementsFleet vehicle patterns of use to plan for electric vehicle charging requirements:hours per vehicle spent in the officecharging station availability along common routesElectric vehicle trial results:staff preference for using electric vehicles (before and after)electric vehicle availability to staff (including any problems with charge remaining or range during use) |  |  |

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1. Note that vehicles commonly perform worse than their theoretical efficiency due to the set up and uncertainty associated with vehicle efficiency testing. If vehicles are within a range of 15 per cent of their theoretical efficiency, the vehicle may be operating as efficiently as possible. [↑](#footnote-ref-1)