



# Reducing Car Dependency: Introducing the World Bank Guide to Mobility for Livable Pacific Cities





# Strategy 7

Control the car fleet quality  
and quantity at entry, during  
use and end of life

## To be covered ...

1. Introduction
2. PIC Challenges
3. A step through the life of a vehicle ... issues identified and the management of these.
4. Summary intervention framework.

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Consultant





# Introduction

- Pacific cities **need to reduce dependence on cars** - more walking, biking, e-biking and public transport.
- Where cars are required, these need to:
  - **Be safe**
  - Have **low environmental footprint**

## Suggesting vehicles are:

- Fit for their PIC setting
- Low emissions (GHG and air quality)
- Operated well
- Well maintained/good lives
- Good end of life management



## This concerns three main areas:

- Managing vehicle imports**
- Extending the life of vehicles**
- End of Life Vehicle Management**







# PIC Setting for Motorization Management

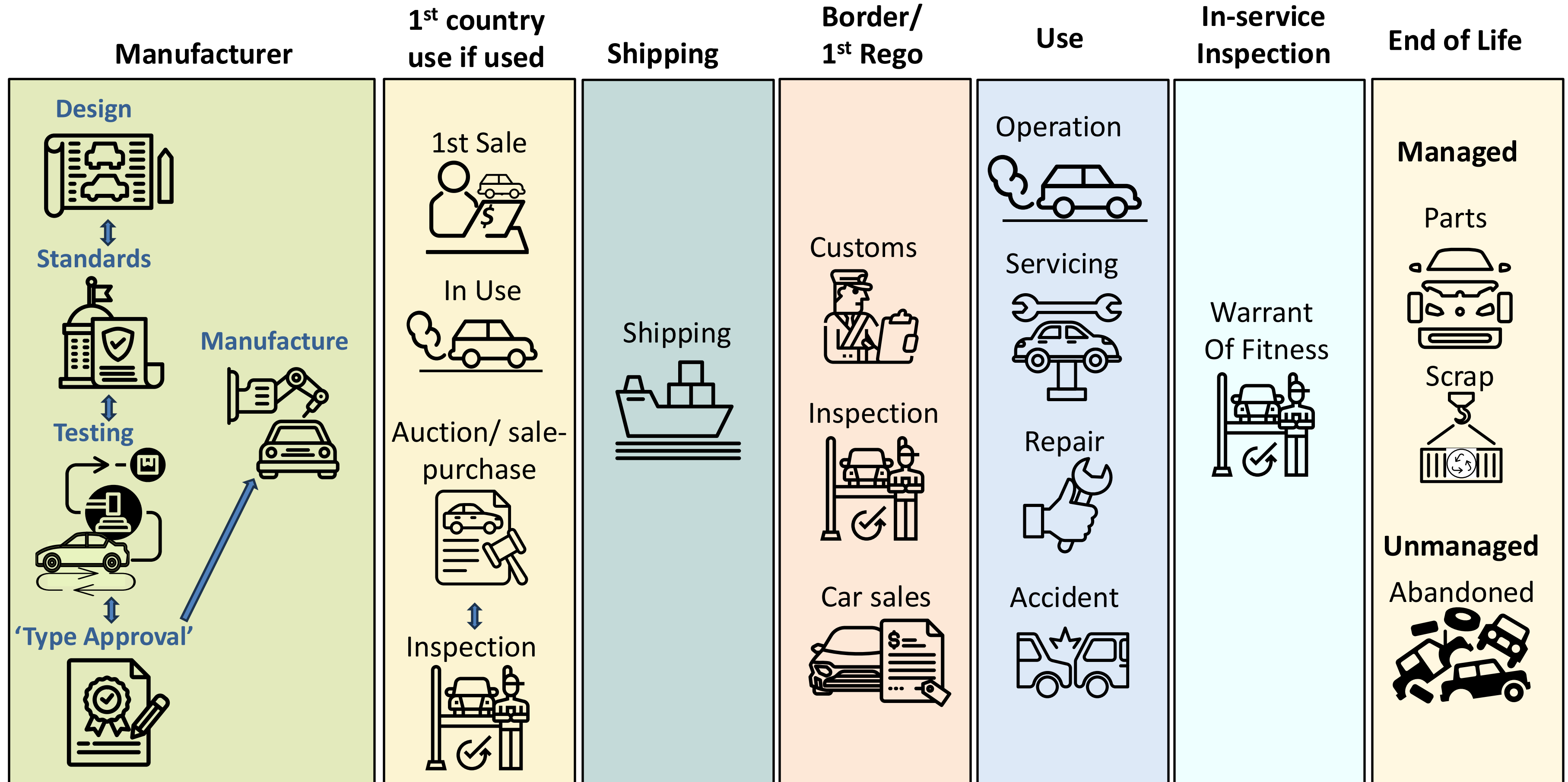
## Generalizing:

- **PICs are legislatively light, and resource constrained, limiting policy** and regulations that can be introduced.
- **Vehicle ownership is new.** Many do not know the responsibilities of vehicle ownership, including general care → **poor practices** lead to shorter vehicle lifespans and increased rates of ELV accumulation.
- **Fleet composition and services are often affordability-driven.**
  - Predominantly used vehicles from Japan due to cost (even for FSM despite driving on the RHS of road).
  - Makeshift, **low-cost vehicle repairs** common in some PICs ... impacting safety, repair quality and vehicle life.
  - **High costs** associated with distance from vehicle and parts supply markets and small market size.
- **High dependency on private vehicles**
  - Few public transport services available.
  - High dependency → operators prepared to use vehicles in known, poor condition.
- **Rough roads** ... harsh on suspension, tyres, etc.





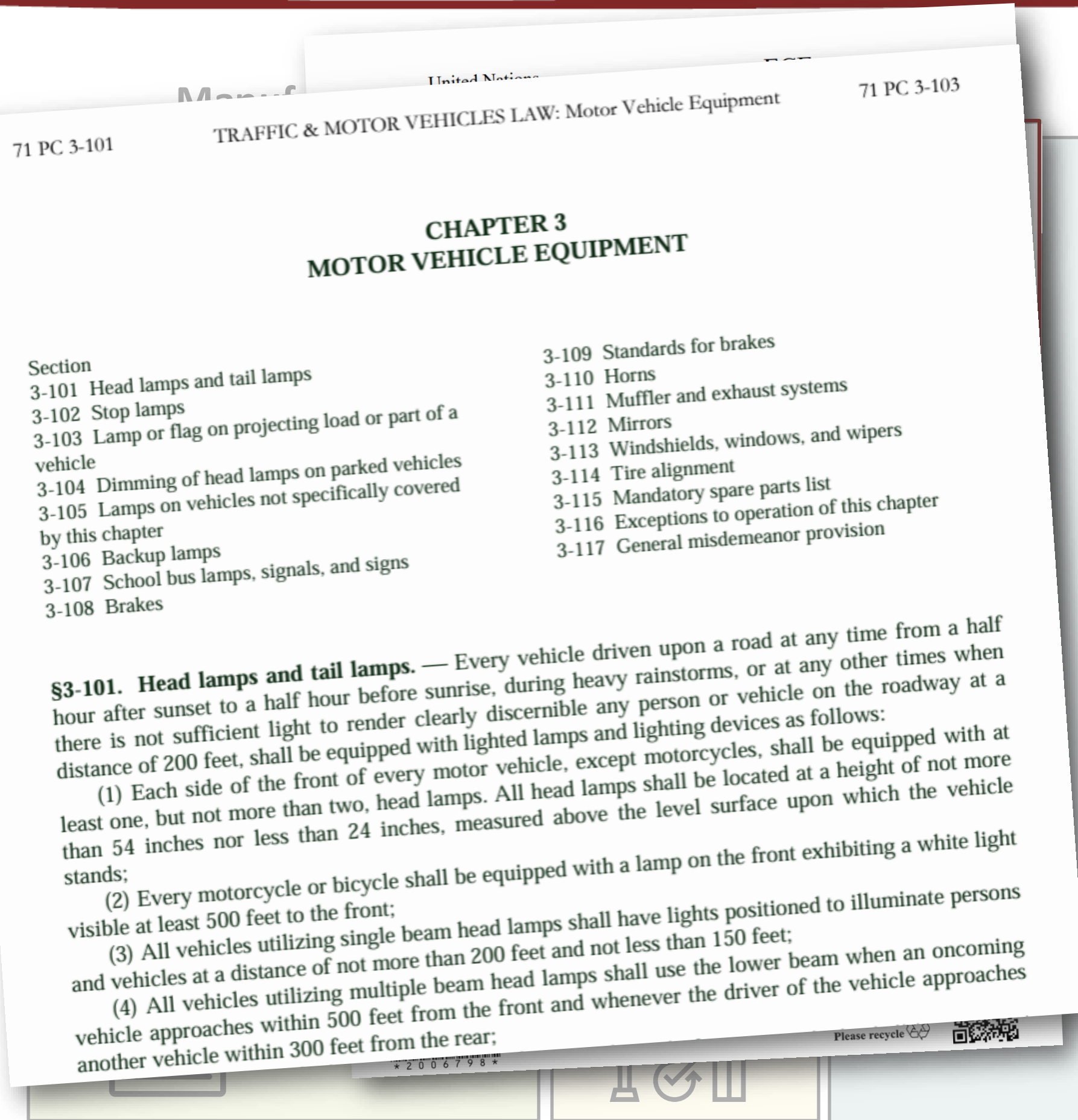
# Life cycle for a typical PIC vehicle





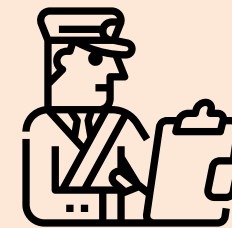


# First PIC stage: before use on the road

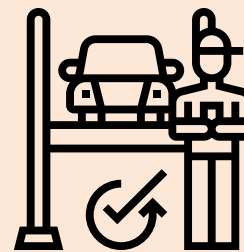


## Border/ 1<sup>st</sup> Rego

Customs



Inspection



Car sales



Use In-service Inspection End of Life

- Most PICs have low level vehicle specification requirements.
- However, PICs typically receive “volume production” built for markets with stringent requirements.
- More the concern:
  - **Are the vehicles still in suitable condition?**
- And what is their exhaust emissions build/capability?
- Propose:
  - More stringent entry and in-service inspection requirements (BAU FIJI).
  - Minimum Euro 4/IV exhaust emissions build (Fiji → Euro5/6?).



Home > Toyota > Passo > X F PACKAGE > 2004 > Actual Vehicle



+ View Specifications View Standard Features



# ACTUAL VEHICLE

PRINT Share SHARE

Vehicle Price (FOB): **\$819** ~~\$900~~

USD - \$

Calculate Total Price

Country / Port		Tonga - Nukulofa	
		Market Price	Our Price
FOB Price	<b>GUARANTEED BEST PRICE</b> !	<del>\$900</del>	\$819
Shipment	<input checked="" type="checkbox"/> RoRo <input type="checkbox"/> Container		
✓ Shipment Cost (Japan to Nukulofa) ?		<del>\$2,793</del>	\$2,429
✓ CHJ Warranty ?		<del>\$70</del>	\$50
✓ CHJ Marine Insurance ?		<del>\$12</del>	\$10
✓ Vehicle Disinfection ?		<del>\$20</del>	Free
Total Estimated Price (CIF)		<b>\$3,795</b>	<b>\$3,308</b>

You Save **\$487 (12.83%)** on buying Toyota Passo vehicle with CHJ

### EXTRA SAVINGS

I also agree to buy the same vehicle available in different color & better condition if it saves me more money. [Set Color Priority](#)

RESERVE NOW ! ADD TO CART







# Vehicle purchase management tools

Vehicle ownership is unfamiliar to many → risk of uninformed, poor decisions.

- **Some makes and model unsuitable** in local setting → short vehicle lives.
- **Affordability:** real total cost of ownership (TCO) higher than expected → cannot afford to maintain → short vehicle lives.
- **Importance of TCO** comparisons to inform decisions ... older cars can be more expensive.
- Other general lack of understanding of **ownership responsibilities/duties** → short vehicle lives.



- Propose an **awareness campaign** supported by **buyer and ownership guidelines**
- Part of the purchase decision is not buying at all → provide **awareness of alternatives**.

## BUYING A CAR?

**BE CONTRACT SAVVY**  
GET ALL CONDITIONS AND PROMISES IN WRITING AND CAREFULLY READ THE CONTRACT. FINANCE/LEASE AGREEMENT BEFORE SIGNING!

**ASK TO GET THE CAR INSPECTED BY YOUR OWN MECHANIC?**  
IF YOU'RE BUYING A USED VEHICLE AND IT IS OUT OF WARRANTY OR A FORMER DAILY RENTAL, TAKE IT TO A

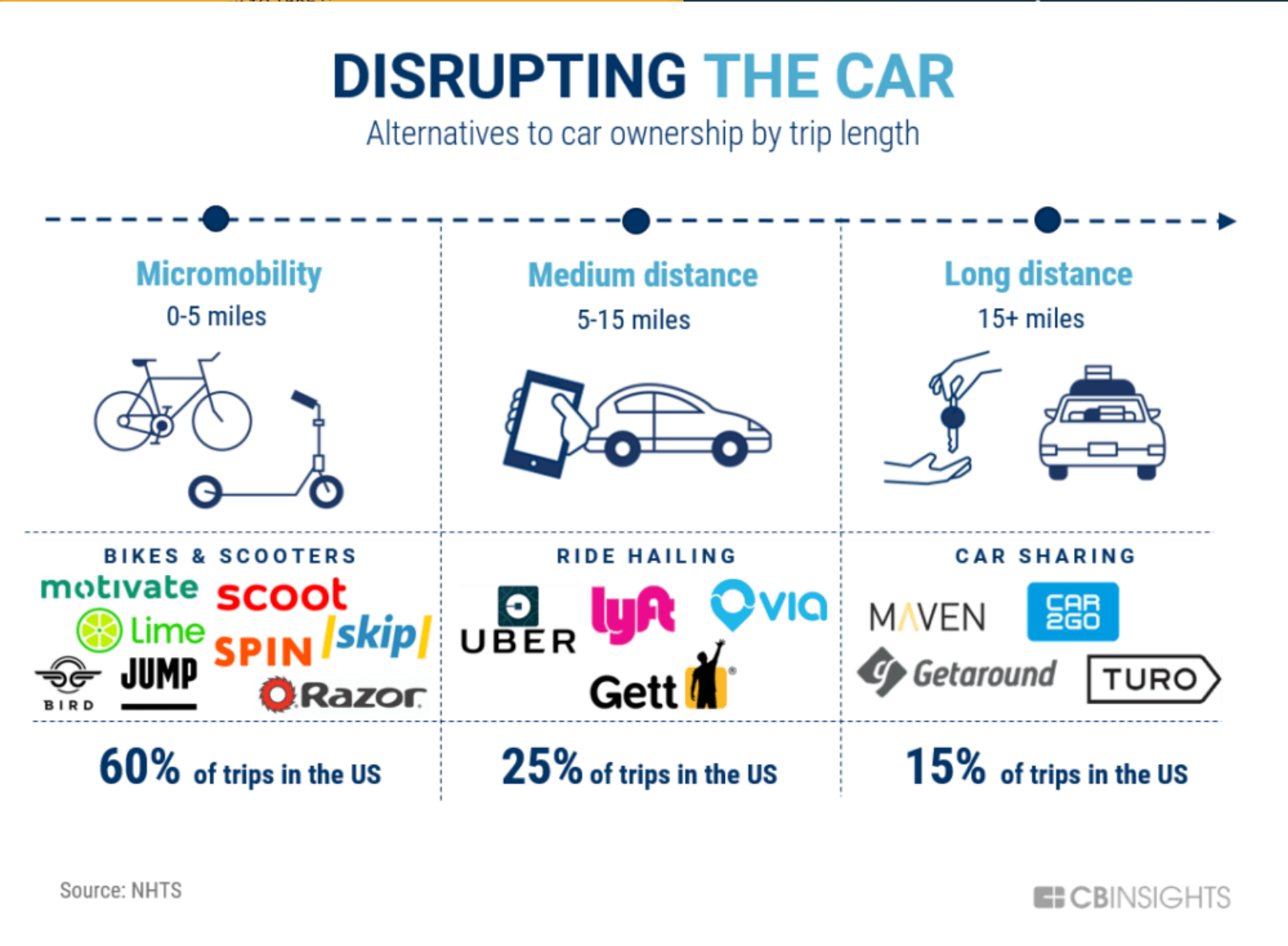
**UNDERSTAND ALL-IN PRICE ADVERTISING**  
IF A DEALER ADVERTISES A PRICE FOR A VEHICLE (NEW OR USED), THE DEALER MUST INCLUDE ALL FEES HE OR SHE INTENDS TO COLLECT. SO DON'T ACCEPT ADDITIONAL CHARGES (EXCEPT HST AND LICENSING).

**All-In Price \$18,500**

## THINGS TO KNOW BEFORE YOU GO CAR SHOPPING

Before buying a car, you need to have a following checklist to finish

**Financing Options**  
The various options for financing the car are the car dealership, banks or online deals. Have detailed information regarding which option suits you the best.







# Purchase management – examples of tools in use

- **Fiji: pre-shipping inspection of used vehicles – a success story.**
  - Fiji LTA requires pre-shipping inspection for used vehicles (for Jp, NZ and Aust).
  - US\$135 per inspection – has become accepted by industry.
  - Comprehensive check: body (photos), suspension, general engine, warning lights, battery, simple emissions, etc.
  - Has lifted the quality of supply ... now a rarity to find a poor inspection report.
  - Similar is recommended for other PICs.
- **At border vehicle age and emissions management**
  - **Fiji:**
    - No more than 5 Year Old (YO) at time of import if hybrid.
    - No more than 8 YO if petrol or diesel.
    - No age restriction but at least Euro IV if heavy-duty commercial vehicle.
  - **Cook Islands:**
    - 0% duty on 0-1 YO petrol or diesel vehicle. No duty on electric vehicles.
    - 20% duty or US\$3k if 1-10 YO (engine cc dependent).
    - 120% duty or US\$6k if >10 YO (engine cc dependent).
- **Global Norms: analyze Customs vehicle import data and respond accordingly.**

**INSPECTED**  
JEVIC

**Pre Export Vehicle Appraisal**

Certificate No. : [Redacted]  
Date of Issue : [Redacted]  
Vehicle Make : [Redacted]  
Vehicle Model : [Redacted]  
Chassis No. : [Redacted]  
Authorization : [Signature]

**LTA**  
Steering Fiji Safety

**1. Appraisal Details:**

Client Details:  
Date & Time: [Redacted]  
Inspector: [Redacted]  
Window Sticker: [Redacted]

Location: NEW SOUTH WALES  
Weather: CLOUDY

**2. Vehicle Details:**

Make: [Redacted]  
Model: [Redacted]  
Year of Manufacture: [Redacted]  
Year of Registration: [Redacted]  
Body Type: MOTOR CYCLE  
Vehicle Type: MOTOR CYCLE  
Colour: Black  
Passenger Capacity: 2  
Fuel Type: Gasoline  
Auction Report: No  
Maintenance Record: No  
BioDecontamination OK: Yes

Chassis/VIN No.: JK [Redacted] 83  
Engine Capacity: 636 cc/kw  
Odometer: 57,777 km  
Engine Number: Z [Redacted]  
RHD/LHD Vehicle: N/A  
Transmission: M/T  
Drive: N/A  
Number of Doors: N/A  
Model Code: N/A  
Euro 4 Compliant: Yes  
(Japan 05) N/A  
Stolen: No

**3. Description of major areas (Summary of page 3):**

Exterior Appearance : OK  
Interior Appearance : N/A  
Mechanical : OK  
Structural : OK  
Biosecurity : OK  
EV HEV Battery : N/A

Glazing : N/A  
Lights : OK  
Gauges : OK  
Wheels : OK  
Tyres : OK  
Emission Test : OK

This appraisal report does not confer or guarantee acceptance by the Land Transport Authority Fiji for the vehicle importation and registration for use in Fiji.

**Important Note:**

For Terms & Conditions please see [www.JEVIC.com](http://www.JEVIC.com)

Unit 2A, Suite 17, 215 Rosedale Road, Albany, Auckland M162, Private Bag 300987, Albany, New Zealand  
Telephone: (09) 966 1779 Facsimile: (09) 966 1778 Website: [www.jevic.co.nz](http://www.jevic.co.nz)

Version 1.0.0

1 of 3





# In-service vehicle use

Some operators disregard warning indicators

TOP 10  
**CAR CARE**  
TIPS YOU  
MUST KNOW

Your Guide to  
Purchasing  
and Owning a  
Car in Tonga

Guide

0800 88 98 88  
SOUTH PACIFIC LEAS  
www.splnz.co.nz





# Improving the quality of support services

1<sup>st</sup> country  
Manufacturer use if used Shipping Border/  
1<sup>st</sup> Response

Technology is advancing:

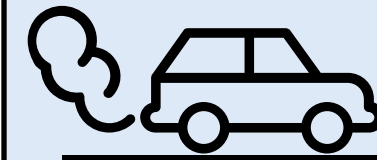
- Most PICs now receive quality fuels enabling the use of modern engine technologies.
- Auto-technicians require more advanced skills and tools to support modern vehicle technologies.
  - Difficult to acquire necessary skills. Particularly difficult for smaller PICs.
  - → Risks early retirement of more advanced vehicles.
- Hybrids and EV numbers increasing – do providers of service, inspections, 1<sup>st</sup> response, tow and wrecking know what to do?



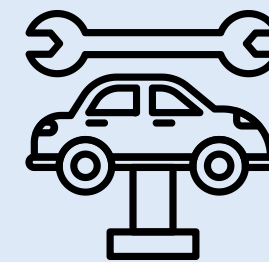
- Best practice awareness program.
- (Regional) program to deliver auto-technician training.

## Use

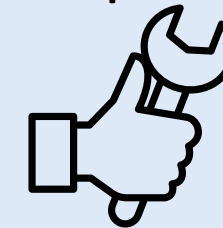
Operation



Servicing



Repair



Accident



### Automotive Electrical & Electronics - 2022

- Are you looking for a career?
- Have you considered a career in Automotive?
- Step Into New Technology & Learn About Hybrid Electric Vehicles & Computer Control Cars

CRN	Course Name	Mode	Start Date	Finish Date	Fees
10342	Automotive Electrical & Electronics Principles	Day	5/07/22	11/07/22	\$ 198.00
10343	Starting System	Day	14/07/22	20/07/22	\$ 198.00
10344	Ignition System	Day	25/07/22	29/07/22	\$ 198.00
10345	Charging System	Day	3/08/22	9/08/22	\$ 198.00





# Case study: replacement of hybrid batteries, Fiji

- Prius Hybrid vehicles have a lithium-ion battery.
- High numbers of Prius Hybrids were imported into Fiji 2017 to 2019.
- Vehicles now 250,000 km – 400,000 km distance travelled and some have batteries in poor state of health.
- At least two companies offer a quality battery replacement service using used imported batteries.
  - Extends life of Prius Hybrids.
  - 8-month payback and \$\$\$ savings thereafter.
- Work carried out by Automotive Technician: Cert III through FNU's Hybrid and Electric Vehicle System Course.
- However, disposal of replaced battery currently unresolved.



## Automotive Electrical & Electronics - 2022

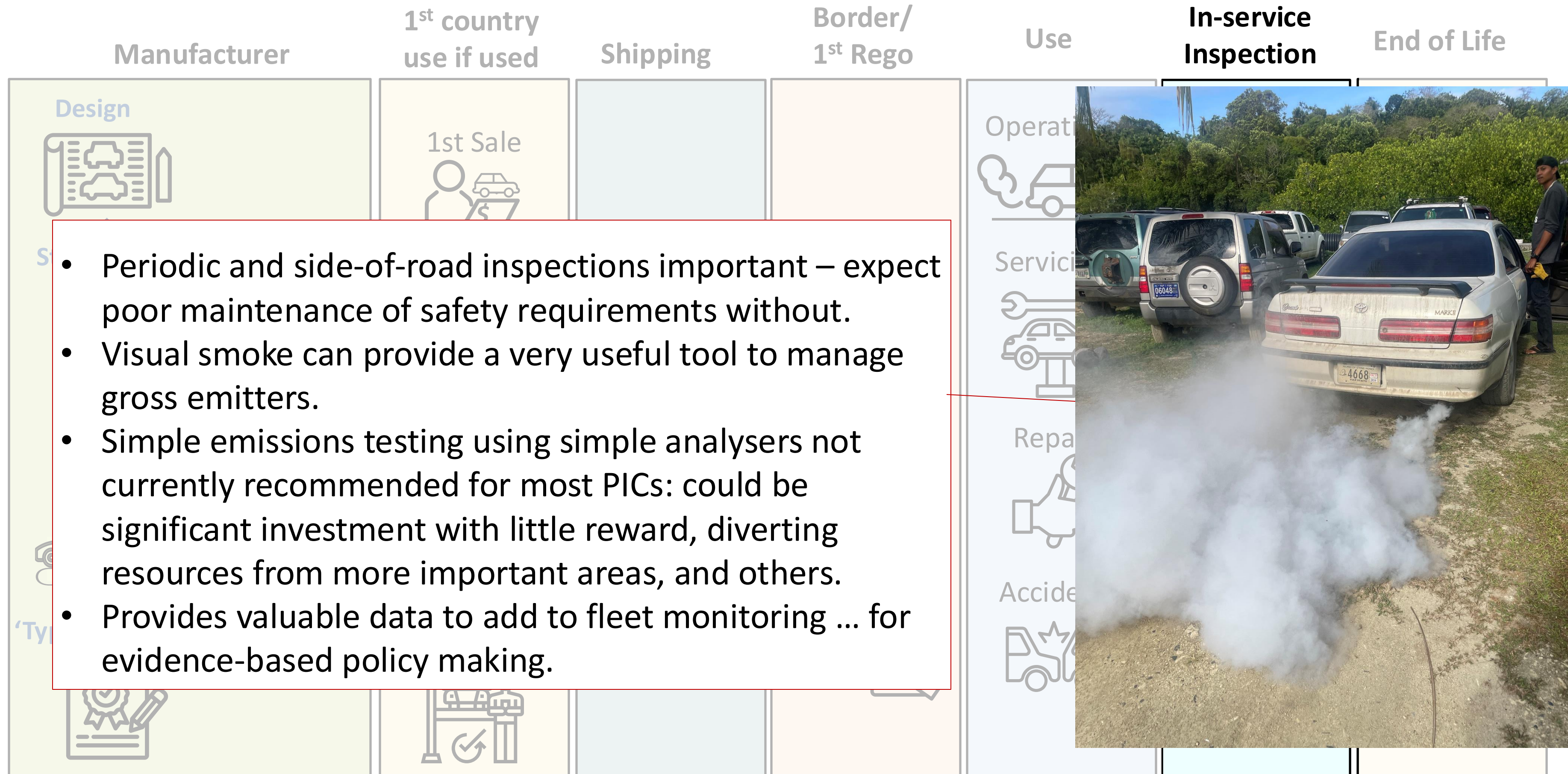
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# Improving the quality of in-service vehicles







# End of Life Management







# End of Life Management



## End of Life Vehicles are a major issue across all PICs:

- Islands are scattered with ELV 'pot plants', within villages, alongside and on roads, in lagoons and in the sea.
- Issues include breeding ground for disease vectors, pest infestations, contamination of water.
- Very limited disposal and recycling infrastructure. The "lucky ones":
  - Car bodies used in steel making in Fiji
  - Recovery and partial export of ELV in Pohnpei and Tonga.
  - MFAT and other aid-agency ELV demonstration-scale programs.
- Net cost of around US\$200-400 to process and export a light duty ELV (net cost = cost to process and ship less scrap value).
- Many PICs are looking at introducing an Advanced Recovery and Disposal Fee for ELVs ... perhaps at a token amount to begin the conversation and awareness of the problem.
- Very little in way of management of waste oil and tyres. Some lead-acid battery recovery, processing and export. Rarotonga appears the only PIC with refrigerant recovery → industry requires direction.





# Strategy 7: Control the car fleet quality and quantity at entry, during use and end of life



Part I



Part II

## 2025



Require all vehicles imported to provide proof of ownership.

Support mechanic workshops with the selection and purchase of scan tools and other workshop equipment.



Require all light duty vehicles to comply with the following requirements:

- Electronic Stability Control (ESC)
- Safety glass for glazing
- Seatbelts and anchorages
- Lamps, indicators, and reflectors
- Rear-view vision
- Tires and wheels
- Be a maximum age of 8 years old at the time of import
- A maximum of 100,000 km travelled at time of import
- If an ICE vehicle: minimum Euro 4/Japan 05 emissions standards or near equivalent
- If an EV, comply with UNECE R100 technical principles or a close proxy.



Require all heavy-duty vehicles to comply with the following requirements:

- Safety glass for glazing
- Seatbelts and anchorages
- Lamps, indicators, and reflectors
- Rear-view vision
- Tires and wheels
- Be a maximum age of 10 years old at the time of import
- If an ICE vehicle: emissions build – minimum Euro 4/Japan 05 emissions standards or near equivalent
- If an EV, comply with UNECE R100 technical principles.



Require all vehicles to undergo pre-shipping inspections in accordance to a set specification so that non-compliant vehicles do not reach PICs.



*(For Fiji only)*

## 2026



Introduce common fuel specifications to ensure uniformity with other PICs.

Introduce an ELV Advance Recovery Fee and Deposit levy at the time of vehicle import.



Establish and maintain a suitable fleet management data system.



Reform vehicle-related taxation and registration policies to reduce the shortfall of government expenditure associated with motorization.



Upgrade specifications and thoroughness of periodic technical inspections of vehicles and their enforcement, alongside increasing roadside checks.

## 2027



Overhaul the training of mechanics through the development and delivery of a modern automotive (ICE and electric vehicles) training program.

## 2028

Conduct a regulatory impact assessment of the introduction of compulsory third-party vehicle insurance.



### 2025, 2028



Implement a PCREEE-affiliated regional consumer education and awareness campaign aimed at encouraging best-practice management of end-of-life lead-acid batteries and used oil.

Implement a PCREEE-affiliated regional consumer education and awareness campaign aimed at encouraging best-practice management of retired electric vehicle batteries covering refurbishment, repurposing, storage and disposal, supported by certification courses.

Implement a Pacific Centre for Renewable Energy and Energy Efficiency (PCREEE)-affiliated regional consumer vehicle purchasing and ownership education and awareness program for both ICE and electric vehicles in local languages.





# Strategy 7

Control the car fleet quality and quantity at entry, during use and end of life

## Key Points

There are numerous realistic interventions proposed to improve upon motorization management across PICs, including:

1. **Pre-shipping inspections**
2. **Promoting informed purchases** through guidelines
3. Border Interventions to encourage **preferred vehicle** choices.
4. Operation:
  - Promote best practice ownership through **guidelines and awareness campaign.**
  - Establish multi-media, regional **mechanic training** program.
  - Provide guidelines on parts supply.
  - Introduce “Vehicle Management and Safety Inspection” services.
5. End-of-life:
  - Direct the **management of vehicle-related wastes.**
  - Further address the **management of ELVs.**
6. Monitoring:
  - **Better monitor** the incoming and existing fleet.



