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**TechCon** 

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## Introduction

MobilePubs has seen tremendous growth in the public's need for their services. Business has expanded to the entire Phoenix Metropolitan area and thus, the need to expand the current fleet of vehicles has become necessary. Currently, the fleet has seven small pickup trucks that are being used to service the East Valley portion of the Phoenix Metropolitan area. The increase in business, is directly proportional to an increase in mileage. To keep company and consumer costs under control, it was recommended that the new vehicles chosen to be added to the fleet be larger, but fuel efficient. Additionally, they should be able to provide protection for the cargo from nature's elements. For starters, there will be three new vehicles added, based on the MobilePubs' budget.

# Methodology

For this report, we examined the functionalities of three different brands of similarly designed vehicles whose purpose is to transport cargo. The cargo capacities of these vehicles were compared, as well as design features, cost, annual cost of maintenance, and fuel consumption per mile. These were found to be the main differences that would influence the decision to purchase based on the company's budget and current needs.

# **Results and Analysis**

Data collected from comparisons based on the specifications of each vehicle in terms of design, mechanical capabilities, fuel consumption and cargo capacity are explained below:



Fig 1. Volkswagen Caddy Panel Van



Fig 2: Mercedes Benz Sprinter Cargo Van.



Fig 3: Ford Transit Kastenwagen

#### Volkswagen Caddy Panel Van

- 11 miles per gallon
- Manual transmission
- Diesel engine
- Cargo capacity: 3.95m<sup>3</sup>
- Cost: \$36,980.

#### Mercedes Benz Sprinter Cargo Van

- 17 miles per gallon
- Gasoline or diesel engine
- Automatic transmission
- Cargo capacity: 15m<sup>3</sup>
- Cost: \$42,900.

Ford Transit Kastenwagen

- 9.32 miles per gallon
- Diesel engine
- Manual transmission
- Cargo capacity: 9m³
- Cost:\$39,870.

Vehicle	Cost (new)	Mileage	Cargo	<b>Average Cost of</b>
		per gallon	Capacity	Repairs/year
Volkswagen	\$36, 890	11	3.95 meters <sup>3</sup>	\$10,600
Caddy				
Mercedes Benz	\$42,900	17	15 meters <sup>3</sup>	\$11,071
Sprinter				
Ford Transit	\$39,870	9.32	9 meters <sup>3</sup>	\$12, 495
Kastenwagen				

Fig 4: Vehicle brand by comparison.

## **Discussion of Results**

The three vehicle comparison revealed that even though the Mercedes Benz Sprinter was the most expensive of the three, it did in fact have a relatively lower cost of maintenance per year and, OEM (original equipment manufacturer) parts can be locally sourced. It has the ability to transport more cargo, and the best mileage per gallon. Mercedes Benz has built a reputation for having reliable mechanical functions for their vehicles, and this is an important fact to consider when the vehicle in question will be used regularly. Without the need for excessive mechanical repair, these vehicles can stay in rotation, and thus can keep general overheads under control.

## **Recommendation:**

In conclusion, the Mercedes Benz Sprinter has met the requirements that were originally expressed by MobilePubs as it regards beefing up their current fleet to facilitate a seamless transition into servicing a larger community. The use of a panel van also will ensure that product integrity is maintained, since the items will be covered and kept secure from the environment's elements during transit.

#### **Works Cited**

Cover page image courtesy Pixabay. Free Stock Photos. https://www.pexels.com/photo/vehicles-parked-inside-elevated-parking-lot-63294/

Fig 1: Volkswagen Caddy van. Drive 360.

https://www.drive360.co.za/car/volkswagen/caddy/volkswagen-caddy-panel-van-1-6-petrol-2017-in-goodwood-cape-town-western-cape-south-africa/market-forsale/17151

Fig 2: *Mercedes Benz Sprinter Cargo Van*. Mercedes-Benz. <a href="https://www.mercedes-benz-vans.ca/en/">https://www.mercedes-benz.ca/en/</a>

Fig 3: Ford Transit Kastenwagen. Truck1.EU. <a href="https://www.truck1-us.com/new-and-used/delivery-vans/panel-vans/ford-transit-kastenwagen-350-l2-5-stuck-sofort-trend-a3819822.html">https://www.truck1-us.com/new-and-used/delivery-vans/panel-vans/ford-transit-kastenwagen-350-l2-5-stuck-sofort-trend-a3819822.html</a>