
Evaluation of Delivery Vehicles: Adding Capacity to MobilePubs' Fleet

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Introduction: Supporting the Expansion of the MobilePubs Delivery Fleet

MobilePubs has successfully delivered free publications to retail outlets in the East Valley of the Phoenix metropolitan area. These publications (flyers, magazines, and promotional materials) have proven popular with the residents of the East Valley, contributing to increased traffic for the retail outlets hosting those publications.

As a result of this success, MobilePubs evaluated the feasibility of expanding their services to the entire Phoenix metropolitan area. The results confirm the feasibility of expanding. Consequently, MobilePubs has engaged TechCon Consultants to examine the state of the MobilePubs delivery fleet and recommend how many vehicles will be needed and whether the new vehicles should be purchased or leased.

Methodology

To determine how many vehicles need to be added to the MobilePubs delivery fleet, we started with the baseline conditions:

- The existing delivery fleet consists of seven compact pickup trucks.
- The existing delivery area encompasses the East Valley, which contains several population centers—Apache Junction, Chandler, Gilbert, Mesa, Tempe, and Queen Creek. The population centers in the East Valley are within 30 miles of one another.
- We analyzed the MobilePubs delivery routes to determine the number of retail outlets (convenience stores, drug stores, and grocery stores) in the East Valley.

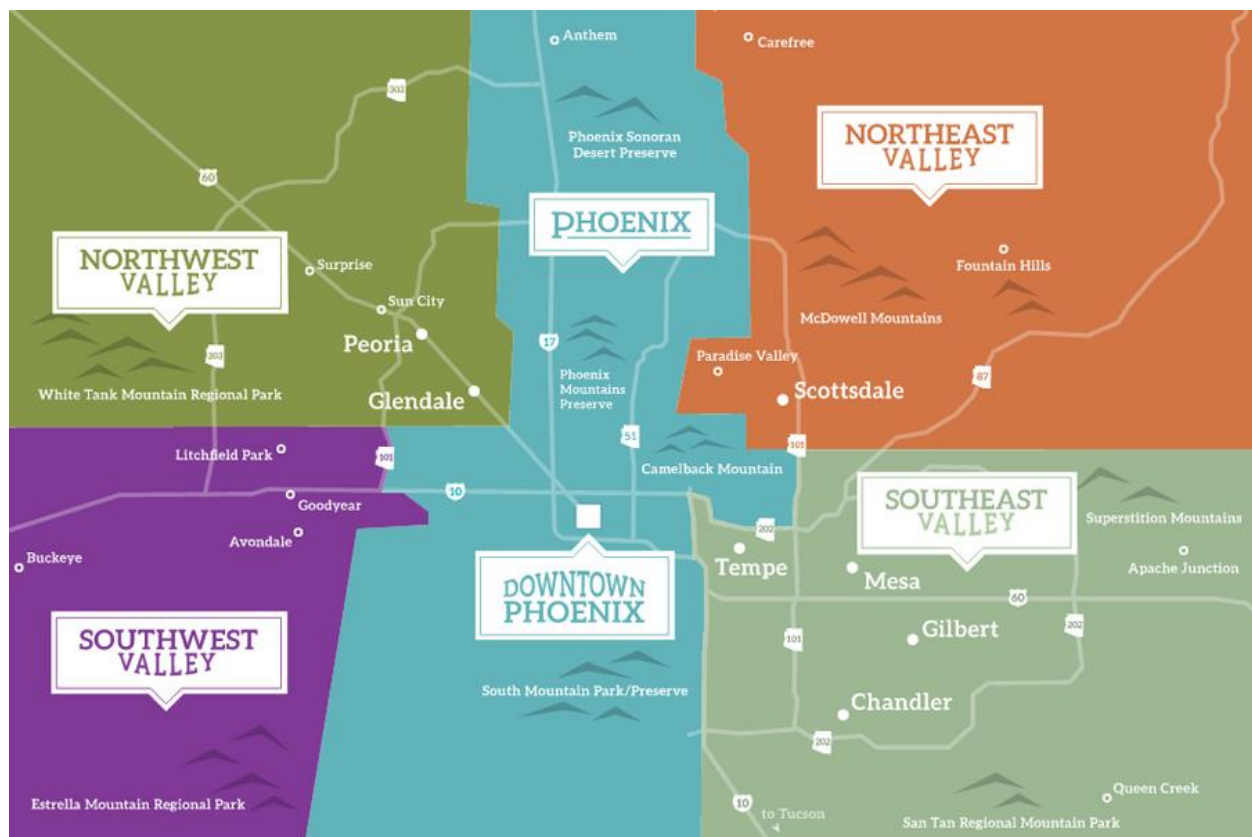
We then expanded our analysis to encompass the entire Phoenix metropolitan area.

- The expanded delivery area consists of the population centers of the East Valley, the city of Phoenix, and the population centers of the West Valley—Buckeye, El Mirage, Glendale, Goodyear, Litchfield Park, Peoria, Surprise, Tolleson, Wickenburg, and Youngtown. The population centers of the West Valley are spread out more than the population centers of the East Valley. The greatest distance between the most

widespread population centers is nearly 60 miles. The other centers are within 35 miles of one another.

- The addition of the city of Phoenix and the West Valley tripled the number of daily miles required of MobilePubs' delivery fleet.
- We surveyed the number of retail outlets in the West Valley and the city of

Phoenix; we also analyzed their locations to determine possible delivery routes. Although the following map does not show distances between the population centers, it does provide a representation of their geographical relationships.



Our next step was to determine the number of vehicles needed to accommodate the increase in the area covered.

Once we determined the number of additional vehicles needed, we looked at the existing fleet. Did the compact pickup trucks meet the

delivery needs? Should other options be considered?

Finally, we looked at the options for adding to the delivery fleet and whether the existing fleet should be replaced. With regard to total cost of ownership, which is more advantageous: buying, or leasing?

Results

With the knowledge that the East Valley comprises population centers that are within 30 miles of one another, we might conclude that a linear relationship exists between the number of miles covered and the number of delivery vehicles needed. That is, seven compact pickup trucks serve the East Valley. Expanding services to the entire Phoenix metropolitan area triples the mileage. Consequently, the easy answer is that triple the miles would require triple the number of vehicles, resulting in an addition of 21 vehicles to MobilePubs' delivery fleet. There are two flaws to this analysis:

1. The current fleet of seven pickups provides five vehicles to deliver publications to retail markets. It also provides two backup vehicles to accommodate the need for taking vehicles out of service for maintenance, upkeep, and repair.

2. There is no recognition of the population density in the East Valley as compared to the overall population density in the West Valley and the city of Phoenix.

The current allocation of delivery vehicles for the East Valley provides one vehicle each for Tempe, Mesa, Gilbert, and Chandler. An additional vehicle provides deliveries to Queen Creek and Apache Junction.

Our analysis of the expanded service area reveals that an additional nine vehicles should be added:

- Two vehicles would be needed for Buckeye, Litchfield Park, Goodyear, Avondale, Tolleson, and Liberty.
- Three vehicles would be needed for Peoria, Youngtown, El Mirage, Surprise, and Wickenburg.
- Two vehicles would be needed for Glendale and Phoenix.
- Finally, to accommodate the need for maintenance, upkeep, and repair, two more vehicles would be needed.

Discussion

The existing delivery fleet consists of seven small (compact) pickup trucks. As we investigated augmenting the fleet with additional pickup trucks, we discovered that

compact trucks are no longer being produced. The only option would be to look for and buy used compact pickups. This is not a viable option given the uncertainty involved in buying used vehicles and the need for reliability in MobilePubs' delivery fleet. As a result, we decided to research the options available in midsize trucks. The following table shows our top three choices of the midsize trucks available.

Manufacturer and Model		
Honda Ridgeline	Toyota Tacoma	Chevrolet Colorado
Base Price		
\$30,705	\$26,195	\$21,195
Fuel Economy (mpg)		
21-22 combined	18-21 combined	17-25 combined
Cargo Capacity (lbs)		
1,569	1,620	1,574

After we looked at the available midsize truck options, we decided to look at alternatives. Although compact pickups are no longer available, compact delivery vans have become available and are popular. We conducted the same research into compact delivery vans; again, we narrowed the options to the following top three:

Manufacturer and Model		
Ford Transit	Dodge ProMaster City	Mercedes Metris
Base Price		
\$31,410	\$27,940	\$34,895
Fuel Economy (mpg)		
24 city 27 highway	21 city 28 highway	20 city 23 highway
Cargo Capacity (lbs)		
1,620	1,886	2,502

The base prices for the vans are a bit higher, but fuel economy and cargo capacity are similar. The big difference is that cargo vans are completely enclosed, thus protecting the contents from the elements. In addition, the cargo deck of the van is lower than the cargo deck of the pickup. This difference allows for easier loading and unloading of the publications by the vehicle operator.

After analyzing the vehicle options available, we looked at leasing vs. buying.

Advantages of leasing

- Preserve capital – lower monthly payments
- Savings on maintenance and fuel costs
- Flexibility for vehicle replacement
- Fewer administrative tasks
- Consistently newer vehicles

Advantages of buying

- No need to worry about exceeding mileage limitations and subsequent increase in lease costs
- Easily able to replace vehicles
- Tax benefits
- Reinvest equity

Given the capital costs involved in purchasing nine vehicles, leasing may represent the best option initially. Another possibility lies in purchasing some vehicles and leasing others. The best course of action may be determined from analyzing the total cost of ownership. This analysis lay outside our agreement with MobilePubs, but we believe such an analysis is essential to making the most fiscally advantageous decision.

Conclusion

MobilePubs has built a successful business in distributing free publications to residents of the East Valley through displays in neighborhood retail outlets. Because of this success, MobilePubs has decided on expanding their delivery to the entire metropolitan Phoenix area. To support their need for additional delivery vehicles, MobilePubs engaged TechCon Consultants to evaluate their options.

After conducting an analysis of MobilePubs' vehicle needs, we have the following recommendations:

- Acquire an additional nine vehicles to accommodate the increased geographical coverage resulting from MobilePubs' expansion to the entire Phoenix metropolitan area.
- We recommend that you acquire cargo vans instead of pickup trucks. The compact trucks in your current fleet are no longer available. Because the midsize trucks have higher ground clearances, the bed height can slow down the loading and unloading of your publications.
- Consider leasing the additional vehicles. The capital cost involved in buying nine new vehicles represents a large initial investment. Comparing the total cost of ownership of leasing versus buying should provide the answers that will best fit MobilePubs' acquisition decision.

TechCon Consultants appreciates this opportunity to review your needs and provide our recommendation for meeting those needs. Please contact us with any questions you may have.

References

Hedding, J. (July 26, 2018). The east and west valleys in the phoenix metro area. *tripsavvy*. Retrieved from <https://www.tripsavvy.com/east-valley-vs-west-valley-phoenix-2682745>

McGlothlin, D. (February 12, 2018). What's happening in the rebranded PHX East Valley? *AZBigMedia*. Retrieved from <https://azbigmedia.com/whats-happening-rebranded-phx-east-valley/>

Oldham, S. (November 24, 2017). Ranking the best and worst small cargo vans. *Trucks*. Retrieved from <https://www.trucks.com/2017/11/24/ranking-best-worst-small-cargo-vans/>

J. Robinson. (2017, May 16) Should you lease or buy your fleet vehicles [web log comment]. Retrieved from <https://www.fleetio.com/blog/lease-or-buy-your-fleet-vehicles>

Rogers, C. (March 21, 2018). Best pickup trucks: the top-rated trucks for 2018. *Edmunds*. Retrieved from <https://www.edmunds.com/truck/articles/best-pickup-trucks/>

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