

Pumper: The Future of Filling Up

by  
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## **Abstract**

This thesis acts as the business plan and guideline for my business idea called Pumper. Before writing this plan, I conducted a survey with six hundred respondents to determine demand and price point for a gas delivery service that would eliminate the need to stop at a gas station. The survey proved to be very valuable as it seems there is serious interest in this service. This thesis outlines the physical and financial requirements for this potential business as well as the operating plan, management plan, industry overview, and marketing plan. Pumper's goal is to provide a convenient on-demand gas delivery service that allows customers to spend their time on better things than stopping at a gas station. This business plan provides the necessary path to achieving that goal.

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## **Introduction**

I have worked several jobs during my twenty-one years on this earth, and if they have taught me one thing, it is that I want to be self-employed at some point in my life. There are multiple reasons for this, but, ultimately, I want to create something with value and purpose that helps other people.

I do not enjoy stopping to get gas for my car. I always wait till my tank is almost empty, which forces me to fuel up when it is not convenient such as before class or late in the day. Being in these situations provoked a new business idea: DoorDash for gas. I knew if there were others that also dreaded getting gas, then gas delivery could be a viable business idea. I started asking friends and family members about this potential business, and I received overwhelming support for the idea. Next, I spoke to a family friend, Everett Pierce, who is vice president of Marion Environmental Incorporation in Chattanooga, Tennessee. He has many relationships with members of the oil industry. Mr. Pierce told me he liked the business idea and would take a business plan to his business friends if I was willing to write. I wanted to take him up on this offer, but I did not know where to start.

When I started this thesis process, I originally was writing about a different topic. I quickly realized I was not passionate enough about that topic, and I needed to change direction. When looking at previous theses of MTSU students, I came across a business plan and realized I could write one as well for my business idea. I made the switch and began researching and writing.



This thesis is the business plan for Pumper, an on-demand gas delivery service that will begin operations in Chattanooga, Tennessee. With the guidance and expertise of Dr. Adam Smith and Dr. Ralph Williams, I constructed this business plan to act as an outline and map to follow to bring this service to life in a feasible and realistic manner.

Throughout this document, I refer to a survey that I conducted during the Summer of 2021. This survey was sent out to a random sample of over five hundred participants through Qualtrics. The purpose of this preliminary research was to determine demand and price point for Pumper. According to the survey, there appears to be high demand for a service like this, and I was able to determine the price customers will pay to use Pumper, which is discussed in the business plan.

## **Executive Summary**

The on-demand delivery industry is booming with companies such as Uber, DoorDash, Instacart, and more. These services are popular for one main reason: convenience. All of these services are used by customers to get everyday necessities – food, beverages, groceries, etc. - delivered to their doorstep, and they are willing to pay extra for that convenience. Another essential to daily life is gasoline in a person’s vehicle. Why not get that delivered as well? Instead of taking time out of the busy day to stop at a gas station, a delivery driver could deliver gas to a customer’s car and fill up their tank all while they are working at their job, learning at school, or relaxing at home. This industry is even newer than food delivery or ridesharing and has very few competitors. Pumper will be the newest addition to the industry.

The business idea for Pumper is an on-demand fuel delivery service. Customers will order gas delivery for their automobile through a website or app. A Pumper delivery driver will then deliver the gas within two hours and fill up the customer’s vehicle. This service eliminates the need to stop at a gas station and provides convenience and safety.

There are only four main competitors in this industry; however, it is growing rapidly and gaining more attention. There are multiple barriers to entry but once they are hurdled, these barriers will help keep other competitors out. The broader motor gasoline industry is a billion-dollar industry as most American automobile drivers fill their vehicles up with gas at least once a week. There is a large business opportunity here.

Pumper's main source of marketing will come from social media campaigns. This is an inexpensive but very effective way of reaching our target market. Our data shows that Pumper would be popular among younger consumers, which is why social media will play a crucial part in advertising this new service. In addition to this, Pumper will use more traditional methods such as TV commercials and billboards. Starting out, Pumper will invest around \$5,000 in marketing per month.

Pumper will need around \$200,000 to cover startup costs and begin operations. I will initially search for financial support from startup investors. If this does not pan out, I will take out a 10-year business loan to fund this business. According to our forecasted financials, this is a calculated risk Pumper could take. It would allow Pumper to succeed in the long run.

Pumper's mission is to provide a convenient and contactless on-demand gas delivery service that allows customers to spend their time on more important, more impactful, and more meaningful activities than stopping at a gas station.

## **Industry Overview**

The gas delivery industry is very new. While emergency roadside assistance services have been around for decades, gas delivery as a means to regularly fill up one's vehicle has only existed for five to six years. The idea of stopping to get gas is not foreign to American drivers, though, as gas stations have existed since the early 1900s. In 2020, despite the pandemic, Americans consumed 123 billion gallons of motor gasoline (U.S. Energy Information Administration), and motor gasoline sales at convenience

stores, not including gas stations, amounted to \$289.8 billion in 2020 and \$423.5 billion in 2019 (Statista). These numbers represent the large demand and sales within the motor gasoline industry – a billion-dollar industry.

Most households have access to an automobile that requires gas to run. According to the survey we conducted, the majority of American drivers purchase gas for their vehicle at least once a week. This makes it as common as going grocery shopping or cleaning the bathroom, tasks people pay others to do for them. Depending on the price of gas and size of gas tank, many drivers could be spending hundreds of dollars on gas every month. Until a different fuel or mode of transportation is discovered or created, the recurring purchase of gas for one's automobile is not going anywhere anytime soon. While there are fewer gas stations than there were in 1990, the number of stations has steadily increased since 2010 (Bullard). The general idea is that electric vehicles will be the death of gas stations, but this may not be the case. Around 727 thousand electric vehicles were sold in the United States in 2019. Over half of those were hybrid electric vehicles that are still powered by traditional gasoline ("How Many Electric Cars are on the Road in the United States?"). Around 17 million vehicles were sold in the United States in 2019, meaning less than five percent of those were electric vehicles. In addition to this, electric vehicles are concentrated in specific states such as California, Hawaii, and Oregon. Most states are not purchasing and driving electric vehicles at the same rate. As long as there are gas-powered vehicles on the road, gas stations will remain an important part of this industry.

Pumper combines the gasoline industry with the up-and-coming mobile app delivery services. There are mobile apps created to deliver anything and everything – people (Uber), food, (DoorDash), groceries (Instacart), alcohol (Drizly), etc. Uber saw \$11.1 billion in revenue in 2020 despite the pandemic. (Uber Technologies, Inc.). DoorDash generated \$2.9 billion in revenue in 2020 (DoorDash, Inc.). According to Yahoo Finance, DoorDash is expected to see revenue of \$4.64 billion this year and \$5.52 billion in 2022 ("DoorDash, Inc. (DASH)"). This industry is seeing incredible growth as DoorDash was founded only in 2013, UberEats in 2014, and Postmates, which was bought out by Uber, in 2011. Nicholas Upton, a journalist for Food On Demand, an annual conference specifically held to gather experts in the foodservice industry, writes back in 2018, “Researchers estimate that global online food ordering will grow to \$365 billion by 2030, growing 20% each year from the \$35 billion market seen today” (Upton). This growth reflects the desire for convenience that these services fulfill. People like the option of having their food delivered and will pay extra for that convenience. This was only amplified because of the pandemic. Transportation, food, groceries, and beverages are all needed by people to function and live their daily lives, and because of that, they will pay others to give them a ride, deliver their food, and shop for their groceries.

There are two main barriers to entry when it comes to this industry that must be pointed out. First, high start-up costs could deter new entrants. These costs include app or website development, delivery trucks, facility to park the trucks, employees, insurance, etc. The development of a user-friendly Android and IOS app will cost hundreds of thousands of dollars alone. Pumper will focus on developing a mobile-friendly website

before developing an app since this greatly decreases the start-up cost. When adding up these initial costs, it will cost around \$200,000 to start Pumper. Second, there is a great deal of government regulation when it comes to transporting gasoline and other fuels. Simply purchasing DOT approved fuel tanks and equipment will ensure many of these rules are being followed; however, there is more to it than just using DOT-approved equipment. All Pumper drivers will be required to have a Commercial Driver's License with HAZMAT endorsement. Vehicles with chassis-mounted tanks cannot exceed 1,200 gallons in total, fueling cannot occur on public streets, and fueling cannot take place within 25 feet of buildings unless an exception is authorized by the fire code official, which is something Pumper will need. All of this is clearly stated in the International Fire Code (International Code Council). While these barriers are initially a hurdle for Pumper, once established, they will be beneficial to keep other competitors out.

### **Competition**

There are four main competitors in the gas delivery industry, two of them being much more prominent than the others. They are Yoshi, Booster, EzFill, and Gas It Up. All of them have different business models and pricing structures. There are some basic similarities between the four businesses, though, such as the customer providing their address and vehicle information (make, model, year, license plate). All four businesses have a way of dropping a pin on a map to show the exact location of the customers' vehicles. Lastly, all of them have some sort of truck driven by an employed driver that delivers and pumps the gas into the customers' vehicles

Yoshi, which was started in 2015, appears to be the most popular of the four for filling up an individual's tank. Yoshi uses a subscription-based model. Customers can either pay \$16 a month (\$192 billed annually) or \$20 a month (\$20 billed monthly) for Yoshi's services. These services include gas delivery, oil change, wash and detail, and more. In addition to the monthly payments, customers must pay for each service individually when used. Oil changes start at \$89, and wash and detail starts at \$25, but the actual price is determined by location. Their gas is priced matched with the lowest Top Tier™ fuel within a two-mile radius of the delivery location. Top Tier™ fuel consists of fifty-five different retail brands such as BP, CITGO, Chevron, and Mobil. Each customer is able to order six gas deliveries per month when subscribed, and if they go over six, they will be charged an extra fee. To order gas or one of the other services, a customer must sign up using the Yoshi app and provide their location and vehicle details. Yoshi will provide the actual price per gallon of gas after this information is given. When ordering gas, a customer must schedule the day and a four-hour window of time their vehicle will be available to be filled up. They also select whether this is a one-time, once a week, or twice a week fill up. Yoshi seems to promote the idea of scheduling the fill-up to be every week. To get same-day delivery, a customer must order the delivery before 12 p.m. Otherwise, the earliest window is the next day from 9 a.m. to 1 p.m., and they stop delivering at 5 p.m. Yoshi does not promote on-demand delivery but instead wants customers to order gas each week on the same day at the same time. Customers pay at the end of their order using their credit or debit card within the app.

Yoshi also offers corporate and fleet services. To take advantage of the corporate services, a company must partner with Yoshi to offer gas delivery and the other services to the employees as a benefit. There are two corporate models. First, in the Employer Sponsored model, the corporate partner pays for the Yoshi memberships of their employees at a discounted rate. The employees simply pay for the gas and car maintenance services they use. The Employer Promoted model gives the employees a discount on the membership cost, but they themselves must pay for it. The fleet program is similar to the corporate service. Yoshi will come to the place of business and fill up all the company vehicles. Yoshi claims it saves time and money for the company. Businesses must request a quote from Yoshi to determine prices for these two services.

Yoshi uses regular pickup trucks to complete gas deliveries. Each truck has three mounted 110-gallon fuel tanks in the bed of the truck that have been tested and approved by the Department of Transportation. Their drivers must have a commercial driver's license with Hazmat Endorsement. They are trained how to use the equipment and are often former tanker drivers. Yoshi delivers in Chicago, Los Angeles, Boston, Houston, Nashville, and other major US cities.

Booster, started in 2015, provides fuel delivery to allow customers to focus on their business, customers, and employees (Booster Fuels). Booster does not offer fuel delivery to individual customers, but instead, they service fleets, corporate campuses, large retail spaces, and residential complexes. Booster is currently available in Sacramento, San Jose, San Francisco, Dallas, Austin, DC, Nashville, Seattle, and Tukwila.



Booster's business model is slightly different than the other competitors as they do not provide services for individual customers. After talking with a sales rep from Booster, she was surprised to discover these other companies do offer services for individuals because she did not think the margins would be large enough to be sustainable. This is why Booster only offers fuel delivery to larger entities. Their price structure is on an individual basis with each business they are partnered with and is determined by fuel consumption. Booster fuels fleets and corporate employees, but they also partner with retail spaces and residential complexes. For example, Booster may partner with a supermarket and offer fuel delivery to the customers in the parking lot, or they may partner with an apartment complex and deliver to the residents that live there.

Booster uses tanker trucks to deliver their fuel. These trucks are "the safest in service with multiple patents, awards, and a fully carbon neutral footprint. Every vehicle is equipped with an automatic shutoff nozzle, 30-gallon fuel-limit switch, and is overturn spill protection certified" (Booster Fuels, "Products"). The sales rep I spoke with made clear they are very safety-aware and follow rules and regulations thoroughly.

EzFill was founded in 2016 and is currently only available in the Miami area but plans to expand to Orlando, Jacksonville, Tampa, and Fort Lauderdale in the coming months. They are also considering Atlanta, Austin, Nashville, Baltimore, D.C., Charleston, New York City, and Long Island by 2021-2023. EzFill offers gas delivery to individuals, fleets, and corporate businesses. Their gas prices are "comparable with local gas stations" and a service fee may apply depending on the area, but as stated, they are only servicing in Miami right now. The service fee observed through the app is \$4.99.

There is also a subscription plan called EzFill Unlimited that is \$9.99 a month that offers unlimited deliveries to unlimited vehicles with no service fee. When I tested the EzFill app, I was given the option to get gas delivered to me the day I was ordering, the next day, or in two days. Each day I was only given one available time slot of 9:00 to 11:59 PM. The process of ordering gas through the EzFill app is very similar to Yoshi. The customer selects the day and time they want the gas delivered to their vehicle, but the time window is only three hours instead of four. However, the time slots to choose from are very limited.

EzFill offers group discounts with their corporate and fleet programs, but prices are not listed. Businesses must contact them to receive a quote. EzFill's website claims, "Each trip to the gas station takes an average of 20 minutes off of your driver's work time," so by using EzFill it will allow their employees to be more productive (EzFill, "Fleet Gas"). A unique service EzFill offers is gas delivery to boats as they provide marine fuels. In fact, EzFill seems to have the largest variety of fuels with regular (87-octane), unleaded premium (93-octane), diesel, red dye diesel, and, as just stated, marine fuels. The scheduling for these group programs is different than it is with individuals as they will work with businesses to find a day and time that works specifically with their employees/fleet. Just like Yoshi, EzFill uses regular pickup trucks with DOT-approved tanks driven by Hazmat-certified commercial drivers. However, EzFill also has larger tanker trucks that are used when servicing large fleets.

EzFill saw revenue of \$3.59 million in 2020 ("EzFill Holdings, Inc. Form S-1"), and their revenue is rapidly growing. In quarter two of 2019, EzFill generated \$318

thousand in revenue, which is just a fraction of their revenue in quarter two of this year that was \$1.85 million (EzFill, *Investor*). EzFill is the only company that made its earnings public.

Gas It Up was founded in 2017 with the goal of liberating drivers from the retail gas station. Currently, Gas It Up is only “fueling fleets, essential businesses, and select parking lots in Dallas, New York, New Jersey, and Philadelphia” (*Gas It Up*). However, their website makes it clear their goal is to be able to fill up any vehicle at any location at any time. Gas It Up has four different payment plans. The first option is the non-subscription plan where customers pay a “one time delivery fee” of \$2.99. It is not clear whether a customer can order gas multiple times with this plan, but only one car can be registered. Customers can also pay an extra \$1.99 for a tire pressure check. The three other plans are all subscription plans at \$9.99 per month (Silver), \$14.99 per month (Gold), and \$19.99 per month (Platinum). Under these plans, customers can order unlimited fuel deliveries and have one registered vehicle, two registered vehicles, and three registered vehicles respectively. In addition to this, the Gold and Platinum plans allow for tire pressure checks, and the Platinum plan alone allows window cleanings. I downloaded the Gas It Up app to test just as I did with the Yoshi and EzFill apps, but when I tried to log in, it would not send me the four-digit OTP required.

Gas It Up also offers fleet services just as the other competitors. Again, companies request a quote, but Gas It Up claims the average fleet owner can save at least four thousand dollars a year by using their services (“Fleets”).

Gas It Up uses three different sized trucks to deliver fuel: small, medium, and large. The small trucks look similar to the Yoshi and EzFill trucks, regular pickup trucks with DOT-approved tanks in the back, and they can carry four hundred gallons of gas. The medium trucks, which also appear to be pickup trucks but the back is modified, can hold around thirteen hundred gallons of gas and are used for servicing corporate fleets. Lastly, the large tanker trucks can hold around 3,800 gallons of gas and are used to service large commercial fleets as well as refill the smaller trucks.

### **Sales and Marketing Plan**

Pumper is jumping into a market with few competitors. Pumper's unique selling proposition will be "on-demand fuel delivery to the individual." Some of the competitors advertise this type of service, but "on-demand" has many different definitions and stipulations. Booster, for example, advertises "mobile fueling on demand," yet only services fleets and campuses. They do not offer fuel delivery to the individual. Similarly, EzFill is "on-demand fuel delivery," yet, from what I experienced using the app, they only deliver from 9:00 PM to 11:59 PM. Pumper will deliver to any individual (within our geographic limits) within two hours. That is what "on-demand fuel delivery" will mean for Pumper, and it will set us apart. We will clearly promote this to customers. While we will offer fleet and corporate programs, our focal point will be the individual customer. In addition to this, Pumper will focus on three marketing components:

1. Convenience
2. Timesaving
3. Safety

First, just like the competitors and other delivery industries, such as food, the main purpose of this service is to fulfill our customers' desire for convenience. Anything that simplifies life and leads to reduced effort at a reasonable price attracts consumers. This is clear with services like Netflix and DoorDash. A gas delivery service offers the convenience of not having to stop at a gas station as well as not having to worry about running out of gas.

Building on this, not having to stop at a gas station saves time. Assuming it takes five minutes to fill up a vehicle at a gas station, and there are fifty-two weeks in a year, the average American driver spends over four hours on average simply putting gas in their automobile every year. The life expectancy in the United States is seventy-eight years ("Ranking by Life Expectancy"), meaning the average American wastes over 335 hours in their lifetime getting gas. This is equivalent to almost fourteen days, time that could be used for something more productive or enjoyable. Pumper can completely eliminate this waste of time for customers by delivering fuel straight to their vehicles.

Lastly, Pumper will provide safety and relief to those who feel unsafe and uncomfortable while at gas stations. According to our survey, almost thirty-seven percent of Americans have had an uncomfortable experience at a gas station. These range from fights, car accidents, personal embarrassment from loud car to drunkards, unwanted catcalling, and unprofessional workers. Another danger that has become more common is card skimmers. By using Pumper, drivers will be able to avoid all of these situations by simply getting their gas delivered instead of stopping at a gas station. This is especially valuable during a crisis such as the current COVID-19 pandemic.

Pumper will be located in Chattanooga, Tennessee, and service the metro-Chattanooga area of over half a million people. Chattanooga is the fourth largest city in Tennessee but may soon surpass Knoxville as the third largest. Since 2010, Chattanooga's city population has grown 10.07%, reaching close to 185,000 residents ("Chattanooga, Tennessee Population 2021"). In addition to this, Chattanooga is a hot spot for new businesses, generating close to two billion dollars in startup exits from 2013 to 2018. "Gig City" boasts gigabit broadband internet that is two hundred times faster than the national average, and this is one of the main reasons Chattanooga is an attractive place to start a business (Cohan). Chattanooga is large enough to support Pumper but smaller and more inexpensive than a metropolis such as Nashville or Atlanta. Once Pumper establishes itself in Chattanooga, we can look at expanding into other areas, specifically more heavily-populated areas.

Our data has shown that the top three outlets for advertising to our customers are Facebook, cable and local TV, and Instagram. Out of the six hundred survey respondents, 29.79% use Facebook at least one hour per week, 22.21% watch cable and local TV at least one hour per week, and 15.82% use Instagram at least one hour per week. For the younger male market, which is our most interested segment, Facebook and Instagram seem to be the best way to advertise this service. Our data shows that for males under forty years old, Facebook (22.82%) and Instagram (20%) are the most used forms of media. The first step in getting Pumper's name out in the market will be setting up Facebook and Instagram accounts. Facebook and Instagram ads have become a very common and effective way for businesses to advertise their products and services,

especially to the younger markets. The CPM for social media ads is much lower than traditional methods of marketing, so it is an efficient way to reach a lot of potential customers for a low price. The monthly cost for social media ads can vary but will probably be two hundred to five hundred dollars.

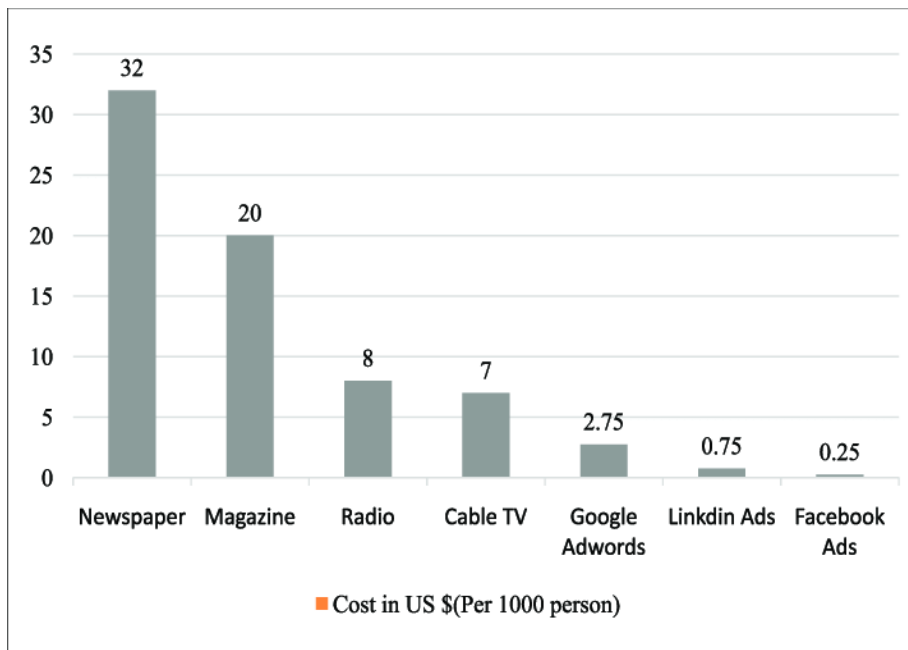


Figure 1: Desai

On these social media accounts, we will post regularly about our services. This is also a great way to receive consumer feedback – by looking at what consumers are saying online. In addition to social media campaigns, we will explore local TV commercials to attract customers. While these are typically more expensive than Facebook and Instagram ads, they are still an effective way to reach the target market in a specific geographic location. Billboards in Chattanooga range from two thousand to three thousand dollars per month ("Billboard Advertising In Chattanooga, TN (Hamilton County, TN)").

Purchasing billboard space near a gas station could be a very good way to reach potential customers.

Pumper will charge an extra 37.5% on top of the gas price for our service unless the customer purchases less than thirty dollars' worth of gas, in which case, ten dollars will simply be added to the total. For example, if a customer orders forty dollars of gas, they will pay fifteen extra dollars (fifty-five dollars total) for a Pumper driver to deliver the fuel and fill their vehicle. If the customer only purchases twenty-five dollars of gas, they will be pay thirty-five dollars total for the service since only the ten-dollar fee is added. According to our data, close to fifteen percent of people are willing to pay fifteen extra dollars for forty dollars' worth of gas. This number is very compelling considering the survey respondents were given the option of "maybe" when posed the question, yet they still selected "yes."

**Would you pay \$55 total for \$40 worth of gas to have the gas conveniently delivered and pumped into your vehicle?**

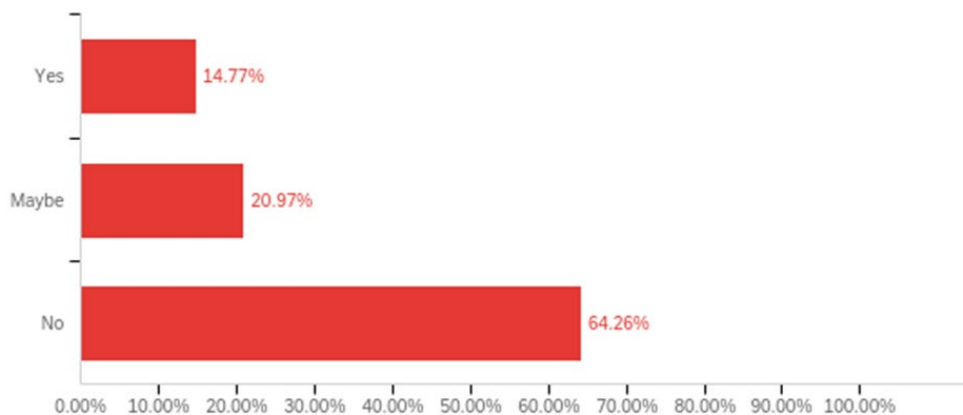


Figure 2



An even bigger percentage – 18.46% – said they would pay ten extra dollars for twenty dollars of gas. Again, the respondents were given the “maybe” option but still chose “yes.”

**Would you pay an extra \$10 for \$20 of gas (\$30 total) to have the gas conveniently delivered and pumped into your vehicle?**

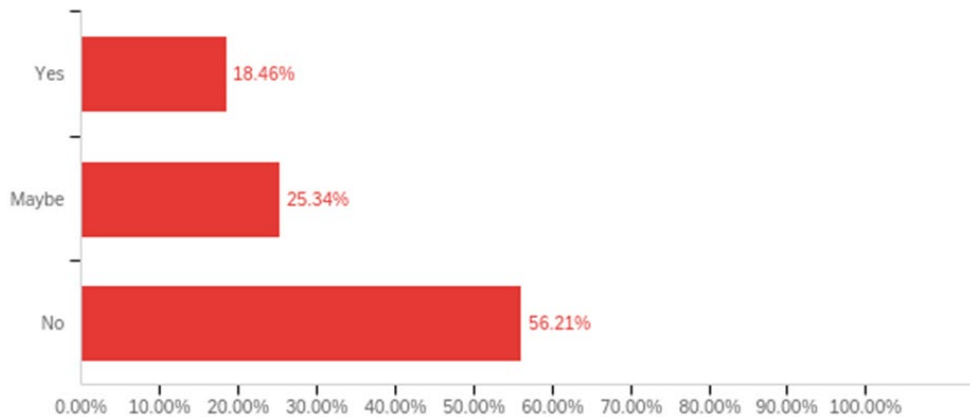


Figure 3

The 37.5% and ten-dollar service fees allow us to cover our costs while providing our services at a reasonable price. While it is more expensive than some of the competitors, Pumper offers more convenience and promises quicker delivery times in return.

### **Ownership and Management Plan**

The legal structure for Pumper will be an LLC. This will provide limited liability to the owners and stakeholders, which will be crucial in this industry since our drivers will be transporting hazardous materials. In addition to this, structuring Pumper as an

LLC will avoid the double taxation that corporations are subject to. The process of starting an LLC is much simpler than that of a corporation, so it makes sense to start as an LLC with the option of transitioning to a C-Corp in the future if deemed necessary.

Below the owners are managers. Managers at Pumper will be responsible for overseeing operations. They will ensure drivers have the required equipment and resources to perform their jobs, monitor delivery routes to maximize optimization, and confirm safety protocols are being followed. Managers will be trained on how to use the route planning software. Requirements for this position consist of:

- Leadership skills
- Operations management experience
- Knowledge and understanding of data to improve efficiency
- CDL with HAZMAT endorsement
- Ability to manage supply and demand with suppliers

Pumper drivers will be responsible for delivering to and fueling customers' vehicles on time and safely. During their shift, they will have a route to follow to fuel each customer's vehicle. They will be trained on how to use all the equipment necessary to do the job including the pump, meter, and hose. Drivers will also be trained on how to use the technology Pumper utilizes such as the route planning software, confirming the completion of orders, and any other relevant tasks when delivering the fuel. Drivers will be required to have a CDL with HAZMAT endorsement. They will be paid fifteen dollars

an hour plus tips, which will be highly encouraged when customers pay through the website or app.

Data analysts at Pumper will inspect and analyze data such as deliveries per hour, gallons of fuel delivered, miles traveled, average gallons per order, average miles per delivery, and much more. They will be tasked with finding patterns and discovering useful information that can lead to decision making and strategy implementation. While managers and drivers will need to understand the basics of the route planning software, data analysts will be the ones to interpret the data from the software program.

Two external positions will be accountant and lawyer. An accountant or accounting team will be necessary to monitor cash flows, income, budgets, spending, and more. A lawyer or legal team will also be necessary to ensure we are following all protocols and to represent Pumper in any legal proceedings.

Pumper will begin with a maximum of ten employees with the expectation of growth in the future. Initially, we will hire six drivers. Managers may not be hired immediately as owners will be able to act as managers during the infancy stage of Pumper. Data analysts may be an outside hire similar to accountant and lawyer to begin with, but once Pumper is established, at least one data analyst will be needed on staff.

### **Operating Plan**

Pumper will begin operations in Chattanooga, Tennessee, with the goal of expanding to other markets in the future. Starting out, Pumper will operate seven days per week for eighteen hours from six a.m. to twelve a.m. These hours of operations will be

split into two nine-hour shifts with three delivery drivers per shift. Three delivery trucks will be shared between six drivers. The Chattanooga area will be split into three zones for delivery, one zone for each driver. These zones will be strategically sized and mapped out to maximize efficiency.

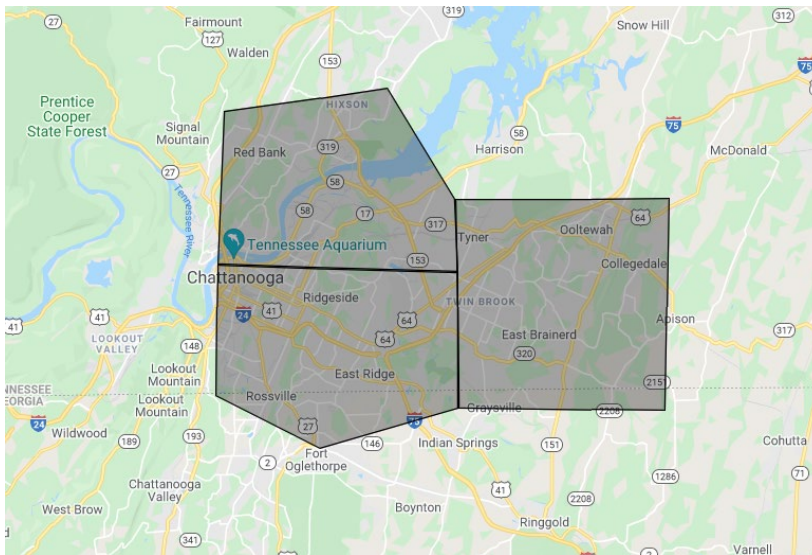


Figure 4: Concept Pumper Delivery Zones

When a customer orders gas delivery, the order will be recorded in our system and assigned to one of our drivers. The drivers will have delivery routes that are constantly updating as orders come in throughout the day. If it takes on average eight minutes for a Pumper delivery driver to fill up a customer's vehicle with fuel, and a driver travels a max of seven miles in between deliveries averaging a speed of thirty-five miles per hour, each driver could complete three orders per hour. This means with three drivers delivering simultaneously, nine deliveries could be completed per hour, totaling 162 deliveries per day.

To optimize the delivery routes and times, Pumper will utilize route planning software that automatically inputs a new order into the delivery route for a driver. The software will determine which driver to assign the delivery to, formulate the most efficient route for the delivery driver, and provide insights and analytics into their performance for future adjustments. These four programs seem to be the best fit for Pumper as they can do everything listed above:

- LogiNext On-Demand (starts at \$39/month)
- Onfleet (starts at \$349/month)
- Tookan (starts at \$189/month)
- Deliforce (starts at \$.08/task/month)

The delivery trucks used will be Chevy Silverado's with long beds. Each truck is equipped with three 110-gallon fuel transfer tanks, pump, meter, hose, and reel. I spoke with Scott Leitzke at JME Ellsworth, the supplier for the equipment, and he gave me the exact parts necessary to deliver to and service customers. The equipment totals \$6,815 per truck, meaning it will cost \$20,445 to equip all three delivery trucks. The trucks themselves will be leased from Chevy. Leasing options vary, but after contacting Chevy in Chattanooga, I was given this deal: \$309 per month for 24 months with \$3,809 due at signing. Adding the amount due at signing into the monthly cost, Pumper will pay \$468 per month per truck, totaling \$1,404 per month for all three trucks. The Pumper drivers will be paid fifteen dollars an hour plus tips. This equals \$810 per day and close to \$25,000 per month, making it one of the largest costs for Pumper. In addition to this, we will provide health insurance to Pumper employees that will cost around \$172 per month

(eHealth). A facility to park the trucks and use for office space will be needed. Ideally, this facility will be located near the middle of the three delivery zones to maximize efficiency. The cost for this space will cost anywhere from \$2,000 to \$5,000 per month.

Initially, customers will order gas delivery through the Pumper website, which will cost \$10,000 to \$20,000 to develop (Brinker). Websites can be developed relatively inexpensively, but in order to have a high functioning and professional website with features such as dropping a pin on a map, secured payments, and being mobile-friendly, the price will be much higher. The long-term goal is to have a Pumper mobile app that customers can download on their phone to order gas delivery through, but starting out, it makes more economical sense to simply have a website. However, it will be crucial that this website is very mobile-friendly, so customers can quickly and easily purchase gas delivery through their phones.

The fixed costs total \$47,810 per month and \$573,720 per year for Pumper. When using the formula  $Survival\ Revenue = Cash\ Fixed\ Costs / (1 - Variable\ Cost\ Revenue\ Ratio)$  to calculate the breakeven point for Pumper (Leach 147), the revenue needed to simply cover costs equals \$1,529,920. Using the estimated 162 deliveries per day, customers must pay, on average, \$25.87 in gas delivery per order for Pumper to break even. The average price to fill up one's tank is more than \$25.87, so this should be very doable.

Pumper will need a gas supplier that provides the gas to us that is then redistributed to our customers. The goal is to retrieve the fuel straight from the terminal

and not the gas station. I tried contacting multiple oil terminal companies in Chattanooga, but only one of them got back to me. They informed me they could not give me any details since they are a “high security” company. Once Pumper is closer to being started, this will be priority. It should be noted that Pumper customers will always cover the price of the fuel, so this should not be a major concern.

### **Financial Plan**

The following consists of listed assets, cash flow, financing, and forecasted income statements for Pumper. This section provides insight into the financials, estimations, and planning for the future of Pumper.

#### **List of Assets**

- Facility (\$15,000 for three months)
  
- Equipment
  - Trucks (\$13,424 for three months)
  - Equipment on trucks (\$20,445)
  - Software (\$1,077 for three months)
  
- Website (\$20,000)
  
- Cash (\$100,000 for 3 months of expenses)

**Total assets: \$169,946**

## **Cash On Hand**

Based on expenses for three months of operations, we will need around \$100,000 in cash on hand for Pumper for the first year. This will cover the payroll, trucks, software, and facility. Many profitable companies fail because they do not carry enough cash on hand. While their profits are promising, they do not realize they cannot cover payroll next month due to insufficient cash. This is the number one reason new businesses fail ("The Top 12 Reasons Startups Fail"). At Pumper, we will be diligent in tracking the cash flow to ensure there is enough cash on hand. \$100,000 of cash on hand should cover three months' worth of expenses and allow Pumper to operate.

## **Financing**

I will initially take this business plan to Mr. Pierce for him to present to his business partners in the oil industry. By doing this, I am hoping I will receive direction on where to find financial support. I will inquire about startup and angel investors that would be interested in this idea. I would rather offer up equity (to an extent) early on before I go into debt with a loan. Also, by acquiring investors, I will have business relationships and mentorships that could prove very valuable in a startup such as this.

However, if I cannot locate potential investors, Pumper will need a business loan to begin operations. This loan must cover initial startup costs and the first three months of expenses. A \$200,000 loan should be sufficient to officially found Pumper and allow it to operate. Interest rates on business loans are currently down below three percent but should rise by 2024. An estimated ten-year \$200,000 loan with a five percent interest rate will cost Pumper \$6,357.25 quarterly in payments. This totals \$25,432 per year.



According to our forecasted income statement, this loan should easily be repayable and is a calculated risk Pumper should take to lift the business off the ground if investors cannot be found.

## Pumper Forecasted Income Statement

Table 1

	Years ended December 31		
	2024	2025	2026
Revenue	1,419,120	4,257,360	9,460,800
Cost of goods sold (65%)	922,428	2,767,284	6,149,520
<b>Gross profit</b>	<b>496,692</b>	<b>1,490,076</b>	<b>3,311,280</b>
<hr/>			
Operating expenses			
Rent	60,000	60,000	60,000
Equipment	24,753	45,198	65,643
Website	20,000	20,000	20,000
Insurance	20,640	25,800	36,120
General and administrative	295,650	766,300	1,432,600
Marketing	64,200	73,830	84,905
Research and development (3.5%)	49,669	149,008	331,128
Miscellaneous (2%)	28,382	85,147	189,216
Loan payment	25,432	25,432	25,432
<b>Total operating expenses</b>	<b>588,727</b>	<b>1,250,715</b>	<b>2,245,044</b>
<hr/>			
<b>Income before taxes</b>	<b>-92,035</b>	<b>239,361</b>	<b>1,066,236</b>
Income tax	0	58,571	358,934
<b>Net income</b>	<b>-92,035</b>	<b>180,790</b>	<b>707,302</b>

**Notes:**

- Revenue is based on an average of \$48 per order. This is equivalent to around \$35 in gas plus the service fee.
- Pumper drivers increase annually from three to six to nine per hour respectively.
- The number of orders estimated per year is calculated by assuming by the end of the year, Pumper will be at 100% capacity; however, throughout the year, Pumper will be at an average of 50% capacity of new drivers. This means Pumper will use an average of 1.5 drivers in 2024, 4.5 drivers in 2025, and 7.5 drivers in 2026.
- In year two, Pumper will add two managers at \$50,000 each per year and one data analyst at \$75,000 per year. In year three, Pumper adds another manager.
- In year three, Pumper will expand to 24-hour operations.
- Cost of goods sold is estimated at 65% of revenue as Pumper will make money from the service fee (37.5%), not selling gas. An additional 2.5% is added to cost of goods sold to be conservative.
- The miscellaneous expense is for any unseen or random costs involved with Pumper. Because this is a new industry, it is safe to set aside a percentage of revenue for these types of expenses.

## **Conclusion**

A life goal of mine is to open my own business at some point in the future. Pumper very possibly could be my first entrepreneurial experiment, and if it is, I want it to be successful. The purpose of this thesis was to develop a plan of creation for Pumper. Hopefully, this business plan will attract potential investors and financial support for Pumper.

As a young college student with dreams and aspirations, I often develop a new business idea in my head, but I do not know where to go from there. This is my first time taking the next step in the process of starting a business. While I do not know if Pumper will be successful, writing this thesis has been a great learning experience for me. Working through the process of writing a complete business plan is something many entrepreneurs neglect to do even though it is a crucial part of the earliest stages of a business. Through this process, I have learned about researching competition, communicating with business partners, and developing a clear business identity.

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## **IRB Approval Letter**

**IRB**  
**INSTITUTIONAL REVIEW BOARD**  
 Office of Research Compliance,  
 010A Sam Ingram Building,  
 2269 Middle Tennessee Blvd  
 Murfreesboro, TN 37129  
 FWA: 00005331/IRB Regn.. 0003571



**IRBN007 – EXEMPTION DETERMINATION NOTICE**

Friday, May 28, 2021

Protocol Title                    **Survey for Honors Thesis: Pumper**  
 Protocol ID                        **21-1180 2q**

Principal Investigator        **J. Stephen Rowell** (Student)  
 Faculty Advisor                **Ralph Williams**  
 Co-Investigators               **Adam Smith**  
 Investigator Email(s)        **jsr5t@mtmail.mtsu.edu; ralph.williams@mtsu.edu**  
 Department/Affiliation       **Business**

Dear Investigator(s),

The above identified research proposal has been reviewed by the MTSU Institutional Review Board (IRB) through the **EXEMPT** review mechanism under 45 CFR 46.101(b)(2) within the research category **(2) Educational Tests, surveys, interviews or observations of public behavior (Qualtrics Survey)**. A summary of the IRB action and other particulars of this protocol are shown below:

<b>IRB Action</b>	<b>EXEMPT from further IRB Review</b> Exempt from further continuing review but other oversight requirements apply
<b>Date of Expiration</b>	<b>5/31/2022</b> Date of Approval: <b>5/28/21</b> Recent Amendment: NONE
<b>Sample Size</b>	FIVE HUNDRED (500)
<b>Participant Pool</b>	<b>Healthy adults (18 or older)</b>
<b>Exceptions</b>	Online consent followed by internet-based survey using Qualtrics is permitted (Qualtrics links on file).
<b>Type of Interaction</b>	<input type="checkbox"/> Non-interventional or Data Analysis <input checked="" type="checkbox"/> Virtual/Remote/Online Interview/survey <input type="checkbox"/> In person or physical– Mandatory COVID-19 Management (refer next page)
<b>Mandatory Restrictions</b>	<b>1. All restrictions for exemption apply.</b> <b>2. The participants must be 18 years or older.</b> <b>3. Mandatory ACTIVE informed consent. Identifiable information including, names, addresses, voice/video data, must not be obtained.</b> <b>4. NOT approved for in-person data collection.</b>
<b>Approved IRB Templates</b>	IRB Templates: Recruitment Email and Online Informed Consent Non-MTSU Templates: NONE
<b>Research Inducement</b>	NONE
<b>Comments</b>	NONE

**Summary of the Post-approval Requirements:** The PI and FA must read and abide by the post-approval conditions (Refer "Quick Links" in the bottom):

- **Final Report:** The Faculty Advisor (FA) is responsible for submitting a final report to close-out this protocol before **5/31/2022**; if more time is needed to complete the data collection, the FA must request an extension by email. **REMINDERS WILL NOT BE SENT. Failure to close-out (or request extension) may result in penalties** including cancellation of the data collected using this protocol or withholding student diploma.
- **Protocol Amendments:** IRB approval must be obtained for all types of amendments, such as:
  - Addition/removal of subject population and sample size.
  - Change in investigators.
  - Changes to the research sites – appropriate permission letter(s) from may be needed.
  - Alternation to funding.
  - Amendments must be clearly described in an addendum request form submitted by the FA.
  - The proposed change must be consistent with the approved protocol and they must comply with exemption requirements.
- **Reporting Adverse Events:** Research-related injuries to the participants and other events, such as, deviations & misconduct, must be reported within 48 hours of such events to [compliance@mtsu.edu](mailto:compliance@mtsu.edu).
- **Research Participant Compensation:** Compensation for research participation must be awarded as proposed in Chapter 6 of the Exempt protocol. The documentation of the monetary compensation must Appendix J and MUST NOT include protocol details when reporting to the MTSU Business Office.
- **COVID-19:** Regardless whether this study poses a threat to the participants or not, refer to the COVID-19 Management section for important information for the FA.

**COVID-19 Management:**

The FA must enforce social distancing guidelines and other practices to avoid viral exposure to the participants and other workers when physical contact with the subjects is made during the study.

- The study must be stopped if a participant or an investigator should test positive for COVID-19 within 14 days of the research interaction. This must be reported to the IRB as an "adverse event."
- The FA must enforce the MTSU's "Return-to-work" questionnaire found in Pipeline must be filled and signed by the investigators on the day of the research interaction prior to physical contact.
- PPE must be worn if the participant would be within 6 feet from the each other or with an investigator.
- Physical surfaces that will come in contact with the participants must be sanitized between use
- **FA's Responsibility:** The FA is given the administrative authority to make emergency changes to protect the wellbeing of the participants and student researchers during the COVID-19 pandemic. However, the FA must notify the IRB after such changes have been made. The IRB will audit the changes at a later date and the PI will be instructed to carryout remedial measures if needed.

**Post-approval Protocol Amendments:**

The current MTSU IRB policies allow the investigators to implement minor and significant amendments that would not result in the cancellation of the protocol's eligibility for exemption. **Only THREE procedural amendments will be entertained per year (changes like addition/removal of research personnel are not restricted by this rule).**

Date	Amendment(s)	IRB Comments
NONE	NONE.	NONE

**Post-approval IRB Actions:**

The following actions are done subsequent to the approval of this protocol on request by the PI or on recommendation by the IRB or by both.

Date	IRB Action(s)	IRB Comments
NONE	NONE.	NONE

**Mandatory Data Storage Requirement:**

All research-related records (signed consent forms, investigator training and etc.) must be retained by the PI or the faculty advisor (if the PI is a student) at the secure location mentioned in the protocol application. The data must be stored for at least three (3) years after the study is closed. Additionally, the Tennessee

State data retention requirement may apply (*refer "Quick Links" below for policy 129*). Subsequently, the data may be destroyed in a manner that maintains confidentiality and anonymity of the research subjects. **The IRB reserves the right to modify/update the approval criteria or change/cancel the terms listed in this notice.** Be advised that IRB also reserves the right to inspect or audit your records if needed.

Sincerely,

Institutional Review Board  
Middle Tennessee State University

Quick Links:

- Post-approval Responsibilities: <http://www.mtsu.edu/irb/FAQ/PostApprovalResponsibilities.php>
- Exemption Procedures: <https://mtsu.edu/irb/ExemptPaperWork.php>
- MTSU Policy 129: Records retention & Disposal: <https://www.mtsu.edu/policies/general/129.php>