

Audience: Truckers of I-81

Truckers of I-81 encompasses all truckers driving along I-81 in commercial vehicles. This includes 18-wheel trucks and half trucks designated for mass transportation. They are away from home/traveling for extended periods of time. They drive an upwards of 8 hours a day and have the stamina to sit, focused on driving.

Client: While there is no single client, communities alongside 81 as well as Trucking companies are potential clients. This could be for improving the impact on the communities or for improving safety or conditions for the trucking industry overall. There are others, but these we found were the two big ones.

Route 81 (https://en.wikipedia.org/wiki/U.S._Route_81)

Highway 81 is a heavily used highway for transportation and travelers on the east coast. It spans Virginia among several other states. The current stretch being taken into account is in mid Virginia. In total, 38% of the total I-81 mileage is in Virginia and accounts for the largest chunk of any state that 81 passes through.

Since Interstate 81 is such a large part of Virginia, many companies have been founded along its route including trucking companies and large scale shipping companies. Many companies also decide to open shipping centers along 81 for the same reason. Several examples are below.

- UPS Shipping Center
- Backcountry.com Distribution
- FedEx Shipping Center

UPS Hubs

(<http://tl.upsfreight.com/ProductsandServices/terminals/termdef.aspx?qcountry=US&qstate=VA>)

In total, there are 14 UPS Service Centers, or hubs, in Virginia. One of these centers is located in Roanoke which drastically increases the number of UPS trucks on I-81 in the area. While other transportation companies are present in large amounts, UPS is such a large company, that they can afford to put more vehicles on the ground than many others. As mentioned before, many companies contract out their trucks and UPS is a big one for making contracts with companies. Because of this, the area of 81 being researched has a lot of diverse cargo overall.

The Trucking Profession

According to the Bureau of Labor Statistics, in 2012, the following information was accurate about Trucking as an occupation.

- **Median Pay:** \$38,200/yr (\$18.37/hr)
- **Level of Education Required:** Postsecondary non-degree award
- **Previous Work Experience:** None
- **Number of Jobs:** 1,701,500
- **Job Outlook:** 11% growth (As fast as average)

This highlights several things about Truckers in general (not limited to 81). Barrier to entry for the job is relatively low which increases the diversity of drivers on the roads. The job outlook is along the average for jobs in growth meaning that the industry as time goes on will get bigger and have more of an impact on local communities. Previous work experience is also not required in this industry which increases the number of applicants without higher education. Our personification of Truck drivers can be found near the bottom of this document.

While in the profession, many Truck drivers tend to be contracted to several companies and change routes often as well as type of cargo they transport. Large scale Trucking companies commonly open contracts with other companies making the type of cargo they typically carry unpredictable. This is by no means a majority since many large companies have in house solutions for transportation, but it is a fair percentage. That being said, cargo upon 81 for Truckers varies widely as anybody that has driven it can vouch for. This can range from goods such as food and electronics to large scale equipment used in construction. The importance of this information is that 81 is very diverse for truckers.

The Dangers of 81

Interstate 81 is considered by many locals in the Christiansburg and Roanoke area to be a very dangerous road. This label is earned for many different reasons, but the amount of Truckers and through traffic is a large part of it. In the past decade, traffic on 81 has increased significantly with more Trucking companies using it than ever before. While researching the topic of 81, and from one of our researchers living in the area for almost 14 years, the topic of the number of accidents came up right away. In the Christiansburg area the highway has the nickname “the deadliest highway in the country”. While it is hard to get definitive information on that statement, it is a widely

held opinion. There are a couple links we found from several notable sources including the Washington post that talks about how the opinion of 81 has changed over the years.

One of the prime dangers on 81 is the number of Truckers as was stated before. There has been a lot of speculation about how to increase safety along 81 in Virginia, but not much has been done in the past years due to budget concerns and disputes over if the fixes proposed would be worth the effort in the long run. Many options such as widening the highway or even building a secondary highway only for truckers. Not only is this a huge detail about Interstate 81 that affects the local communities, but it also portrays a need for something. This will probably be a very good subject to research in more depth since it has such a dramatic impact on the area of 81.

Alongside the research given above, we found this infographic on many websites that gives some general statistics on the industry in general and may provide helpful. This is only a small part of the full infographic. Consult the links we provide to find the full one.

TYPICAL U.S. TRUCK DRIVER IS:



Age: **33 years**

Gender: **Male**

Home state: **Florida**

Drives: **105,000 miles / year**

TRUCK DRIVERS AVERAGE YEARLY INCOME

The income for a Truck driver in the U.S. is increasing continuously.

2009

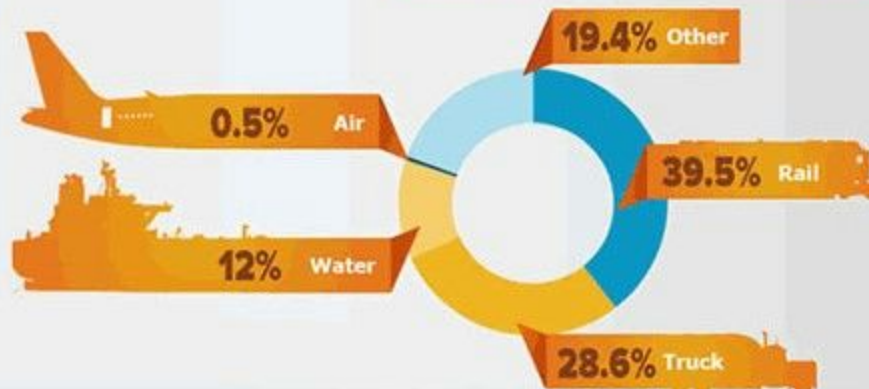
\$35,000

2013

\$55,000

FREIGHT TRANSPORTATION SYSTEM IN U.S.

TRANSPORTATION IN THE UNITED STATES IS FACILITATED BY **ROAD, AIR, RAIL, AND WATER NETWORKS.**



TRUCK DRIVER DEMOGRAPHICS

There are **>3.5 million** truck drivers in U.S.

Of that **1 in 9** are independent



MUST HAVE MOVIES FOR TRUCK LOVERS



DUEL

(movie from Spielberg - 1971)



SMOKEY AND THE BANDIT

(movie with Burt Reynolds - 1977)



BREAKER! BREAKER!

(movie with Chuck Norris - 1977)



CONVOY

(movie with Kris Kristofferson - 1978)



BLACK DOG

(movie with Patrick Swayze - 1998)

TOP TRUCK MANUFACTURERS (UNITS PRODUCED ANNUALLY)



NEW VEHICLE AVERAGE COST

CAB	\$80,000 - \$180,000
TRAILER	\$30,000 - \$80,000
SEDAN	\$30,000



How Truckers affect the Community

Alongside the physical presence that the trucking industry imposes on highway 81, it also produces a significant amount of noise pollution. Trucks are large, abrasive and loud. This can affect communities alongside the highway as well as communities close to populated areas that get a lot of Truck thru traffic. A lot of people feel uncomfortable driving near them on the road so they create an ominous presence. How it affects a community greatly depends on the situation, but on 81, they are so common, it's become quite normal. People have learned to live with them, but by no means appreciate the downsides. On the up side, it has grown the communities into town and cities and has brought jobs to the area which is a huge plus.

Research Summary

All of the info we have amassed above came from the links we have included at the end of this document as well as from the public opinion of locals in the area that are affected by 81. Several of the major points that we believe are most important include the dangers of 81 due to truck drivers, and the type of traffic that 81 sees due to truckers. We found a lot of info that is for the entire country and not just Virginia, so a great step after what we have done could be to compare the countries standards to Virginia own standards. Another great path to go from here would be to look up specific stories on what attempts to solve safety problems on 81 there have been. This could provide an important area for what the project could be based off of.

Another quick note is that there are a lot of technology solution out there for the trucking industry. While the general public doesn't see them, they exist everywhere once you start looking. We suggest looking deeply into current apps and programs that mean to solve problems in the trucking industry as examples of what has and hasn't been done before in terms of design and usability. We added links to several things that could provide a start to looking at successful Trucking technology.

Chindogu Designs for Truckers

Design 1:

Initial Idea: Application to tell drivers if the cargo is still attached to the truck.

The weakness in this design is its level of innovation.

Improvement: By adding a feature that will display if the cargo doors are open or if the lights are out it will create a much more useful application.

Design 2:

Initial idea: App that tells a driver he is on the highway. It doesn't say what highway they are on, it only says that they are on a highway in general.

Improvement: By simply giving the name of the highway the driver is on, the app could be useful for quickly verifying that the driver is on the right route.