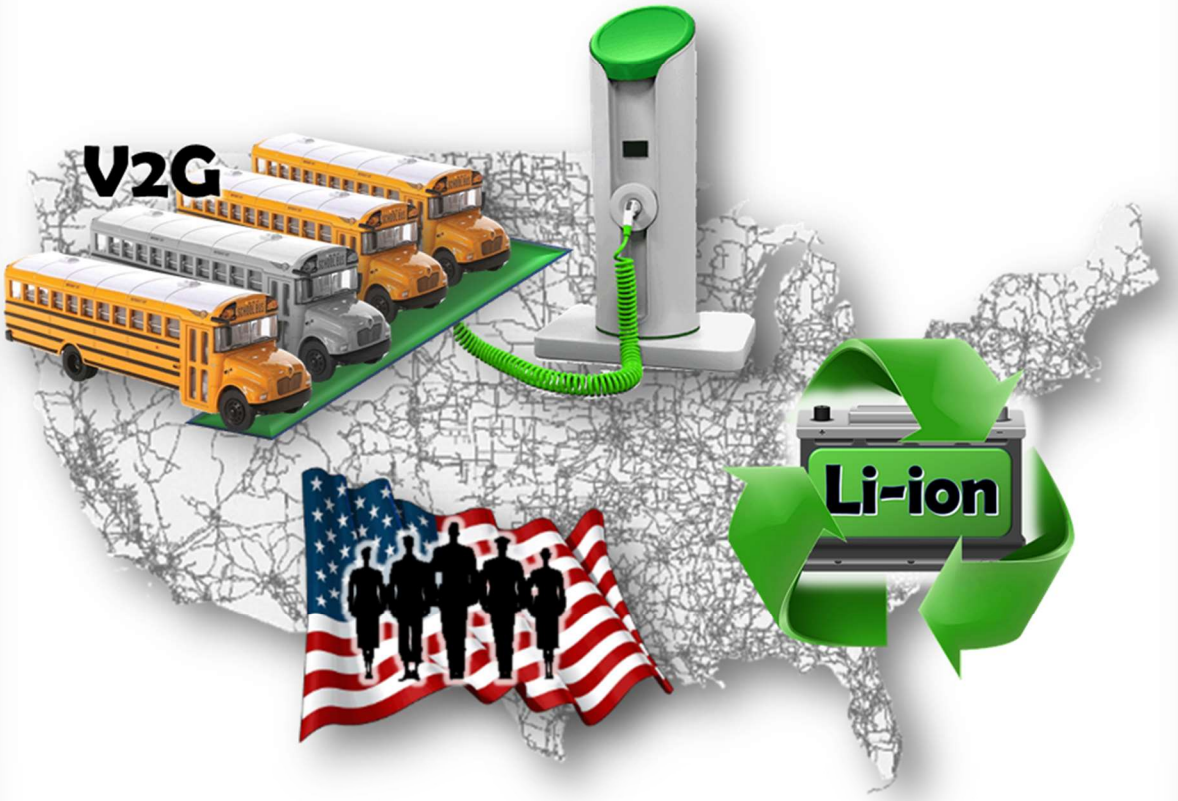
JOBENOMICS™



Veteran Electric Vehicle Initiative

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Proprietary Information

Jobenomics Veteran Electric Vehicle Initiative

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Jobenomics Veteran Electric Vehicle Initiative

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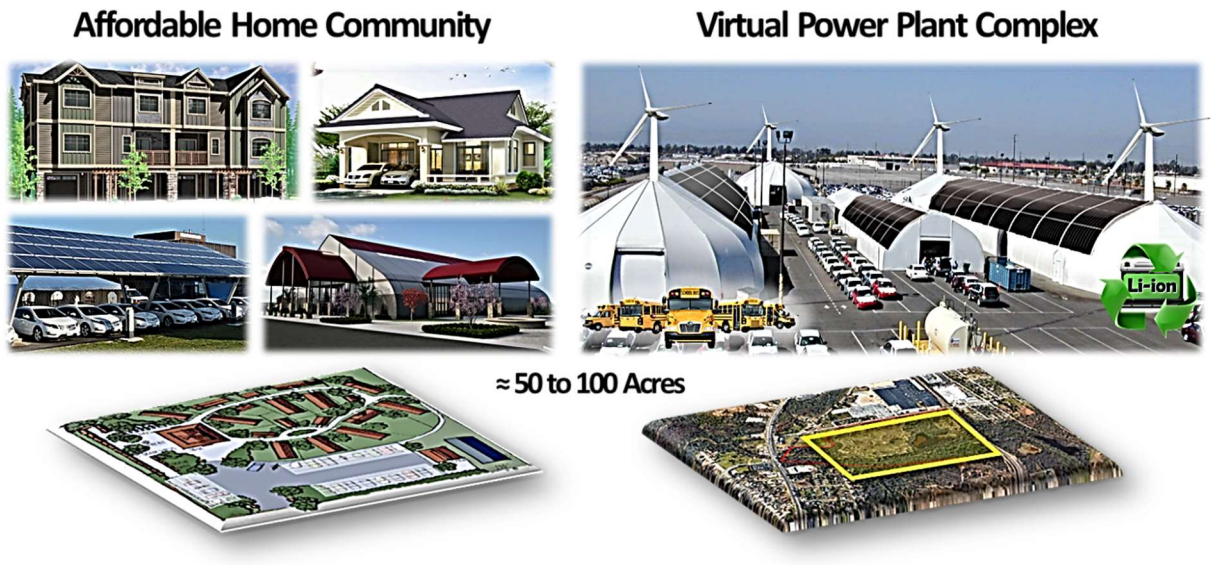
Key Points

Jobenomics is in the process of identifying strategic partnerships with leading EV-related companies and institutions. As soon as these partnerships solidify, the Jobenomics Veteran Electric Vehicle (EV) Initiative will become a Program complete with a detailed business plan.

As envisioned, the Jobenomics Veteran EV Initiative consists of (1) School Bus Conversion-Related Businesses, (2) Electric Vehicle & Second-Use Battery-Related Businesses, and (3) Transportation as a Service (TaaS) Businesses. These areas will change as this initiative matures.

The Jobenomics Veteran EV Initiative aims to upskill veterans and provide them realistic startup business and second/new career opportunities in a team-based and family-oriented environment.

Veteran Live-Work Community Concept



To attract the most experienced of the 600,000 enlisted and officers currently serving transportation-related occupations, the Jobenomics Veteran EV Initiative will emphasize business ownership in a live-work community designed with veterans in mind. Note: This community will also be open to non-veteran individuals and families who want to pursue exciting EV-related occupations.

School Bus Conversion-Related Businesses. The American bus armada consists of 995,000 registered buses. The yellow school bus fleet dominates with 480,000 vehicles, followed by 67,000 public transit

buses and 8,700 buses in the federal government inventory. The remaining 400,000 buses consist of church, private, and activity buses.

Diesel fuel powers 95% of the U.S. school bus fleet. Children who ride diesel-powered school buses are exposed to carcinogens ten times higher than ambient levels. This exposure leads to respiratory diseases, cognitive impairment, lower school attendance, and underperformance.

Electrification would go a long way to detoxifying school buses. Unfortunately, only 1% of U.S. school buses are electric. The main reason for such a small percentage is the high cost of electric-powered versus diesel-powered school buses. While electric school buses have fewer operational costs, the purchase prices of electric buses are still three times higher than fossil-fueled school buses.

The United States has 18,230,322 veterans, 1,346,400 active-duty military personnel, and 443,543 citizens serving in the National Guard. This workforce of over 20 million citizens is highly vetted and has significant VA-backed loan borrowing, buying, and building power worth tens of billions of dollars.

From a veteran-owned business perspective, there are 2,521,682 U.S. veteran business owners. Most of them can qualify for zero down payment of $5 million startup business loans and $1.4 million multifamily home construction loans.

Every year, approximately 200,000-armed forces personnel transition from active duty to civilian life. For the most part, this skilled labor force needs affordable accommodations and a good job that lead to an enjoyable and sustainable career. The Jobenomics Veteran Electric Vehicle Initiative provides both these aspirations and the potential of business ownership in a startup business.

Approximately half (560,000 out of 1,120,000) of the enlisted personnel and one-fifth (43,000 out of 240,000) of the officers currently serving in the U.S. armed forces are involved in transportation-related occupations. Roughly a quarter (267,000) of all enlisted personnel are vehicle mechanics or electronic equipment repair specialists with an average of 7-years of experience.

The Jobenomics Veteran Electric Vehicle Initiative leverages these human and financial resources to mass-produce startup businesses and second careers in underserved and under-resourced communities. Transportation-related opportunities are ideally suited for veterans.

Due to budget constraints and classroom priorities, school districts are keeping their school buses longer. **Refurbishment** costs of a bus are usually significantly cheaper than the cost of a new bus.

The Jobenomics Veteran Electric Vehicle Initiative will choose later model buses in good condition as **retrofit** candidates. Most school buses lack modern features and need intelligent systems installed in newer vehicles.

The Biden Infrastructure Plan calls for **transitioning to electric** at least one-fifth of the school bus fleet, equating to approximately 100,000 electric vehicles. The U.S. Senate's $1.2 trillion infrastructure

package contains $2.5 billion for electric school buses over five years. The Congressional Reconciliation Bill includes $25 billion for electric school buses.

From a Jobenomics perspective, the two ways to accelerate the transition to e-Buses are (1) **repowering with diesel-to-electric conversion kits** and (2) using the mass storage capacity of a half-million school buses for **vehicle-to-grid energy sales**.

The Jobenomics EV team also plans to **repurpose** and market the 40,000 school buses the enter the used bus market every year.

Electric Vehicle & Second-Use Battery-Related Businesses. **Vehicle-to-grid (V2G)** involves drawing stored power from vehicle batteries to supply electrical grids. Via bidirectional V2G charging, EV fleets and individual EV owners can charge their vehicles from utility companies and renewable energy sources and then sell energy back to grid utility-scale grid operators.

Since school buses are idle for much of the day, weekends and holidays make electric school buses ideal candidates. Per year, a school bus is operational for 1,080 hours and is idle 7,680 hours or 88% of the time. This idle time could generate badly needed income for schools.

The Jobenomics Veterans EV Initiative plans to pursue **mobile battery storage applications**, like resiliency and disaster response opportunities. Veterans are skilled at deploying during emergencies and can borrow up to $5 million to launch new emergency response businesses with no down payment.

Most automotive companies recommend lithium-ion battery replacement after it retrogrades by 20% and no longer meets EV performance standards. This means 80% of a LIB's potential service life is available for second-life stationary storage applications if the battery is not damaged.

The **Second-Life Battery Energy Storage System (BESS) market** could exceed 200 GWh by 2030. For context, this is over 256-times the total energy storage installed in the U.S. in 2018 (780 MWh). **BESS-to-Grid** uses second-life (retired) battery electric storage systems to perform grid services and sell energy back to the grid in the same manner that installed first-life V2G batteries can. In 2025, second-life batteries may be up to 70% less expensive than new LIBs in grid applications.

Having founded K2 Energy, a lithium-ion battery company headquartered in Las Vegas, he understands how to start and comply with all the certifications needed for a second-life battery startup.

By 2030 the world will dispose of 2 million metric tons of EV batteries every year. Depending on chemical makeup, between 25% to 96% of cell materials are recoverable. The Jobenomics Urban Mining program specializes in **reclaiming raw material from electronics** and other high-value waste streams. In this capacity, Jobenomics launched eCyclingUSA (an electronic waste reclamation company, Chuck Vollmer CEO) and partnered with a leading German LIB recycling company.

A **virtual power plant** (VPP) is a distributed energy plant that aggregates the capacities of various distributed energy sources to stabilize and enhance power generation by trading and selling power.

The Jobenomics-Sprung Structures VPP team plans to develop a modern digital complex with a direct-current infrastructure that can accommodate various renewable energy sources.

The Autogrid and Zūm 1 GW electric-school buses VPP is of great interest to the Jobenomics Veteran EV team since they might be interested in our school bus diesel-to-electric conversion and second-life battery storage programs.

Transportation as a Service (TaaS) Businesses. TaaS businesses include Commercial Drivers Licence (CDL) Training, Charging Station Installation & Maintenance, Solar Voltaic Installation & Maintenance, and Mobility as a Service (MaaS).

The USA projects a shortage of 160,000 truck and bus drivers by 2028. Jobenomic will conduct certified CDL training to help fill the gap. The VA allows up to $7500 for veteran CDL training.

The recent infrastructure bill allocates $7.5 billion for electric vehicle charging stations. While this is a good start, most experts believe that $50 billion is needed to build a U.S. charging network to serve the number of electric vehicles expected by 2030.

The Jobenomics Veteran EV Initiative will certify veterans in charging station installation and maintenance-related occupations. We will also create veteran-owned businesses to encourage the best and brightest to join the mission to transition smoothly to emissions-free transportation.

According to the U.S. Bureau of Labor Statistics, the 2020 median pay for solar photovoltaic installers was $22.34 per hour or $46,470 per year. Since independent contractors perform most of this work, Jobenomics will create startup veteran-owned solar photovoltaic businesses.

Mobility as a Service (MaaS) is an emerging transit on-demand service that enables users to plan, book, and pay for multiple types of mobility services.

School Bus Conversion-Related Businesses

This section addresses vehicle business and career opportunities related to bus repairing, refurbishing, retrofitting, repowering, repurposing, reselling, and recycling. These occupational areas are ideally suited for many veterans who worked in these areas during their active duty.

Every year, approximately 200,000-armed forces personnel transition from active duty to civilian life. For the most part, this skilled labor force needs affordable accommodations and a good job that lead to an enjoyable and sustainable career. The Jobenomics Veteran Electric Vehicle Initiative provides both these aspirations and the potential of business ownership in a startup business. Approximately half (560,000 out of 1,120,000) of the enlisted personnel and one-fifth (43,000 out of 240,000) of the officers currently serving in the U.S. armed forces are involved in transportation-related occupations. Roughly a quarter (267,000) of all enlisted personnel are vehicle mechanics or electronic equipment repair specialists with an average of 7-years of experience.[1]

Repairing & Refurbishing

With 995,000 total bus registrations, the American bus armada is vast and requires constant repair and maintenance. Yellow school buses overwhelmingly constitute the biggest fleet with 480,000 vehicles, followed by 67,000 public transit buses and 8,700 buses in the federal government inventory. The remaining 400,000 buses consist of church buses (380,000 U.S. churches), private buses (designed to transport more than 13 passengers), for-hire buses, and activity buses.


Activity Bus

An activity bus is often a non-yellow bus built to school bus construction safety standards. These buses usually must comply with higher vehicle maintenance and repair standards than privately-owned cars and trucks since passenger transport requires stricter safety requirements.

Refurbishing involves a maintenance sweep of all parts chassis and body (inspection, cleaning, and lubrication of parts, adjustments, and electrical component tests) with damaged parts restored or replaced. Refurbishing entails restoring existing equipment relative to its original condition and performance specification. In some instances, refurbing can enhance the performance of a vehicle and extend its operational life.

Due to budget constraints and classroom priorities, school districts are keeping their school buses longer. Refurbishment costs of a bus are usually significantly cheaper than the cost of a new bus.

According to School Transportation News, San Marcos Unified School District in California strives to capture the most lifespan out of its vehicles by refurbishing them with the latest technology. Besides sending their buses to a local contractor for a paint job every ten years, the district adds new camera systems, repairs seats, rebuilds motors, replaces transmissions, and upgrades technological capabilities (camera or apps.).

Retrofitting (Smart eBus).

Retrofitting involves the replacement of components within the existing chassis and body system with new, modern features. The Jobenomics Veteran Electric Vehicle Initiative will choose later model buses in good condition as retrofit candidates.

Most school buses lack modern safety features and can be smarter both externally and internally. Jobenomics would start with adding new accident-avoidance safety systems as after-market retrofits. Examples of these new safety features include forward-collision warning, automatic emergency braking, anti-lock brakes, traction control, electronic stability control, pedestrian detection, warning blind-spot warning, rear cross-traffic alert, backup cameras, telematics (like OnStar), and automatic high beams. For long-haul applications, Jobenomics would add adaptive cruise control, lane-keeping assist, and lane-departure systems.

These and other systems can be powered by adding lithium-ion batteries and regenerative braking systems. Roof and body multilayer solar thin film are easy to apply. Translucent solar thin film is much like current window tinting films. Regenerative braking systems are kinetic energy recovery systems that transfer the kinetic energy of an object in motion into potential or stored energy as the vehicle slows down.

Internal safety systems could include new safety-belt features, active head restraints, anti-virus UV lighting, anti-microbial hygienic surfaces, and online entertainment systems. Active head restraints cradle the head and absorb energy during a crash. Online entertainment systems keep passengers (especially children) preoccupied during transit. In addition, online access enables the use of educational videos and interactive instruction.

Repowering (Diesel-to-Electric Conversion)

Repowering involves replacing older diesel-powered buses with newer electric drivetrains and componentry. School bus repowering is the fastest way to meet emerging government climate change, pollution, and safety standards.

Of the 480,000 U.S. school buses, 95% are diesel-powered, 4% are hybrid, and 1% are electric. Children who ride diesel-powered school buses are exposed to carcinogens a dozen-time higher than ambient levels. This toxic exposure leads to respiratory diseases and contributes to cognitive impairment, lower school attendance, and test scores.

As of August 2021, of the 13,800 public U.S. school districts, only 258 (2%) have committed to buying one or more electric school buses. Only 1,164 electric school buses are operational or have been delivered, procured, and planned. Three-quarters (74%) of this amount of these commitments originated in two states: California (527) and Maryland (331).

The Biden Infrastructure Plan calls for transitioning to electric at least one-fifth of the school bus fleet, equating to approximately 100,000 electric vehicles.

On 10 August 2021, the bipartisan U.S. Senate $1.2 trillion infrastructure package contained only $2.5 billion for electric school buses over five years. At $350,000 each, school districts would add only 7,100 new buses (1.5%) to the existing school bus fleet.

However, the U.S. Congress is yet to act and wants to attach a $3.5 trillion reconciliation bill to the $1.2 trillion infrastructure bill, which could include $25 billion for electric school buses. $25 billion equates to 71,000 new buses or 15% of the school bus fleet.

According to Blue Bird's 2020 Annual Report, Blue Bird is the only manufacturer that has produced and deployed every type (A, C, and D) of electric-powered school buses (total 300 vehicles) and holds more than 50% share of the US and Canadian market.

Based on the federal government (discussed in the previous paragraph) and state incentives, Blue Bird plans to increase plant capacity for EV production to 1,000 units per year starting in 2020. If this plan transpires, the leading U.S. school bus manufacturer will add only 10,000 electric school buses over the decade, or 2% of the entire school bus fleet.

The main reason for these very conservative numbers of new buses is the high cost of electric-powered versus diesel-powered school buses.

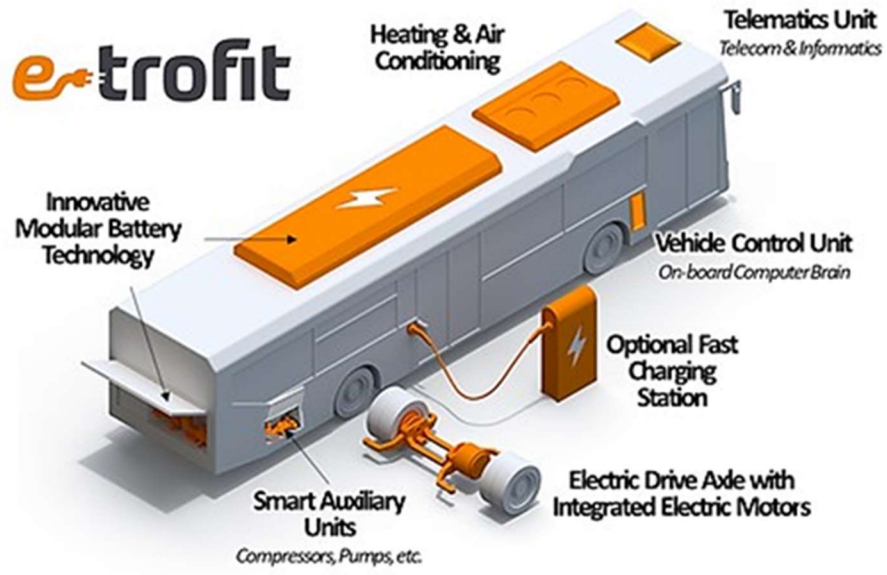
Per the Virginia Clean Cities report, while electric school buses cost less to operate than diesel or propane buses, the purchase prices of electric buses are still three to four times higher than conventional buses. Type A e-school buses fall in the $225,000-$300,000 range, with Type C & D electric school buses ranging from $300,000-$400,000.

Thus, from a Jobenomics perspective, the two ways to accelerate the transition to e-Buses are repowering with diesel-to-electric conversion kits and using the mass storage capacity of a half-million school buses for vehicle-to-grid sales (discussed in the next section).

https://www.youtube.com/watch?v=MVXWGBgYj3M

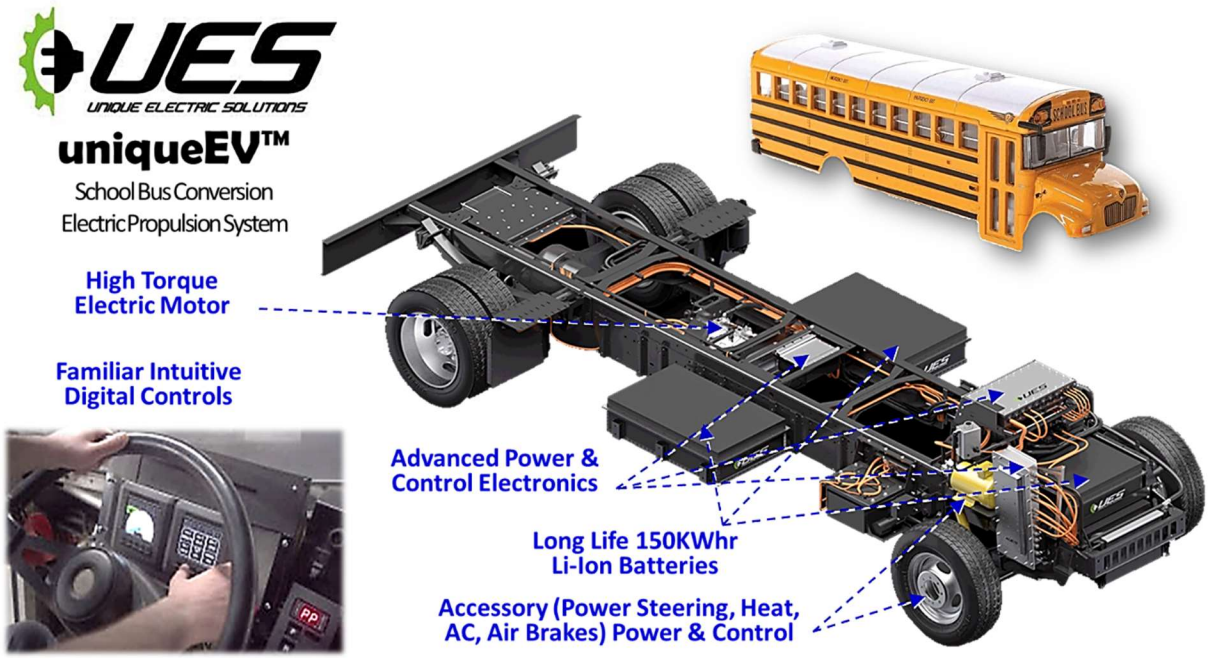
Jay Leno's Garage, the Emmy-winning series where Jay features automotive reviews and shares his passion and expertise on everything vehicular, recently featured a documentary on diesel-to-electric bus conversion. He described how to **convert four buses for the price of a single new e-bus** in a way **"designed to revolutionize American mass transit!"** If we can revolutionize the heterogeneous public transit bus fleet, converting the highly regulated (for conformity) homogeneous school bus armada in mass should be straightforward.

Breakthroughs in battery technology make electric school buses economically viable due to their large capacity and low life cycle costs. E-bus batteries now can power 200-mile transit routes that are much longer than typical routes. Some advanced batteries are setting new records of 1,000 miles on a single charge. New fast-charging systems can top-up a discharged battery in ten minutes. Given these improvements, school buses and their activity bus cousins not only travel farther but can be utilized for multiple new transit and vehicle-to-grid applications.



Numerous diesel-to-electric conversion programs are already underway in the European Union, an economy the size of the USA committed to 100% emissions-free cars by 2035. After successfully launching the world's first converted city bus, the German company e-troFit plans to retrofit 8,000 EU transit buses (starting with the 7,500-strong Mercedes-Benz Citaro fleet) by 2030. EU experts project that 10% of every newly registered emissions-free EU bus in 2030 with be equipped e-troFit technology. The company states that it can convert (as shown) an emissions-free EU bus for the same price as today's articulated (60 ft) diesel-powered bus.[2]

In the United States, Don Brown Bus Sales, an influential 5-decade U.S. school bus provider, teamed with Unique Electric Solutions (UES), a leading manufacturer of electric powertrains, to bring the UES uniqueEV® electric drivetrain conversion to school bus fleets.[3]



According to UES, uniqueEV™ is available as a **turnkey vehicle conversion,** providing fleet owners with the immediate benefits of cleaner, greener, quieter, longer life, and more economical operation of current vehicles. UniqueEV includes a field-installed repower kit that can be performed anywhere in the USA with qualified labor. This repowering solution has 25-year maximum operational life and an ROI break-even within 24 to 36 months of operation.[4]

Repurposing & Reselling

Approximately 40,000 school buses enter the used bus market every year. Due to the government and environmentalist pressure to convert fossil fuel buses to e-buses, many "retired" vehicles have many years of useful life. Potential second-life usage for retired public and private buses and coaches includes conversion or preparation for revenue-producing or charitable transport. Retired used buses are available for purchase through various dealerships and auctions, often at a steep discount.

Potential markets for certified used buses include driver and mechanic training buses, recreation vehicles, tow trucks, demolition vehicles, mobile food trucks, pop-up stores, LED billboard trucks, custom trailers, portable containers, tourist attractions, and information centers.

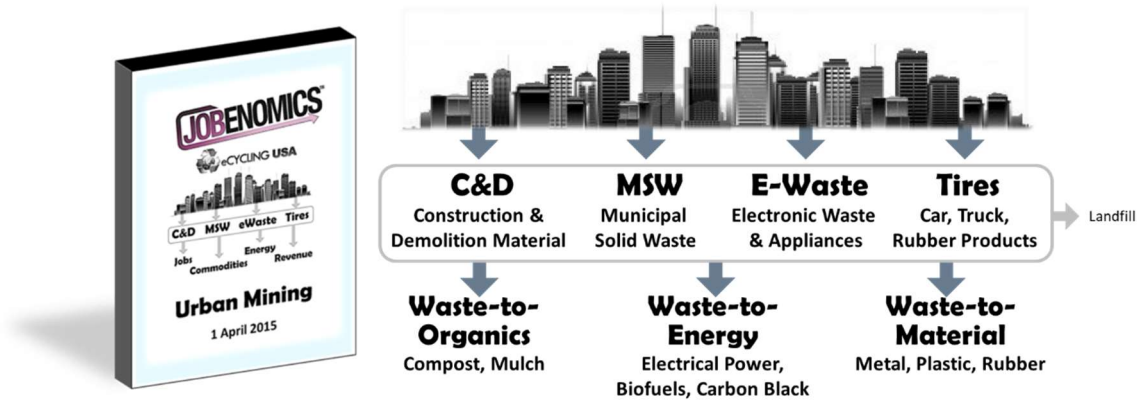
The Jobenomics Direct Care Program (an on-demand healthcare and social assistance program that provides remote telecare services) estimates the need for tens of thousands of retrofitted internet-connected vehicles. The recent pandemic needed thousands of remote-care vehicles for COVID-19 testing and vaccinations. Many thousands of telemedicine- and telehealth-capable vehicles are urgently needed for unserved and under-resourced communities worldwide.

Climate change and extreme weather conditions are generating demand for fleets of emergency and disaster response vehicles. These fleets would consist of command and control, support, supply, and accommodation vehicles for firefighters and FEMA response teams.

Used vehicles are a significant component of the U.S. passenger vehicle export market. According to the U.S. International Trade Commission, used vehicles make up approximately one-third of U.S. vehicle exports. Per the ITC, the marketplace for U.S. used vehicle exports differs from new vehicle exports, particularly in terms of volume. Developing country demand for used-vehicle imports is high because of the quality, variety, and low initial cost of U.S. used vehicles compared with the limited availability and costliness of new vehicles in those markets. Lower labor costs mean that repairs are less expensive in those markets, placing the cost of maintaining an older used vehicle well below that in the United States.

Recycling & Materials Reclamation

Zero Waste To Landfill Goal. Zero waste to landfill is an environmentally friendly philosophy that diverts as much waste as possible from landfills. Most materials on an end-of-life bus chassis can be processed and recovered as resalable commodities (e.g., ferrous metals, plastics, copper, etc.). Recycling lithium-ion batteries is a complicated process. However, current technology allows the recovery of significant quantities of valuable battery materials (e.g., lithium, cobalt, and nickel).



Jobenomics defines Urban mining as a process of reclaiming raw materials and metals from municipal waste streams including, construction and demolition material (C&D), municipal solid waste (MSW), electronic waste (e-waste), and tires. These waste streams contain combustible and non-combustible materials. Combustibles are carbon-based matter with a caloric value that can be converted to marketable products via waste-to-organic and energy via waste-to-energy technologies. Non-combustible elements are reclaimed via waste-to-material technology.

Jobenomics believes that local communities and municipalities should embrace urban mining to (1) reclaim valuable raw materials and metals, (2) reduce landfilling and exporting of toxic waste, (3) mitigate environmental pollution associated with traditional surface and subsurface mining operations, and (4) produce revenue for local business and job creation.

Jobenomics started eCyclingUSA to help local communities and municipalities design and implement turnkey advanced technology material recovery facilities to achieve these results. These facilities can safely, cleanly, and efficiently monetize high-value waste streams to create the revenue necessary to mass-produce new small businesses, creating thousands of new jobs in underserved and under-resourced communities.

Vehicle Recycling & Materials Reclamation

Approximately 85% of all school buses weigh over 10,000 pounds and consist of many retrievable raw materials, including steel, stainless steel, iron, aluminum, rubber, plastics, and copper. Retrieving these materials is a straightforward process of manual disassembly and compacting/shredding. The Jobenomics Electric Vehicle team will perform the manual disassembly and likely outsource the compacting/shredding to an established scrap yard. The team will also resell usable components and electronics as spare parts. The export market is an excellent source for school bus spare parts purchased through dealers or online.

Electric Vehicle & Second-Use Battery-Related Businesses

Government, school districts, fleet operators, and utility companies have a lot to gain from accelerating the transition to electric school buses and adopting surplus energy storage and on-demand energy technology. Consequently, the Jobenomics Veteran EV Initiative will evaluate the following School Bus Electrification business and career creation opportunities: Vehicle-to-Grid (V2G), Second-Life Battery Energy Storage Systems (BESS), Virtual Power Plant (VPP), and Electrification-as-a-Service (EaaS).

Electric vehicle (EV) batteries vary in size. EV car battery sizes range from a low of 29 kWh (Mini Cooper) to a high of 200 kWh (Hummer Pickup). EV school bus batteries range from a low of 89 kWh (Blue Bird Type A) to 220 kWh (Lion Type D). EV transit bus battery capacity ranges from 90 kWh (shuttle buses) to as high as 548 (large 60' transit bus). All bus manufacturers offer battery options to meet range and cycle requirements. Typically, fleet operators select the tiniest batteries to meet their needs to keep procurement costs low. However, as advanced battery applications become available, fleets will be upgraded with higher capacity to serve the grid in addition to passengers.

According to a 2021 U.S. PIRG report, utilities can support the transition to electric school buses by investing in bus charging, providing eBus financing, and integrating intelligent charging technology. By pairing Pay-As-You-Save financing and vehicle-to-grid technology, school districts can save up to $130,000 on an electric school bus, which would largely offset today's price differential between a new diesel and electric powered bus. Utility companies, including Virginia's Dominion and Oregon's General Electric, have already launched eBus programs to help school districts.[5]

Vehicle-to-Grid (V2G)

Vehicle-to-grid (V2G) involves drawing stored power from vehicle batteries to supply electrical grids. This matrix, from Nuvve, illustrates the types of vehicle charging systems that can energize a grid.

Vehicle To Grid (V2G) Features

Source: Nuvve

Features	Dumb Charging	Smart Charging	Unidirectional Charging (V1G)	Bidirectional Charging (V2B-Business, V2H-Home)	Bidirectional Charging (V2G-Grid)
One-Way EV Charging	⚡	⚡	⚡	⚡	⚡
Set Time of Charge		⚡	⚡	⚡	⚡
Set Charge Rate			⚡	⚡	⚡
Access Energy Markets			⚡	⚡	⚡
Store & Discharge Energy				⚡	⚡
Combine Energy From Multiple EVs & Renewable Sources					⚡
Perform Grid Services & Sell Energy Back To The Grid					⚡

As shown, there are three types of bidirectional charging: V2H (home), V2B (business), V2G (utility-scale grid). Via bidirectional charging, EV owners can charge their vehicles from utility companies and renewable energy sources and then sell energy back to grid utility-scale grid operators.

The downside to bidirectional charging is accelerated battery degradation due to increased usage. Except for having backup power during outages for their homes, most car owners are more interested in vehicle longevity than selling small quantities of power to the grid. On the other hand, fleet operators with many vehicles with large capacity batteries could receive substantial compensation by charging when costs are low and selling high during peak periods.

Since school buses are idle for much of the day, weekends and holidays make electric school buses ideal candidates. The standard school year is only 180 instructional days. Picking up and delivering students takes around six hours per day. Thus, a school bus is operational for 1,080 hours and is idle 7,680 hours or 88% of the time. This idle time could generate badly needed income for schools.

In March 2020, Nuvve, a pioneer of vehicle-to-grid (V2G) technology, and Blue Bird, the leading manufacturer of school buses, delivered North America's first bidirectional V2G school bus to an Illinois school district. This vehicle not only produces zero emissions but will generate additional revenue for the school. Nuvve's V2G platform allows the school bus batteries to store energy, including renewable energy generated from sources like wind and solar. Powered by Nuvve's high-powered charging station, an eBus can intelligently charge itself while costs are low and sell energy at peak prices. [6]

Blue Bird and Nuvve are members of the Bus-2-Grid Initiative that assists schools with grants to V2G their fleets. The near-term goal of the Bus-2-Grid Initiative is for electric school bus batteries to provide at least 20 MWh of renewable energy storage by the end of 2022. Comparatively, 20 MWh can power 24 average American homes for a month. Such a modest goal is due to the infancy of the V2G School Bus program and the limited (less than 1,000) electric school bus fleet. Nonetheless, the number of school bus V2G programs should skyrocket during the remainder of the decade. The Jobenomics EV team plans to be on the ground floor of the upsurge.

Mobile Battery Energy Storage Applications

LIBs are not only powering EVs, but EVs are now powering disaster recovery operations. For example, Nissan's Blue Switch project unlocks the energy stored in car batteries to help people hit by earthquakes, typhoons, or other emergencies in Japan.

The Jobenomics Veteran Electric Vehicle Initiative plans to use the Blue Switch project to develop a U.S. bus fleet (school, activity, transit, government buses, and other large EV fleets) model for proactive resiliency and reactive disaster recovery operations. Resiliency operations stand ready to deploy to withstand or prevent the loss of essential electric and digital services due to an unplanned crisis. Disaster recovery operations help restore vital services after an unexpected event.

Nissan recently celebrated the delivery of 500,000 LEAFs, with 148,000 in the United States. Nissan launched Blue Switch in 2018 and today has 100 signed agreements with local governments and companies to create LEAF **virtual power plants** during emergencies. A single fully-charged LEAF 62-kilowatt hour battery has enough electricity to power an average Japanese home for up to four days, charge over 6000 cellphones, or ensure continuity of critical operations in hospitals and command centers.[7]

The Jobenomics Veterans EV Initiative plans to exploit both small-scale (e.g., Nissan LEAF) and large-scale (e.g., Power Edison) mobile battery storage applications as a business and career creation opportunity. As discussed, veterans are skilled at deploying during emergencies and have VA-backed loan borrowing power (up to $5 million) to launch new mobile battery storage-related businesses.

Jobenomics forecasts that Power-On-Demand presents a significant business opportunity given the chronic nature of natural and human-made disasters. Every year, approximately 400 natural disasters and 40 armed conflicts erupt worldwide.[8] 2020 was a "record-shattering year" in the USA with 22 different billion-dollar weather and climate disasters, shattering the former record of 16 events. Compared to the 1980s, annual U.S. disaster costs soared 7-times, from$18 to $121 billion/year, over the last five years (2016-2020).[9]

Second-Life Battery Energy Storage System (BESS)

Energy Storage Systems (EES) for electricity include battery, flywheel, compressed air, and pumped hydro that vary by rated power (watts) and energy storage capacity (megawatt-hours). In 2020, the U.S. had only 23 GW of capacity in energy storage compared to 1,100 GW of total installed generation capacity. Today, battery energy storage systems (BESS) account for only 1 GW but are growing exponentially. According to the U.S. Energy Information Administration, large-scale battery storage will contribute 10,000 megawatts to the grid between 2021 and 2023—10 times the capacity in 2019.[10]

Today, the world's largest BESS is a 100 MW / 129 MWh system built by Tesla for South Australia contingency purposes. Power Edison is deploying the world's largest mobile 3MW/12MWh BESS in the United States (shown). In addition, Power Edison has barge-based BESSes for marine applications.[11]

BESS-to-Grid uses second-life (retired) battery electric storage systems to perform grid services and sell energy back to the grid in the same manner that installed first-life V2G batteries can.

The primary benefit of using lithium-ion batteries (LIB) over other rechargeable batteries is their ability to store a high energy level in a small amount of mass and their memory effect, which higher operational capacity when partially charged. However, most automotive companies recommend LIB replacement after it retrogrades by 20% and no longer meets EV performance standards. This means

80% of a LIB's potential service life is available for second-life stationary storage applications if the battery is not damaged.

According to McKinsey & Company, global stationary storage powered by used EV batteries could exceed 200 GWh by 2030. For context, this is over 256-times the total energy storage installed in the U.S. in 2018 (780 MWh). From a financial perspective, McKinsey sees three primary second-life stationary storage applications (1) providing reserve energy capacity to maintain a utility's power reliability at lower cost, (2) deferring transmission and distribution investments, and (3) taking advantage of power-arbitrage opportunities by storing renewable power for use during periods of scarcity. In 2025, **second-life batteries may be up to 70% less expensive than new LIBs** in these applications, tying up significantly less capital per cycle. [12]

According to Bloomberg, the nascent second-life battery market is forecast to have a "**massive**" 23.1% CAGR growth rate through 2030, increasing from $430 million in 2019 to $7.4 billion by 2030.[13] Bloomberg attributes this tremendous growth rate mainly due to demand for raw **stationary energy storage** and **materials extraction**.

Batteries from electric vehicles can be repurposed as stationary power sources, reducing the need for additional battery production and shrinking landfill waste. Generally speaking, second-life batteries have an operational lifetime of 5 to 8 years. A battery must meet Underwriters Laboratories' UL 1974 (the Standard for EV Battery Repurposing Facilities) that identifies its state-of-health and introduces ratings to determine the viability for its continued use.[14]

Having founded Battery Powered Technologies (BPT), investor, and former 12-year Board Member of K2 Energy, a LIB company, Frank O'Donnell understands how to start and comply with all the certifications needed for a second-life battery startup.

Second-Life Battery Materials Reclamation

Jobenomics Urban Mining program specializes in reclaiming raw material from electronics and other high-value waste streams. In this capacity, Jobenomics launched eCyclingUSA (an electronic waste reclamation company, Chuck Vollmer CEO) and partnered with a leading German LIB recycling company.[15]

Lithium-ion batteries (LIB) cathodes are composed of various materials, including lithium cobalt oxide (LCO), lithium manganese oxide (LMO), lithium nickel manganese cobalt oxide (NMC), lithium iron phosphate (LFP), lithium nickel cobalt aluminum oxide (NCA), and lithium titanate (LTO). The reason for so many chemical combinations is due to the characteristics they produce, such as specific power, specific energy, safety, lifespan, cost, and performance. NMC is the most common chemistry across the EV industry. Tesla uses NCA.

This mix of materials makes the materials reclamation and disposal process complex but worthwhile due to the short supply and competition for these metals. Since some chemistries contain potentially

toxic materials, landfills are not supposed to accept LIBs with regular waste. When broken down, the cobalt can be very harmful in small quantities.

Industry experts predict that by 2030 the world will dispose of 2 million metric tons of LIBs every year. China alone will dispose of 500,000 tons per year. Unlike the United States, the Chinese are investing heavily in LIB materials reclamation and have created numerous state-of-the-art, billion-dollar urban mining centers.

Depending on chemical makeup, between 25% to 96% of cell materials are recoverable. Valuable materials like nickel, cobalt, and lithium can be recovered from spent batteries and used in new ones, leading to a drop in price and carbon intensity of battery production overall. Due to recent EV sales, the cost of value materials like nickel, cobalt, and lithium have soured. For example, from February 2016 to September 2021, lithium price jumped 500%, followed by nickel 250% and cobalt 220% (after dropping from $400% in March 2018). Industry experts expect skyrocketing commodity prices due to competition and Chinese-dominated material sources.

Today, China dominates the world's production of new generation batteries and 80% of the output of raw advanced battery raw materials. By 2030, 101 of the world's new 136 lithium-ion battery plants will be in China. Since 2018, the United States has relied on domestic manufacturers (mainly Tesla) for 70% of battery cell capacity and 87% battery pack capacity.[16] However, U.S. LIB manufacturers imported raw materials from Japanese (mostly Panasonic) and South Korean suppliers.

The Jobenomics-eCylingUSA team has access to leading European and Chinese LIB recyclers willing to cooperate in a potential Jobenomics EV initiative. While the Chinese closed the door to U.S. e-waste exports, they will eagerly accept preprocessed materials and chemicals from LIB batteries. Rather than feeding an already robust Chinese LIB industry, Jobenomic would prefer to work with Tesla and other U.S. LIB companies to extract LIB raw materials.

2020 Top U.S. Electronic Vehicle Registrations

Source: Automotive News/Experian

Rank	Make	Model	2020 Registrations	% Total
1	TESLA	*Model 3*	*95,135*	79%
		Model Y	*71,344*	
		Model X	*19,652*	
		Model S	*14,430*	
		Total Tesla	200,561	
2	Chevrolet	Bolt EV	19,664	8%
3	Nissan	Leaf	8,972	4%
4	Audi	E-Tron	7,089	3%
5	Porsche	Taycan	3,943	2%
6	Hyundai	Kona Electric	2,964	1%
7	Kia	Niro EV	2,807	1%
All Others			9,342	4%
			255,342	**100%**

The 2020 Automotive News/Experian report indicates that Tesla dominates the U.S. EV market with 79% of all registered vehicles.[17] Testa has already sold 920,376 U.S. EVs from its first production car in

February 2015 to July 2021.[18] By 2030, experts estimate that there will be 29,000,000 Testa's on U.S. roads and close to 86 million worldwide.[19] Tesla's Battery and Drive Unit warranty covers all its vehicles for 8-years and between 100,000 to 150,000 miles, depending on the model.[20] Thus, the materials reclamation market for disposing of used Tesla lithium nickel cobalt aluminum oxide (NCA) batteries will be immense.

The Jobenomics Veterans EV team will begin by collecting, testing, and preparing used batteries of second-life battery energy storage system (BESS) to grid applications, as discussed in the previous section. Next, the team will dispose of defective units that do not meet BESS specifications and dispose of BESS units that eventually retire. Disposition can take several forms. The easiest way is to prepare, package, and ship battery packs to existing battery recyclers, like Battery Recyclers of America[21], who will pay for this service. A more lucrative method is to disassemble the battery packs and sell the components and chemical compounds separately. Jobenomics's eCyclingUSA experts will develop a detailed business plan on what options provide the highest return on investment.

Virtual Power Plant (VPP)

The two hundred thousand skilled Armed Forces personnel that leave Active Duty year are not only seeking a meaningful second career but affordable accommodations in a safe and pleasant neighborhood. To attract the most experienced of the 600,000 enlisted and officers currently serving transportation-related occupations, the Jobenomics Veteran Electric Vehicle Initiative will emphasize business ownership in a live-work community designed with veterans in mind. Note: This community will also be open to non-veteran individuals and families who want to pursue exciting EV-related occupations.

Virtual Power Plant Complex. A virtual power plant (VPP) is a distributed energy plant that aggregates the capacities of various distributed energy sources to stabilize and enhance power generation by trading and selling power. VPPs go by multiple names such as Behind-the-Meter-Networks, Virtual Energy Hubs, V2G Hubs for fleet owners.

A VPP integrates EV and home batteries via bidirectional charging systems and incorporates various IoT technologies like smart thermostats in homes and appliances to regulate energy demand during peak periods. Tesla's South Australian VPP now connects 4,000 Aussie homes equipped with Tesla Powerwalls and Solar to its massive 100 MW / 129 MWh BEES.

The recently announced partnership between Autogrid and Zūm to create a 1 GW VPP using electric-school buses is of great interest to the Jobenomics Veteran Electric Vehicle team.[22] Per their press release, AutoGrid's flagship application, AutoGrid Flex, is ranked as the #1 Virtual Power Plant Platform in the world according to the industry-leading research and analysis firm Guidehouse. Zūm is the leader in student transportation serving over 4,000 schools, and has completed over a million rides to date. Jobenomics believes that Autogrid and Zūm technology would be ideal for a Jobenomics Veteran EV VPP. Autogrid and Zūm might be interested in our veteran drivers, veteran-owned businesses, and diesel-to-electric school bus program.

Jobenomics-Sprung Structures partnership specializes in state-of-the-art building solutions that take only days to customize and weeks to build. Sprung assembled Elon Musk's 140,000 sf Tesla Model 3 general assembly in only 3-weeks and constructed and equipped Jeff Bezos' 225,000 sf Blue Origin Headquarters in 11 months.

Sprung Structures, established in 1887, specializes in advanced tensioned membrane modular buildings for industrial and non-industrial applications that can be operational within weeks of contract award.[23] Today, 13,000 Sprung Structures are in 110 countries. Sprung designed its structures to be adapted and reused. They may be disassembled, reconfigured, or expanded and relocated for another

application. No demolition is required, and no waste goes to the landfill. As a fast, reliable alternative to conventional construction, a Sprung structure dramatically reduces construction timelines. Each system arrives at our client's site prefabricated, eliminating substantial waste associated with traditional construction.

As shown in the collage of pictures, the Jobenomics-Sprung VPP team plans to develop a modern digital complex with a direct-current infrastructure that can accommodate various renewable energy sources.

The Affordable Home Community. The centerpiece of the Jobenomics Veteran Owned Business Program (JVOBP) involves the ownership of an affordable home in a veteran-oriented live-work community. Digitally equipped JVOBP homes will facilitate telecommuting and home-based digital economy business (e.g., e-commerce) for the veteran, spouse, and children.

Over 20 million veterans and active-duty personnel are entitled to zero downpayment Veterans Affairs (VA)-backed home loans. From a veteran-owned business perspective, there are 2.5 million U.S. veteran business owners. Most business owners qualify for up to $5.0 million for startup business loans and $1.4 million for multifamily home construction loans. The VA Multifamily Building Loan Program allows credit-worthy veterans to buy or build fourplex and condominium dwells with no downpayment. One out of every four of these dwellings can be for commercial businesses. Using a combination of VA and private sector financing, the JVOBP will build state-of-the-art and affordable live-work communities.

No community is sustainable without a viable business base. Consequently, Jobenomics has a portfolio of highly scalable businesses that can be implemented within a year, creating thousands of veteran-owned and operated startup micro and nonemployer businesses. Examples of Jobenomics Business Initiatives & Turnkey Programs include:

- Social Determinants of Health (Diagnostics, Biosafety Labs, Hygienic Facility Services)
- Digital Economy, Digital Academies & E-Clubs
- Direct-Care (Healthcare, Behavioral Care, Eldercare, Childcare, and Social Assistance)
- Controlled Environment Agriculture & Circular Agrarian Economy
- Super Oxygenated Water (Drinking, Agriculture, Environmental Remediation
- Renewable Energy & Energy Services
- Waste-To-Value Systems (Plastics-to-Fuel, eWaste Materials Reclamation, etc.)
- Experiential Tourism (Eco, Culture, Heritage, & Adventure Travel)

Jobenomics is in the process of identifying strategic partnerships with leading EV-related companies and institutions. As soon as these partnerships solidify, the Jobenomics Veteran Electric Vehicle Initiative will become the newest addition to this list of turnkey programs.

Transportation as a Service (TaaS) Businesses

Commercial Driver License (CDL) Training

The Jobenomic TaaS program will emphaze commercial driver training and licensing to mitigate driver shortfalls.

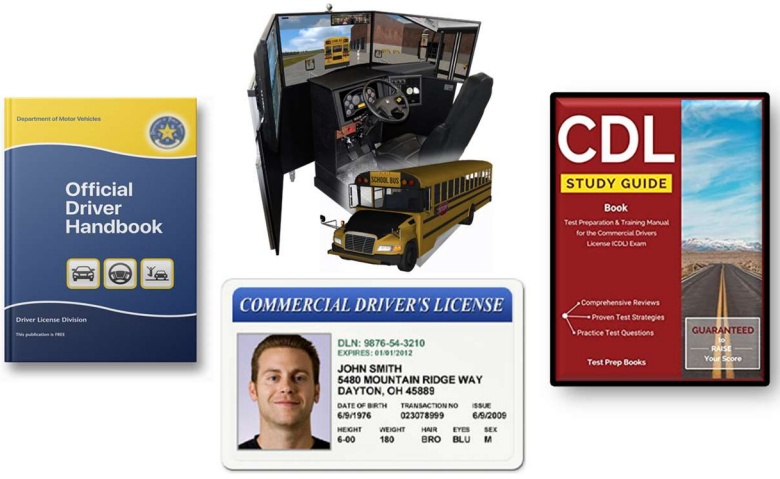
According to the American Trucking Association, the United States was short 61,000 drivers in 2019 and projects a shortage of 160,000 drivers by 2028. The primary reasons for this shortage are due to age (46 for over-the-road drivers) and the lack of women drivers (6.6% in 2018). Over the next ten years, the trucking industry will need to hire over one million new drivers or approximately 110,000 new jobs per year.[24] According to an Omnitracs study, the "two groups of truck drivers that have fewer accidents, drive more miles and stay in the same job longer: veterans and women." However, only 9% of truckers are women, and 19% are former military.[25]

The shortage of school bus drivers is complicating the start of a school year already besieged by the highly contagious delta variant of COVID-19. Major school bus transportation companies (like First Student that hires 10,000 drivers per year) would be excellent employers of Jobenomic TaaS trained and certified veteran drivers, who are also skilled in the art of security in today's troubled society.

The U.S. Department of Transportation's Federal Motor Carrier Safety Administration (FMCSA) understands that veterans can help mitigate the driver shortage and has instituted many programs that help vets obtain a valid Commercial Driver's License or CDL. The Military Skills Test Waiver Program allows drivers with two years of experience safely operating heavy military vehicles to obtain a commercial driver's license (CDL) without taking the driving test (skills test). The Even Exchange Program grants knowledge test waivers, and the Under 21 Military Driver Program allows 18-to-20-year-olds to obtain CDLs. [26]

In the United States, a driver must be 21 years to hold a valid and current CDL to operate a commercial motor vehicle. The following types of U.S. CDL licenses include Class A, B, and C.

CDL Class A allows the driver to operate any vehicle with a semi-trailer or a trailer with two or more axles. CDL-A consists of any combination of vehicles with a gross combination weight rating (GCWR) greater than 26,000 pounds, provided the towed vehicle is over 10,000 pounds. Drivers are required to have a CDL-A commercial license for vehicles that require more maneuvering



skills, such as tractor-trailers, truck & trailer combinations, double and triple trailers, tractor-trailer buses, tanker vehicles, livestock carriers, and flatbeds. Typical careers for CDL-A operators include heavy truck drivers, over the road (OTR) drivers, semi-truck drivers, and tractor-trailer operators. CDL-A drivers can operate any vehicle needing a CDL-B license, which allows the veteran to perform a wide variety of commercial vehicles and have broader career opportunities.

The Advanced CDL training is usually 6-weeks (240 hours) in duration. Training covers truck driving, including DMV permit preparation, basic operations, safe operating procedures, maintenance, maneuvering, and other behind-the-wheel DMV-required skills. This course also prepares students to take their written permit exam to receive a CDL Class A.

The TaaS team will also provide a comprehensive Agricultural Transportation Training course for truck driving and transportation of agriculture products such as milk, equipment, produce, and other agriculture commodities.

CDL Class B allows a driver to operate any straight vehicle (like a school bus) with a GVWR greater than 26,000. If towing, the GVWR of the towed unit must be 10,000 pounds (4,536 kg) or less. Other CDL-B vehicles consist of box trucks, large passenger buses (e.g., city and tourist), garbage trucks, dump trucks, and cement trucks. A typical School Bus CDL-B training program lasts approximately 4-weeks in length. VA benefits will reimburse up to $7,500 of a veteran's CDL training costs.

CDL Class C allows the driver to operate any vehicle designed to transport 16 or more passengers or hazardous materials listed in the Hazardous Materials Transportation Act. With the proper endorsement, holders of this license may drive passenger vans, small HAZMAT vehicles, and combination vehicles not described in Class A or Class B.

Commercial Learner's Permits (CLP). To obtain a CDL, a veteran must be over 18 years of age, possess and non-commercial driver's license, provide proof of citizenship or lawful residency, communicate efficiently in English, and pass background checks. In addition, the candidate must take a DOT Physical and obtain a long-form physical (Medical Examination Report Form) and a medical card.

CDL with a P and S Endorsement. According to federal guidelines, the School Bus endorsement allows drivers to drive a commercial motor vehicle used to transport pre-primary, primary, or secondary school students from home to school, from school to home, or to and from school-sponsored events. Everyone who operates under this definition must have the proper class CDL with a P and S endorsement**.**

CDL Refresher Courses and Training. CDL refresher courses are for drivers who have been absent from the industry or need refresher training. A student must still hold a CDL to take the course. Most companies require refresher training for a driver who has been out of a truck for a year or more. Refresher training usually lasts 40-hours and includes a customized program based on individual drivers' needs. This behind-the-wheel course refreshes driving, shifting, backing, and other road skills. Class A CDL Recertification Courses and Training may take up to 120 hours (3-weeks).

The Jobenomics Transportation as a Service (TaaS) team will initially train veterans and eventually offer similar services to non-veteran interested in pursuing entry-level transportation careers. Training will include classroom instruction, simulator training, behind-the-wheel training in schools buses. The TaaS Team will add heavy truck and tractor-trailer training as resources permit.

Charging Station Installation & Maintenance

The recent infrastructure bill allocates $7.5 billion for electric vehicle charging stations. While this is a good start, most experts believe that $50 billion is needed to build a U.S. charging network to serve the number of electric vehicles expected by 2030. Nonetheless, $7.5 billion will underwrite private sector investment from States, automakers, and businesses. Shopping malls, big box stores, restaurants, parking lots, gas stations, convenience stores, and other business establishments will have to install charging stations to lure EV owners by providing charging services while they shop.

A July 2021 analysis by the Washington DC-based International Council on Clean Transporation (ICCT) states that charging is Achilles' heel in America's quest for emissions-free transportation. The U.S. government (federal, state, and local) plans for approximately 26 million EVs by 2030. Automakers are gearing up to meet this need. Unfortunately, the transportation electrification infrastructure is woefully inadequate and lacks the workforce to accomplish the task.

Per the ICCT, public and workplace charging needs to grow 10-fold (from 216,000 chargers in 2020 to 2.4 million) by 2030, including 1.3 million workplaces, 900,000 public Level 2, and 180,000 direct current fast chargers. ICCT project the investment needed to accomplish this task is $28 billion, of which **$15 billion is for labor**.[27] These ICCT figures do not include residential upgrades, multifamily dwellings (apartment and condo residents), and rural communities.

The vast majority of the 1.8 million private-sector plug-in EV owners use Level-1 charging, the slowest type of charging, via 120 volt AC outlets with an average power output of 2 kW (1.3 kW to 2.4 kW). To fully charge a 62 kWh battery pack, as the Nissan LEAF discussed earlier, would take 31 hours—too long for most future customers who will need to upgrade to Level 2 charging.

Level-2 charging generally operates at 240 volts, the voltage used for most dryers and hot tubs, with an average power output of 11 kW (3 kW to 19 kW). Using L2, fully recharging our Nissan LEAF would take only 6 hours. With an intelligent bidirectional L2 charger, the EV owner could wait to charge at the most economical times and resell stored power to the grid if desired.

Future fleet operators will need the fastest level of charging called Direct Current Fast Chargers (DCFC). DCFCs are available with a maximum output of 350 kW. With a DCFC, recharging a 175 kW electrified school bus would take only 30 minutes. With an L2 unit, charging would take 16 hours, which means that the school bus would need to recharge during the most expensive peak hours after its scheduled afternoon run.

As mentioned earlier, the United States has 18,230,322 veterans, 1,346,400 active-duty military personnel, and 443,543 citizens serving in the National Guard who are ideally suited for infrastructure development. The Jobenomics Veteran EV Initiative will certify veterans in charging station installation and maintenance-related occupations. We will also create veteran-owned businesses to encourage the best and brightest to join the mission to transition smoothly to emissions-free transportation.

Solar Voltaic Installation & Maintenance

There are three grid architectures: (1) large-scale, centralized, utility generation designs engaged in selling electric energy to the public, (2) grid-connected distributed generation designs intended to offset retail sales, and (3) small-scale, off-grid dispersed generation designs. Utility-scale and distributed generation designs are supply-side oriented, whereas dispersed generation focuses on demand-side energetics at the point-of-consumption.

Today, dispersed off-grid generation is usually considered an anomaly best used for remote applications where grid-connected electricity is cost-prohibitive. Jobenomics disagrees and asserts that off-grid, net-zero dispersed energy systems are a viable alternative to centralized grid-based systems. Net-zero energy buildings/communities create enough on-site energy to satisfy their internal energy needs without relying on external sources. The principal source of energy for these emissions-free communities is solar power.

Since the Jobenomics EV team is planning to recruit, upskill, and deploy veterans for charging station installation and maintenance taskings, we can also do the same for solar voltaic systems that can be the source of power for public and residential charging stations. Tesla's new solar-powered roof is likely to revolutionize this industry.

According to the U.S. Bureau of Labor Statistics, the 2020 median pay for solar photovoltaic installers was $22.34 per hour or $46,470 per year. Since independent contractors perform most of this work, Jobenomics will create startup veteran-owned solar photovoltaic businesses.

Mobility as a Service (MaaS)

Mobility as a Service (MaaS) involves transit on-demand services that enable users to plan, book, and pay for multiple types of mobility services. As evidenced by Uber and Lyft, ride-sharing has gained universal acceptance. By 2030, approximately half of all U.S. Generations Z (1997-2012) and A (born 2012-2025) will not own a car and will need on-demand mass transit services for group travel. The Jobenomics Veteran MaaS program will analyze MaaS markets for refurbished and converted mass transit activity buses. The team will also evaluate MaaS applications, like Uber Transit and Moovit (a white label transit app), as a source for new veteran-owned startup on-demand activity bus firms.

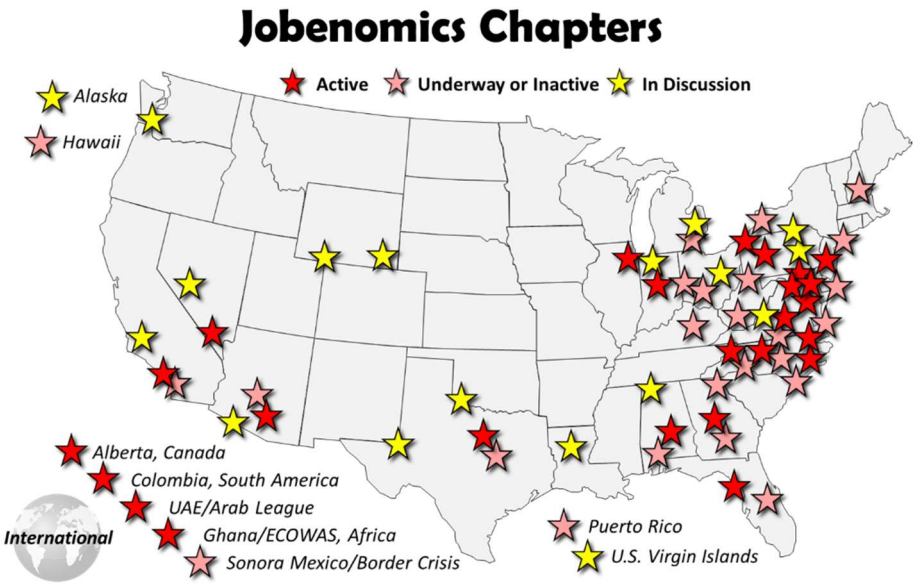
Transportation-Related Job Upskilling & Reskilling Program. As of July 2021, the U.S. Transit and Ground Passenger Transportation (NAICS 485) industry consisted of over 20,000 private sector firms providing roughly 400,000 jobs, including 216,000 school buses and 70,000 transit drivers. NAICS 485

consists of six industry groups that will provide a plethora of businesses and career opportunities for a Jobenomics Electric Vehicle program graduates: Urban Transit Systems (NAICS 4851), Interurban and Rural Bus Transportation (NAICS 4852), Taxi and Limousine Service (NAICS 4853), School and Employee Bus Transportation(NAICS 4854), Charter Bus Industry (NAICS 4855), and Other Transit and Ground Passenger Transportation (NAICS 4859, shuttle services to airports and similar facilities, special needs transportation services, and other transit and ground passenger transport). The Jobenomic TaaS team will evaluate these industry groups from a veteran and non-veteran upskilling and reskilling perspective to fill open and emerging opportunities.

Digital Economy-Related Certified Skills-Based Training For The Transportation Industry. The revolution of digital and network technologies is transforming the transportation industry. As such, the Jobenomic TaaS team will evaluate the applicability of the Jobenomics Digital Academy & Business Generator program for IT-related opportunities like driverless vehicles, mobility and bot applications, Web 3.0 development, and content creation.

About Jobenomics & Jobenomics Programs

Jobenomics (https://jobenomics.com) specializes in mass-producing local startup businesses and sustainable jobs in underserved and under-resourced communities. The Jobenomics International Grassroots Movement has reached over 30 million people via national media, Jobenomics TV, website, blog, and lectures. As a result of this exposure, Jobenomics' unique economic, community, business, and workforce development activities gained international recognition. Over forty cities and regions on four continents implemented Jobenomics Chapters. To meet local citizens' immediate needs, Jobenomics forms partnerships with leading companies and institutions to create a wide variety of highly scalable startup programs that could quickly mass-produce new locally-owned and operated startup businesses.



The **Jobenomics Veteran Owned Business Program (JVOBP)** is led by veterans for vets and their families and neighborhoods. The JVOBP provides a process for vets (and their family members) to start their own business or second careers with sustainable and livable wages. Most veterans are looking for second careers with meaningful and challenging mission objectives like transforming underserved communities. Vets have proven service expertise and skills that can revitalize beleaguered and crime-ridden American neighborhoods—some of which resemble combat zones replete with armed gangs and drug lords. Many former sergeants' primary skillsets involve molding young adults into fully functioning team members and responsible citizens within months. To see an example of a JVOPB business plan, see https://jobenomics.com/wp-content/uploads/2021/06/Jobenomics-Calhoun-Veteran-Live-Work-In-Montgomery-AL-Proposal-15-March-2021.pdf.

Jobenomics Digital Academy & Business Generators provide certified skills-based training and startup business programs. The primary purpose of the **Jobenomics Digital Academy** is to attract, assess, coach, train, and certify candidates in digital technologies via a lifelong applied learning and transformation mapping process. The **Jobenomics Business Generator** uses the Jobenomics Community-Based Business Generator process to mass-produce startup firms (e.g., around one

hundred new nonemployer firms and micro-businesses per year) in underserved or under-resourced communities. This Academy will also include a training and computer center, startup offices, conference room, Entrepreneur Club, and cafe. For more information, download the 165-page Jobenomics Digital Academy and Business Generator program document at https://jobenomics.com/wp-content/uploads/2021/08/Jobenomics-Digital-Academy-Business-Generator-9-August-2021.pdf.

Jobenomics currently has over a dozen turkey businesses implementable within a year. Examples of these turnkey programs include ownership and rental of affordable multifamily homes (e.g., fourplexes and condos), controlled environment agriculture facilities and microfarms, waste-to-values (reclamation and recycling) enterprises, and direct-care (healthcare, behavioral care, eldercare, social assistance) businesses. For more information, download the **Jobenomics Turnkey Initiatives and Program documen**t at https://jobenomics.com/wp-content/uploads/2021/08/Jobenomics-Initiatives-Turnkey-Programs-30-July-2021.pdf

Assuming that Jobenomics can develop sponsorships and partnerships with the leading Electric Vehicle companies and institutions, a **Jobenomics Veteran Electric Vehicle Program** will be the latest addition to the portfolio of Jobenomics turnkey businesses.

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Endnotes

[1] U.S. Bureau of Labor Statistics, Occupational Outlook Handbook, Military Careers, retrieved 6 September 2021, https://www.bls.gov/ooh/military/military-careers.htm

[2] Sustainable Bus, e-troFit plans 8,000 buses to be converted to electric drives until 2030, 23 October 2021, https://www.sustainable-bus.com/news/e-trofit-plans-8000-buses-to-be-converted-to-electric-drives-until-2030/

[3] Cision PR Web, Don Brown Bus Sales to Market Unique Electric Solutions Electric School Bus Conversions, 21 April 2021, https://www.prweb.com/releases/don_brown_bus_sales_to_market_unique_electric_solutions_ues_electric_school_bus_conversions/prweb17879782.htm

[4] Unique Electric Solutions, unique EV™, https://www.uesmfg.com/fleets/

[5] U.S. PIRG Education Fund, Accelerating the Transition to Electric School Buses, February 2021, https://uspirg.org/sites/pirg/files/reports/US_EL%20buses%202021%20scrn.pdf

[6] Nuvve, Press Release, Blue Bird Delivers North America's First-Ever Commercial Application of Vehicle-to-Grid Technology in Electric School Bus Partnership with Nuvve and Illinois School Districts, 23 March 2021, https://nuvve.com/inthenews/blue-bird-delivers-north-americas-first-ever-commercial-application-of-vehicle-to-grid-technology-in-electric-school-bus-partnership-with-nuvve-and-illinois-school-districts/

[7] Nissan Motor Corporation, How Nissan is using electric cars to power disaster recovery, 16 December 2020, https://global.nissanstories.com/en/releases/nissan-blue-switch

[8] Centre for Research on the Epidemiology of Disasters. http://www.cred.be, and https://www.cdc.gov/eis/field-epi-manual/chapters/Natural-Human-Disasters.html

[9] NOAA's National Centers for Environmental Information (NCEI), 2020 U.S. billion-dollar weather and climate disasters in historical context, 8 January 2021, https://www.climate.gov/news-features/blogs/beyond-data/2020-us-billion-dollar-weather-and-climate-disasters-historical

[10] U.S. Energy Information Administration, Battery Storage in the United States: An Update on Market Trends, August 2021, https://www.eia.gov/analysis/studies/electricity/batterystorage/pdf/battery_storage_2021.pdf

[11] Power Edison, Power Edison mobile ESSs, https://www.poweredison.com

[12] McKinsey & Company, Second-life EV batteries: The newest value pool in energy storage, 20 April 2019, https://www.mckinsey.com/industries/automotive-and-assembly/our-insights/second-life-ev-batteries-the-newest-value-pool-in-energy-storage

[13] Bloomberg, Second-Life Automotive Lithium-Ion Battery Market to Grow with Massive CAGR Through 2030: P&S Intelligence, 17 November 2020, https://www.bloomberg.com/press-releases/2020-11-17/second-life-automotive-lithium-ion-battery-market-to-grow-with-massive-cagr-through-2030-p-s-intelligence

[14] UL, Second-Life Electric Vehicle Battery Repurposing Facility Certification, https://www.ul.com/services/second-life-electric-vehicle-battery-repurposing-facility-certification

[15] EcyclingUSA, https://jobenomics.com/ecyclingusa/; URT Umwelt- und Recyclingtechnik GmbH, https://www.urt-recycling.com/seite/en/disposal/04/WB/URT_Umwelt-und_Recyclingtechnik_GmbH.html

[16] Energy.gov, Office of Energy Efficiency & Renewable Energy, Vehicle Technology Office, FOTW #1192, June 28, 2021: Most U.S. Light-Duty Plug-In Electric Vehicle Battery Cells and Packs Produced Domestically from 2018 to 2020, 28 June 2021, https://www.energy.gov/eere/vehicles/articles/fotw-1192-june-28-2021-most-us-light-duty-plug-electric-vehicle-battery

[17] Road/Show, Tesla cars made up vast majority of EV registrations in US last year, 16 February 2021, https://www.cnet.com/roadshow/news/tesla-cars-ev-registrations-us/

[18] Tesla Sales Figures - U.S. Market, Monthly and Yearly Sales Figures, Timothy Cain, retrieved 6 September 2021, https://www.goodcarbadcar.net/tesla-us-sales-figures/

[19] Torque News, What Will Tesla's Share of EV Market Be in 2030?, 6 August 2021, https://www.torquenews.com/14335/what-will-teslas-share-vehicle-market-be-2030

[20] Tesla, Support, Battery and Drive Unit Limited Warranty, retrieved 6 September 2021, https://www.tesla.com/support/vehicle-warranty

[21] Battery Recyclers of America, https://www.batteryrecyclersofamerica.com/battery-recycling-faq/

[22] AutoGrid, AutoGrid and Zūm Partner to Create 1 Gigawatt of Flexible Capacity Using Electric School Buses As Virtual Power Plants, 15 July 2021, https://www.auto-grid.com/news/autogrid-and-zum-partner-to-create-1-gigawatt-of-flexible-capacity-using-electric-school-buses-as-virtual-power-plants/

[23] Sprung Structures , https://www.sprung.com/

[24] American Trucking Association, ATA's Chris Spear Calls on Congress to Advance Surface Transportation Bill This Year, 11 May 2021, https://www.ttnews.com/articles/atas-chris-spear-calls-congress-advance-surface-transportation-bill-year

[25] American Trucker, Study: Women veterans make excellent truckers, 10 November 2017, https://www.trucker.com/news/article/21746710/study-women-veterans-make-excellent-truckers

[26] U.S. Department of Transportation, Federal Motor Carrier Safety Administration, FMCSA Military Driver Programs Brochure, https://www.fmcsa.dot.gov/registration/commercial-drivers-license/fmcsa-military-driver-programs-brochure

[27] International Council on Clean Transporation (ICCT), Charging up America: Assessing the growing need for U.S. charging infrastructure through 2030, 28 July 2021, https://theicct.org/publications/charging-up-america-jul2021