



### Division of Freight, Transit and Heavy Vehicles

**Rosa Parks** is best known for refusing to move seats on a bus. Buses in Montgomery at the time were segregated on the basis of race, with white people given front seats and Black passengers forced to sit in the back, or, commonly, forced to stand. The system for boarding busses was also dehumanizing. Black people had to pay their fare at the front of the bus, exit the bus, and then re-enter through the rear door. On at least one previous occasion, Rosa Parks had paid her fare, and while exiting the front door to board in the rear, the bus took off, stranding Ms. Parks in the rain. Ms. Parks refusing to move sparked the Montgomery Bus Boycott, where Black residents boycotted the system. Eventually, the Supreme Court forced the bus system to integrate their seating. While the story of Rosa Parks refusing to change seats is well-known, it is less known that Ms. Parks had been involved in civil rights activism and

organizing in the years prior to the boycott, having been a member of the local NAACP chapter and being elected secretary.



### Division of Vehicle Driver, & System Safety

**Dorothee Pullinger** – *first woman member of the Institution of Automobile Engineers and founding member of the Women’s Engineering Society*

Dorothee Pullinger overcame the strictures of Edwardian England gender norms to pursue her dream of following in the footsteps of her auto designer father, Thomas Pullinger. Born in France in 1894, Pullinger’s initial application to the Institution of Automobile Engineers was rebuffed on the grounds that women did not qualify as “persons” in the application criteria, but she parlayed

her stint managing female munitions workers during WWI into eventual admission, becoming the first female member of the Institution. She went on to manage Galloway Motors in Scotland, where she hosted an engineering college that featured three-year apprenticeship opportunities for women. In 1919, she became a founding member of the Woman’s Engineering Society. Pullinger is noted for her application of principles of human factors to the design and manufacture of the Galloway car, an automobile designed with women in mind. The vehicle placed gears in the middle and included a lowered dashboard and a raised seat, all design features that accommodated a female driver’s needs. The Galloway was among the first automobiles to introduce the rear-view mirror as a standard feature. Despite a comparatively

low volume, with only 4,000 Galloway vehicles ever produced, Pullinger's contribution to the field of design is worthy of recognition.

### **Center for Sustainable Mobility**

**Dr. Susan Handy** is a professor at the University of California, Davis. Her research focuses on the relationships between transportation and land use and on strategies for reducing automobile dependence. She obtained her Ph.D. degree from University of California, Berkeley. Her recent work includes a series of studies on bicycling in Davis, including an exploration of the formation of attitudes towards bicycling, a study of factors affecting bicycling to high school, and the use of electric-assist bicycles. She recently completed projects for the California Air Resources Board and Caltrans on the impacts of "smart growth" strategies on vehicle travel.



### **Division of Technology Development & Deployment**

Betty Holberton (1917-2001) worked as a computer and programmer on ENIAC and UNIVAC. She pioneered computing in a time when the field was mostly women, but they were often barred from promotions. Her most notable innovations were around human computer interactions, including separating the number pad from the rest of the keyboard, one of the first assembly languages, C-10, and the Sort Merge Generator which was the first program that output another program. Perhaps her most visible impact, though not the most meaningful, was the selection of grey-beige housing on the UNIVAC, which became the standard in computing for decades to come.

## Division of Technology Implementation

**Gertrude Rand** made notable contributions to the field of industrial lighting in the transportation setting. She was an associate professor at the Wilmer Ophthalmological Institute of Johns Hopkins University School of Medicine and served as the associate director of the Research Laboratory of Physiological Optics. While there she worked on industrial lighting projects and researched the effects of lighting on color perception. She is known for her work on a glare-control illumination design used in the Holland Tunnel running between New York and New Jersey. Gertrude became the first female fellow of the Illuminating Engineering Society of America in 1952 and in 1963 they awarded her with a gold medal.



## Division of Data & Analytics



Florence Nightingale has been predominantly known for her role in nursing; however, she is also a renowned statistician. Her work in this field, and her knack with numbers, literally saved lives. Her work in this area even jumpstarted areas of data visualization with the development of the polar area diagram, also referred to as the coxcomb diagram. VTTI's Division of Data & Analytics applauds Florence Nightingale's history in contribution to the field of statistics and data visualization, and thanks her for contributing to the foundation that we all build upon as we serve VTTI's mission

to Save Lives, Time, Money and Protect the Environment.