



HYDROGEN FUEL CELL

The Energy of Tomorrow
Powering SARTA Today.



SARTA Operational Facts

- 2.2 million trips per year
- 212 employees
- \$22 million budget
- Extensive use of technology

A close-up photograph of a bus headlight assembly, showing four circular lights arranged vertically. The image is partially visible on the left side of the slide.

SARTA Current Fleet

- 68 of the 109 buses operated use alternative fuel.
 - 57 CNG
 - 7 Hydrogen Fuel Cell Electric buses.
 - 10 Additional currently on order.
 - 4 Diesel Electric Hybrid
 - 41 Diesel Buses
- In 2010, SARTA operated 45 Fixed Route buses of which 41 were diesel.



SARTA Mission Statement

SARTA is committed to enhancing the quality of life for our community by providing efficient, affordable and sustainable mobility options for Stark County.



SARTA Vision Statement

To enhance the **economic and environmental viability** of Stark County by providing mobility access for employment, education, medical care and recreational opportunities.

We will do this by:

- ~Operating within budget and in a financially responsible manner.
- ~Enhancing quality of life through personal independence.
- ~Offering mobility options to meet the diverse needs of the public.
- ~Creating an environment supporting professional development to ensure a dynamic workforce operating according to the highest ethical standards.
- ~**Continuing our efforts to utilize alternative energy sources for our fleet and facilities.**

A close-up photograph of a hydrogen fuel cell stack, showing its metallic components and circular ports. The image is positioned on the left side of the slide, partially overlapping the blue background.

So why did Hydrogen end up at SARTA in Canton, Ohio?

- SARTA applied to be part of the initial American Fuel Cell Bus Program in 2015 as part of a \$90 million Federal Transit Administration program.
 - SARTA was not awarded the grant.
 - Give it to SARTA they will take anything.
- Now almost four years later SARTA is the third largest hydrogen fleet in the United States and the largest fleet outside of the state of California.



Operational Needs vs Technology

- Operationally, agencies need a Battery Electric or Hydrogen Fuel Cell Electric Bus that can be used in revenue service the same way we use Diesel or CNG buses in our fleets today.
 - Our first delivery of Hydrogen buses have a range of 225 miles.
 - Hydrogen buses are not designed to operate at highway speeds (Max 50MPH).
 - SARTA has taken a leadership role in working with vendors and engineers to make the enhancements needed to help propel the technology even further.



Community Reaction to Technology

- Our community leaders as well as passengers have embraced the technology and the spotlight that SARTA has put on Stark County and Northeast Ohio.
 - Ohio is the 3rd largest producer of hydrogen fuel cell components and membranes.
 - Northeast Ohio is home to NASA Glenn, Rolls Royce and LG stationary fuel cell headquarters.
 - The bus needs to be accepted by the Operators, Maintenance and Community Stakeholders.



Growing Pains

- Sufficient Space.
- Building Modifications.
 - Monitoring Equipment
- Route Modifications.
- How will the weather impact technology?
 - Extreme Cold
 - Extreme Heat

Sufficient Space



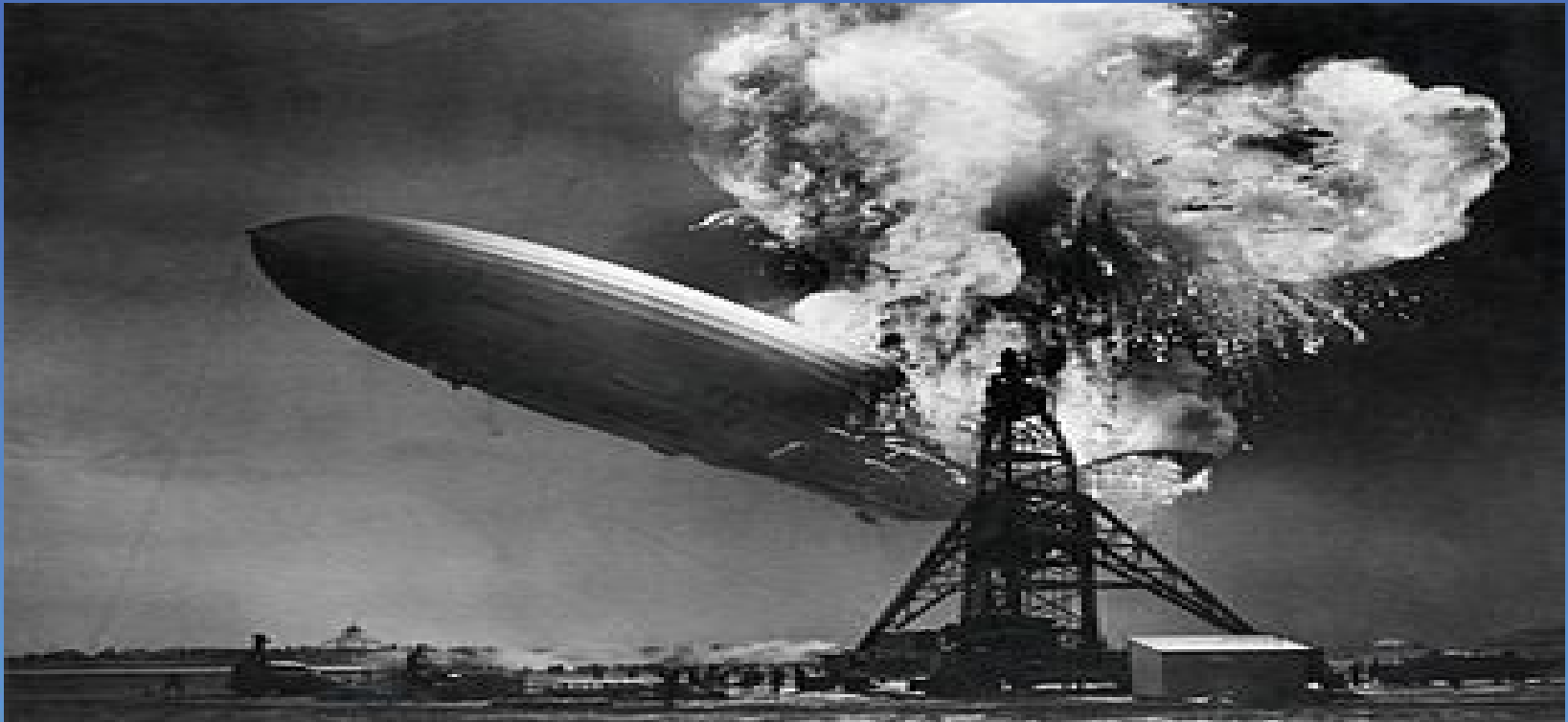
A close-up photograph of a hydrogen fuel cell stack, showing its metallic components and circular ports, positioned vertically on the left side of the slide.

Growing Pains

- Educating your Passengers.
- Educating Politicians and those in the decision making process at both the State and Federal levels.
- Advancing the Technology.
- Last month SARTA transported a hydrogen bus to Washington, DC to demonstrate the technology. Demonstrations were held at Capital Hill, U.S. Department of Transportation and U.S. Department of Energy.

Growing Pains and FEARS!

- Educating our staff and removing their fears and changing their perception of the technology.



H2 Education at Ohio Statehouse



To the Future



SARTA will operate the third largest fleet of hydrogen cell buses in the US.

