

The logo for samTrans, featuring the word "samTrans" in a sans-serif font with a red horizontal bar above a blue horizontal bar.

Building a SamTrans Bus

Community Relations Committee
Nov. 2, 2016
Agenda Item 7

In The Beginning

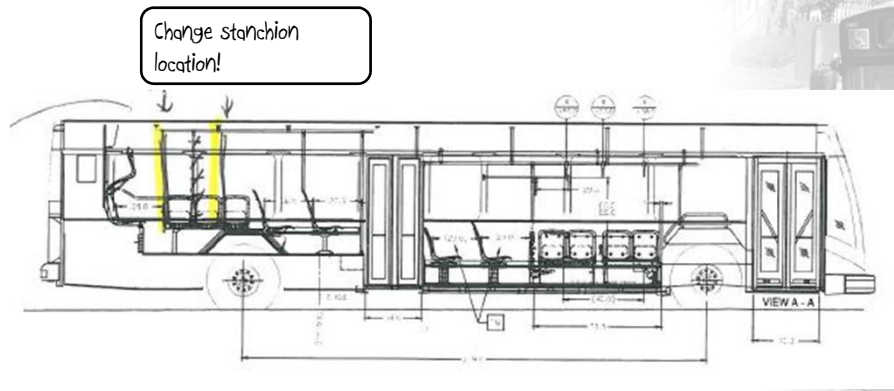
The logo for samTrans, featuring the word "samTrans" in a sans-serif font with a red horizontal bar above a blue horizontal bar.

- ✓ **How a SamTrans Bus is Designed?**
 - What is the design process?
 - Who is involved – stakeholders?
 - What are the key elements for a SamTrans bus?
- ✓ **Evolution of the SamTrans Bus**
- ✓ **Building a Bus**
- ✓ **Continuous Improvements**
- ✓ **Benefits**
- ✓ **Next Generation of SamTrans Buses**

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Design Process

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Design Process

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- Fixed route buses are replaced after 12-years
- Technical specifications are developed by the Maintenance Team in collaboration with a variety of stakeholders
- Contracts and Procurement issues a Request For Proposal (RFP)
- Board of Directors approves the award of the contract
- Notice to Proceed (NTP)
- Prep-production meetings with the manufacturer
- Production schedule
- Build, delivery, and acceptance
- In revenue service

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Who is involved - stakeholders?

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- **ADA – SamTrans Accessibility Advisory Committee (SAAC)**
- **C&P (Contracts and Procurement)**
- **Citizens Advisory Committee (CAC)**
- **Finance, Budgets, and Grants**
- **Information Technology (IT)**
- **Intelligent Transportation Systems (ITS)**
- **Legal**
- **Maintenance, Transportation and Operations Training**
- **Marketing**
- **Safety and Security**

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Key Elements

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- **Regulatory Compliance**
 - **California Code of Regulations Title 13 – Division 3 Air Resource Board (CARB)**
 - **Federal Motor Vehicle Safety Standards (FMVSS)**
 - **American with Disabilities Act (ADA)**
 - **Federal Transit Administration (Altoona)**
- **Safety**
- **Customer Comfort**
- **Durability and Reliability**
- **Ease of Maintenance**
- **Aesthetics and Ergonomics**
- **Performance and Cost Effectiveness**

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Evolution of the Bus

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Power steering?
Air Conditioning?
ADA compliant?
Dependability?
Emissions?

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Evolution of the Bus

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Comfort, Elegance, Reliability, and more...

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Building a Bus

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engines,
transmissions,
and hybrid drives

From raw materials
to...



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Building a Bus

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Parts and
components make
sub-assemblies



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Building a Bus

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Rolling chassis

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Building a Bus

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Simultaneously, sub-assemblies (roof) are assembled...



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Building a Bus

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Structures are joined to make the bus frame



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Building a Bus

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Once the frame is assembled, the interiors and outer skin are added. Final assembly is well on its way!



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Building a Bus

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Paint, decals, and testing complete the process...at the factory



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Building a Bus

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Post Delivery and Acceptance

- Internal Quality Controls
- Connect AVL Hardware
- Install Fare Boxes and Program Destination Signs
- Train – Maintenance and Bus Operators
- Design Maintenance Program
- Add Informational Items – Ad Cards, Schedules

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Continuous Improvement

samTrans



Safety Lights
Activated by
night run and
turn signal



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Continuous Improvement

samTrans

**Multi-function
door controller.**
Enables the Bus
Operator to kneel
and deploy the
ramp from a single
location.



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Continuous Improvement



Bus Operator Window
– ThermoGuard Glass
Improves cabin comfort.
The light blue colored
glass reduces the driver
slider glare, reduces skin
burn, and protects the
Bus Operator from IR and
UV rays.



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Continuous Improvement



**Keeping pace
with the
times...mobile
technology**

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Continuous Improvement



Marketing's new schedule rack

Continuous Improvement



3-Bike Rack

Continuous Improvement

samTrans

**Six electric fans
replace one
hydraulic fan.
Improves fuel
efficiency, operating
temperatures, and
lowers noise.**

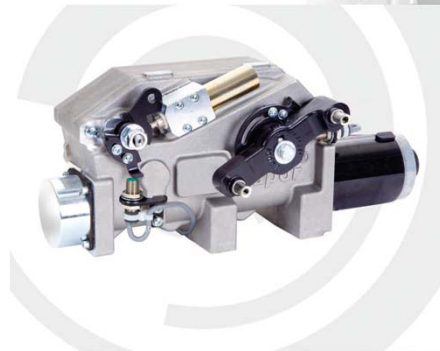


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Continuous Improvement

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**Electric door
actuators replace
the pneumatic door
actuators. The new
actuators are a
prelude to the
electric systems
found in all-electric
buses.**



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Continuous Improvement

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Low floor buses have a wheelchair ramp versus a wheelchair lift.



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Continuous Improvement

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- Onboard camera system
- Rear view mirrors
- Transmission
- Electric starter
- LED lighting
- Passenger information system
- C.L.A.S.S. Doors (acoustic sensing)
- On board diagnostics
- GPS and advance vehicle locator systems
- Registering fareboxes
- ...and more!

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Benefits

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- Improved reliability and dependability
- Improved customer experience
- Improved OTP
- Managing operating costs
- Improved safety features
- Significant reduction in emissions
- Bus availability maintains FTA's spare ratio
- Improved ergonomics for the Bus Operators

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Next Generation SamTrans Bus

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Low floor articulated buses



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Next Generation SamTrans Bus



All-electric buses

