

# Bus Operator Barrier Program

## NYCT Department of Buses MTA Bus Company


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## Barrier Program Objective

Provide a Higher Level of Safety and Security

- Operator Protection and sense of security
- Operator visibility
- Operator comfort
- Durability
- Two paths
  - All new buses (local service) are purchased with barriers
  - Older fleets will be retrofitted
- Build units to NYCT spec



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## Review of Early Designs

Rejected



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Rejected



## NYCT Designer Generation I Barrier



## Bus Manufacturer Generation I Barrier

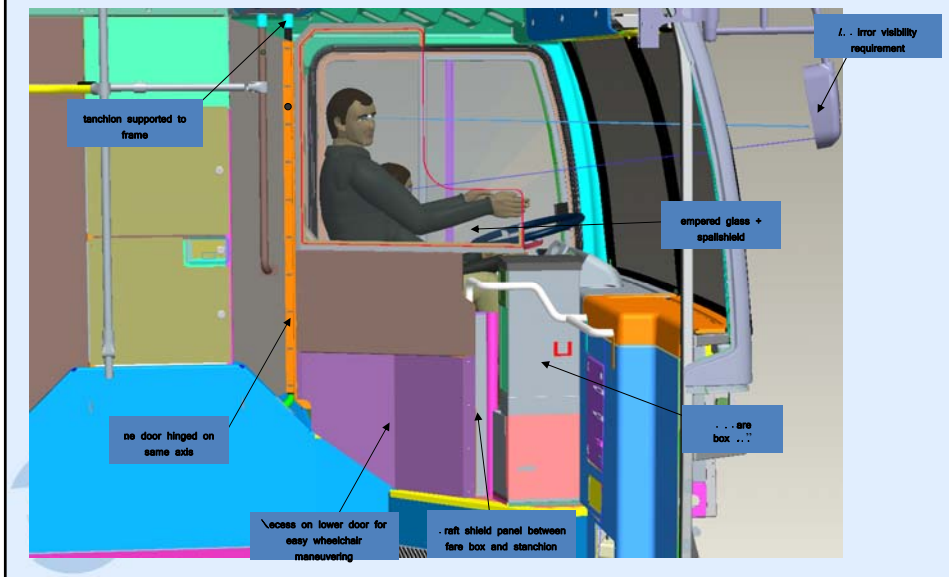


## Developing the Right Solution

- Ergonomics
- FMVSS
- Durability
- Maintainability
- ADA



## Designing a solution not just a door



## Visibility



## Glass and Polycarbonate

- Currently only three options exist, all are still being evaluated
  - Exatec polycarbonate - rated AS2
  - Tempered glass with spall shield - rated AS15B
  - Tempered safety Laminated with pyrolytic hard coat - rated AS2

Each bus type has different results with all three products



Glass broke because of stress created at upper hinge area



Broken upper Hinge assembly

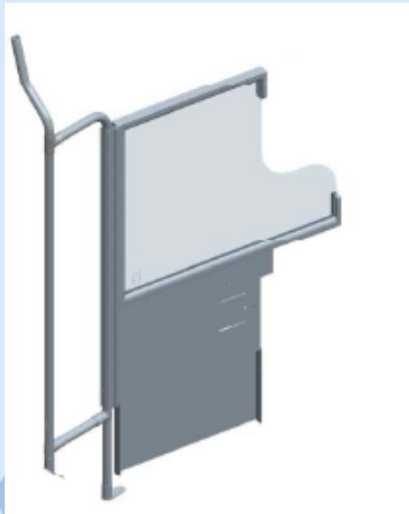
## Mock up and Prototype



## ADA Requirements



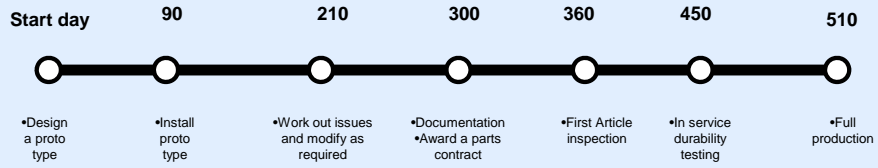
## Generation II Design



### Improvements

- Operators Vision
  - New shape
- Operator comfort
- Protection and sense of security
- Durable components
  - Latches
  - Door stops
  - New Hinge

### Estimated time line to go from design to production



17 months



## Generation II Design



New Flyer CNG prototype



New Flyer Xcelsior prototype





## Generation II Design



Orion VII prototype



RTS prototype



## Concerns and Considerations

- **Engineering Issues**
  - Bus OEM
  - Designer
  - First Article inspection
  - 60 day in-service durability has been increased to 90 and 100 buses before a production run of parts
- **Procurement Issues**
  - Need multiple vendors
  - Competitive bid
- **Operating Impacts**
  - Barrier will require maintenance
  - Barrier life is unknown

Bus OEM designed unit for CNG Fleet failed ADA test

Experience is needed

