Item No. 6i supp
Meeting Date: July 14, 2020

# STS Controls Renewal and Replacement Design Authorization

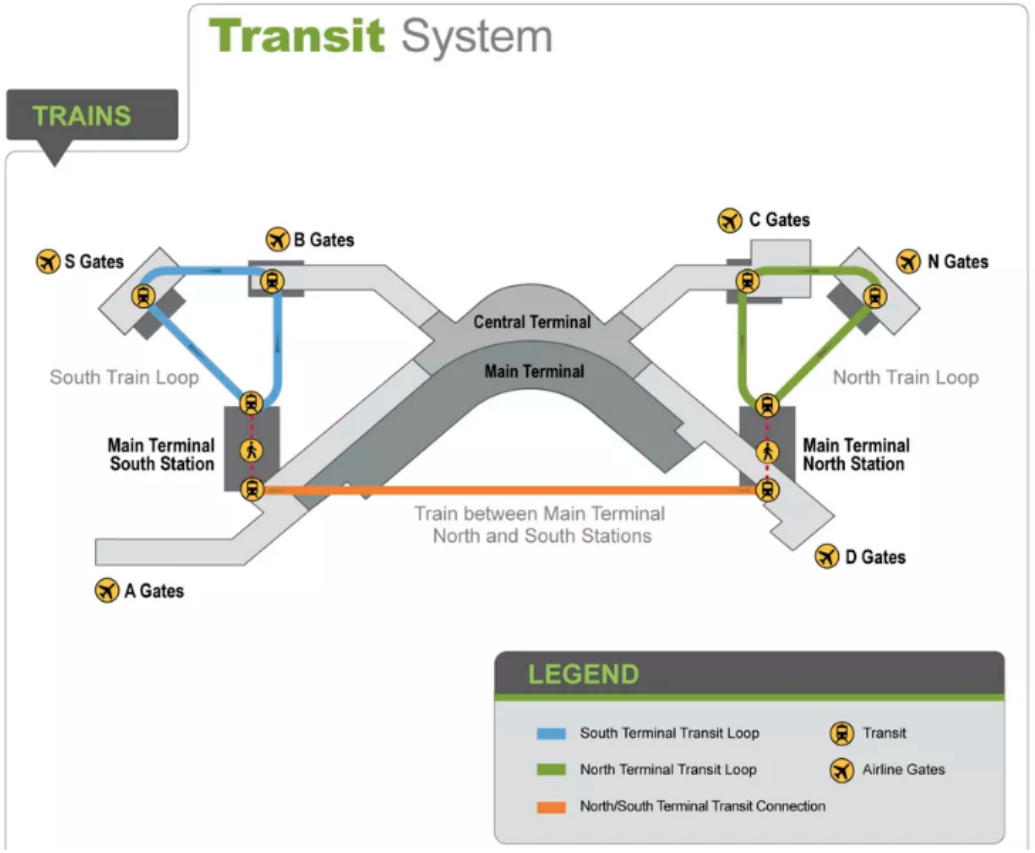
Seattle-Tacoma
International Airport

Port of Seattle®

# Satellite Transit System (STS)

The STS is an Automated People Mover (APM) system that is the primary means for moving the public to the North & South Satellites

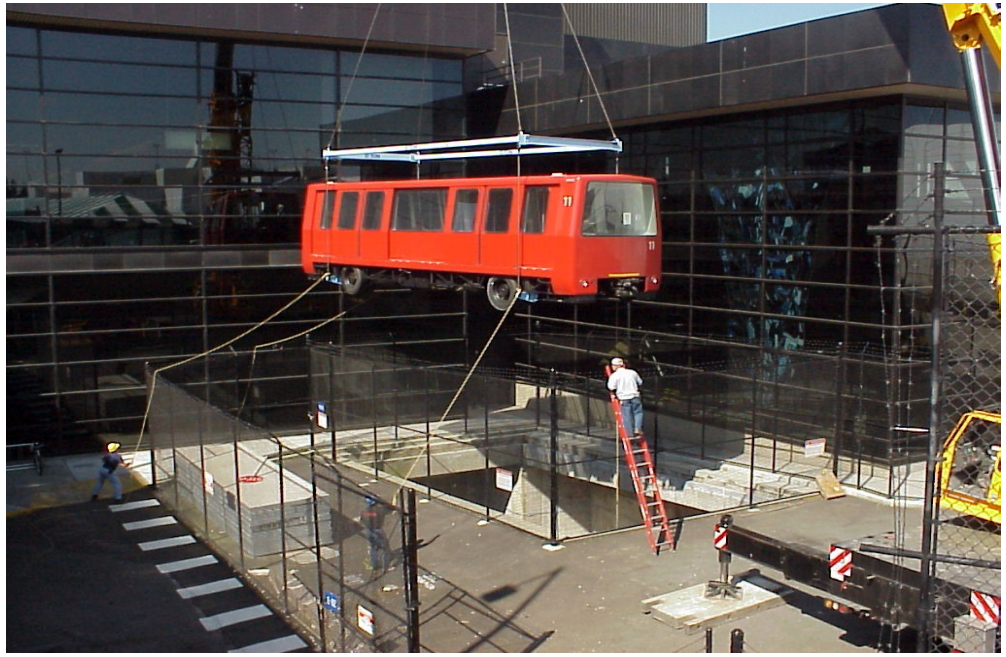
- Design and construction: 1969 - 1972
- Last major upgrade: 1999 - 2003
- 2nd Airport APM in the World*
- 6 Stations with 1.7 Miles of track
- In 2019 the STS carried 28 Million PAX
- Replacement expected by 2034



# Project Purpose

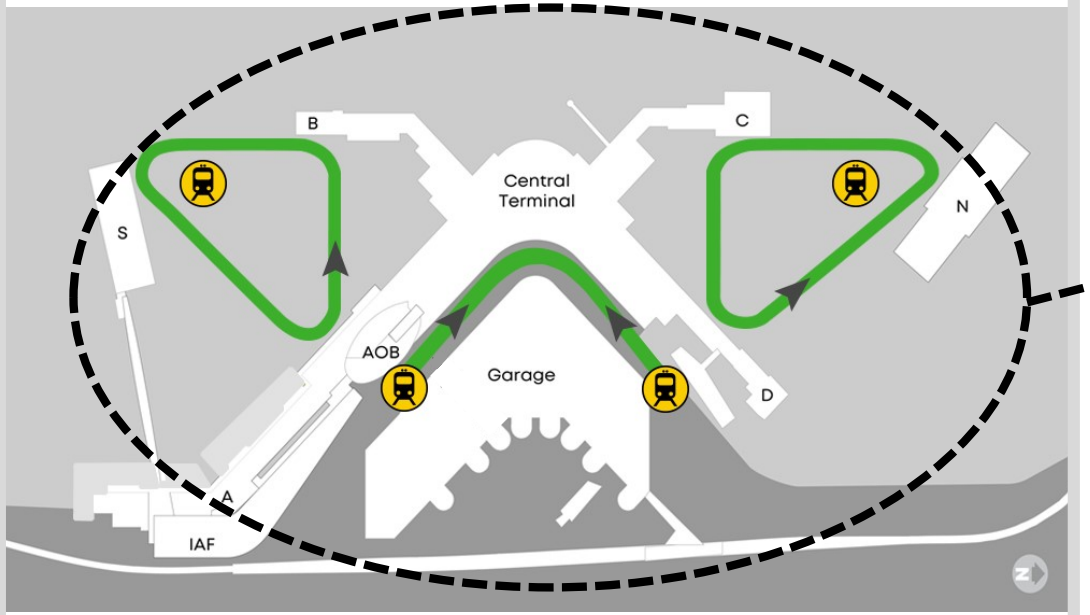
Renewal and replacement project for the STS's Automatic Train Control (ATC) sub-system and associated software, hardware & networks

- Replaces 20 year old critical end of life & obsolete components
- Optimizes STS system capacity
- System recovery time improved
- Project received positive MII vote



# STS Controls Project – Scope

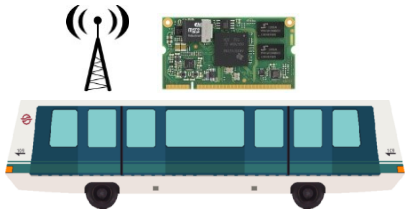
## Construction
## Phase I




Fiber/ Electrical Loop
Network

## Goods & Services
## Phase 2

ATC System
- Software
- Hardware
- Network
- Radios
- Certification



VATC X 21 Cars

Negotiated
Procurement

# Customer Experience

- Planning on limiting STS shutdowns to 6 hour periods
  - 23:00 to 5:00
  - 12 to 15 month requirement
  - Will test on shuttle track when possible
- Dedicated Wayfinding Staff
- Contracted Bus Support

# Risks

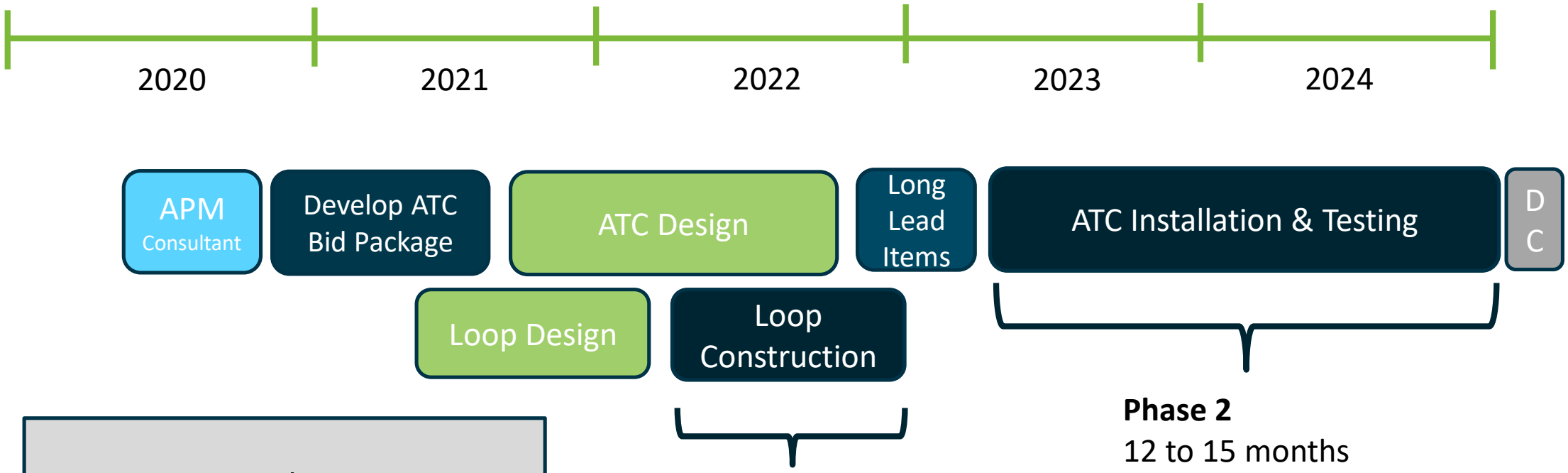
## Major Risks

- Safety: Moving train cars and exposed 600V power rail
- Major impacts to Satellite operations with extended STS outages
- Procurement method (single supplier negotiations)
- Daily transfer between new and old controls systems

## Lessons Learned

- SFO (6 to 17 months, backwards compatibility, # test engineers)
- DFW (1st major airport upgrade of similar system)
- LHR (The same radio replacement strategy)
- 2003 SEA Upgrade (staffing, safety, training)

# Project Timeline




**Phase 1**
1 to 2 months
Satellite Tunnel Impacts
Nightly Busing Operation

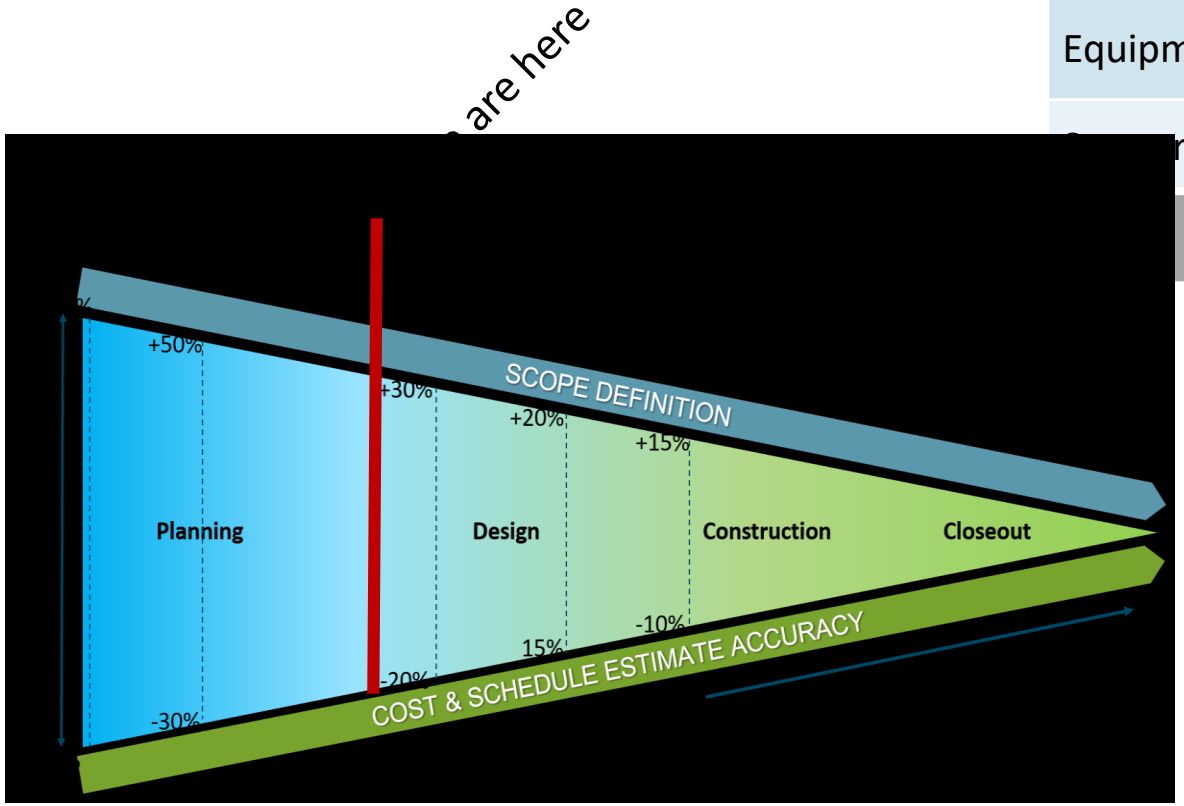
**Phase 2**
12 to 15 months
Satellite Tunnel Impacts
Nightly Busing Operation

Commission Authorizations

| | |
|---|---|
| APM Consultant | July 2020 |
| ATC Procurement | 2021 Q2 |
| Loop Construction | 2021 Q4 |

# Budget

| Cost Breakdown | This Request | Total Project |
|---|---|---|
| Design | $8,775,000 | $9,000,000 |
| Construction | $0 | $8,000,000 |
| Equipment Procurement | $0 | $59,000,000 |
| rt Services | $0 | $3,000,000 |
| | $8,775,000 | $79,000,000 |




Cost Range: $65M - $95M

# STS Asset Management - Long Term

Renewal or Replacement to the Satellite Transit System will be required in the next 10 to 15 years.

- Requires study to evaluate alternative and implementation
- $600M - $800M for a new APM system
- Evaluate alternate technologies
  - Autonomous vehicles
  - High-speed moving walkways
- Alternate passenger movement to Satellites
  - Busing
  - Tunnel / bridge