

Approval of Contract for the Upgrade of Light Rail and Streetcar Vehicle Business System (VBS) Communication to 4G LTE

Administration Committee
July 6, 2021

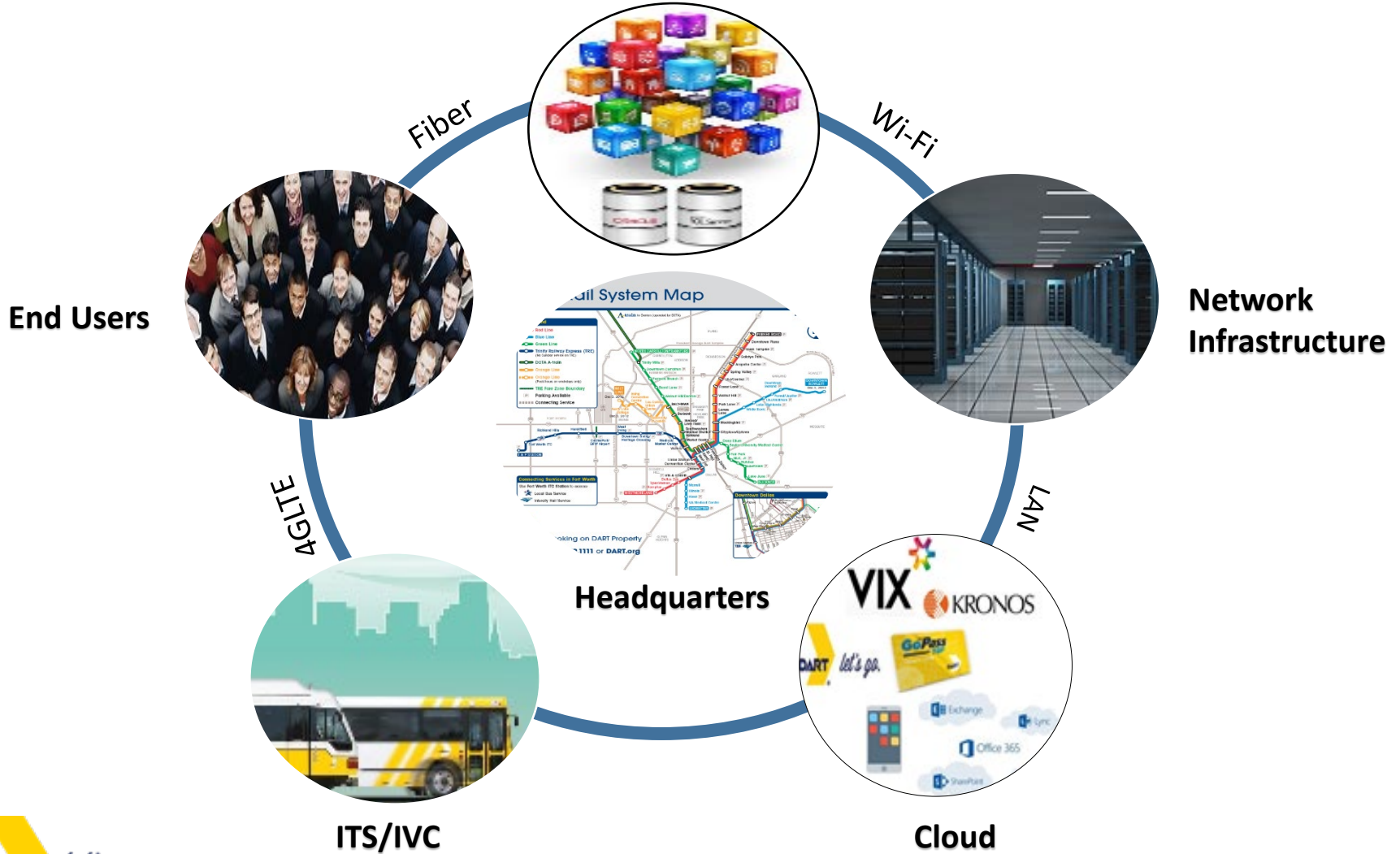
Julius Smith
Vice President, Chief Information Officer



The Big Picture

Digital DART

Applications/Databases



Recommendation

- Recommend Board approval of a resolution authorizing the Interim President & Chief Executive Officer or her designee to award a contract with Innovations in Transportation (INIT) Inc. to upgrade Light Rail and Streetcar Vehicle Business System (VBS) Communication to 4G LTE for a total authorized amount not to exceed \$1,482,260.

Background

The purpose of this contract is to provide Innovations In Transportation (INIT) Inc. the ability to upgrade Light Rail and Streetcar INIT Vehicle Business System (VBS) Communication to 4G LTE. The benefits of this project include -

- Upgrade Light Rail and Streetcar In-Vehicle computer (Copilotpc) from 2G to 4G LTE for reliable data transfer to the central server
- Enhance Light Rail and Streetcar In-Vehicle computer (Copilotpc) to provide upgraded hardware and security

This project will upgrade 163 Light Rail Vehicle and 4 Streetcar Copilotpcs.

LRV/Streetcar update from 2G to 4G LTE

- DART's Light Rail and Streetcar vehicles use 2G cellular service for communication to provide vehicle location data for travelers.
- In the event of 2G shutdown by the cellular operator, the vehicles will lose communication with the Vehicle Business System (VBS) back-end server.
- Most of America's largest carriers have either shuttered their 2G service or planned to shutdown soon.
- 4G LTE communications is proposed instead of 5G. 4G LTE systems have technical longevity, offer plenty of bandwidth for VBS data transfer, are cost-effective.
- 5G has limited coverage today. 5G will take about 3-5 years for full network deployment by the carriers in the area.

LRV/Streetcar Communications Migration

	Current	Proposed 4G LTE Upgrade
Cellular Service	2G GPRS	4G LTE
Service longevity	Service already shut down, or planned shut down in 2022	No shut down date announced (Approx. 4-10 years before shut down)
Data transmission rates (Bandwidth)	Up to 64 Kbps	Up to 100 Mbps
Hardware	INIT Copilotcp1 (Legacy OS)	INIT Copilotpc3 (Update OS)
Benefits	<ul style="list-style-type: none"> - Vehicle location update using 2G for Traveler Apps - Current on-board schedule update using wireless LAN 	<ul style="list-style-type: none"> - Vehicle location update using 4G LTE for Traveler Apps - Future capability of on-board schedule updates over 4G LTE, in addition to wireless LAN

Procurement Process

Statement of Work Completed

Developed Independent Cost Estimate (ICE)

Sole Source Justification Letter to Procurement

Submitted ePR to Procurement

Price Analysis

Contract Negotiation

Contract Scope

- Contract to upgrade Light Rail (163) and Streetcar (4) Vehicle Business System (VBS) Communication to 4G LTE
- Contract total cost NTE \$ 1,482,260
- Proposed Vendor Innovation in Transportation (INIT), Inc.
- Cost & Price considerations:
 - Cost and price is fair and reasonable based on historic prices paid by DART for similar services, the Independent Cost Estimate, and market analysis
- Use of Sole Source Procurement
- Included in Technology Capital budget for FY2021
- Definite quantity/definite delivery Contract



Innovations in Transportation Inc.

INIT is a worldwide leading supplier of IT solutions for public transport.

Provide transit solutions for planning & dispatching, operations, control & real-time passenger Information service and maintenance.

Leader in automatic passenger counting (APC) technology.

Projects in transit agencies:
Houston/TX, Seattle/WA, Portland/OR , Denver/CO,
New York City/NY.

Integrate CAD/AVL system on DART LRV, TRE, Streetcar Fleet (2007-2014) – Installation of the APC on 21 LRV vehicles (2019).

Consistent ownership since 1983, Profitable, debt-free company.



Recommended Contract Award for Board Approval

Approval of a resolution to:

- Authorize the Interim President & Chief Executive Officer or her designee to award a contract with Innovations in Transportation Inc. (INIT) to upgrade Light Rail and Streetcar Vehicle Business System (VBS) Communication to 4G LTE for a total authorized amount not to exceed \$1,482,260

Approval of this contract:

- Approval of this contract will support the achievement of DART Board FY2021 Strategic Priority 1: Enhance the service and safety experience through customer focused initiatives, and Priority 2: Demonstrate stewardship of the transit system, agency assets and financial obligations



Thank you

