Northern Virginia Transportation Authority
The Authority for Transportation in Northern Virginia

FY 2015-16 PROJECT DESCRIPTION FORM (9F)

Basic Project Information

Submitting Agency: Arlington County

Project Title: Glebe Road Corridor Intelligent Transportation Systems (9F)

Project Type *(check one)*:
Roadway (X) Transit ( )

VA State Route Number (if applicable) and NVTA Corridor Number (1-8): Route 120, NVTA Corridor 9

1. **Project Description:** The Intelligent Transportation System (ITS) and Adaptive Traffic Control System program are adaptive responsive traffic control system(s) that help monitor real time traffic conditions, including volume, speeds, delays and queues. The system automatically optimizes the traffic signal timings depending upon the real time traffic situations. The system also helps monitor and adjust the operation of traffic signals during emergency situations and facilitates the smooth operation of evacuation routes. The system reduces the delay timings and facilitates safe crossing of pedestrians at the intersections. Overall it helps reduce greenhouse gas emissions and improve safety on the County roadways including pedestrian and bicycle traffic.

   The system includes hardware and software for real time traffic data collection, Forward Looking Infra Red (FLIR) traffic detection, 3D pedestrian and bike detection for safe crossings, interactive audible ADA accessible pedestrian crossings, CCTVs for traffic monitoring and operation, backup power supply information systems, queue detections, dynamic message signs for real time travel information and amber alerts, emergency and transit vehicle operations. The application of ITS and adaptive responsive traffic signal systems become is due to newly installed County Fiber (backbone) based communication system.

2. **Requested NVTA Funds:** $2 million

3. **Phase(s) of Project Covered by Requested NVTA Funds:** Design and construction

4. **Total Cost to Complete Project:** $2 million

5. **Project Milestone -Study Phase:** Start of Study - Complete

6. **Project Milestone -Preliminary Engineering (30% Design):** Start of PE July 2016

7. **Project Milestones -Final Design:** Start of Final Design - January 2017

8. **Project Milestones -Right-of-Way:** ROW acquisitions completed - N/A

9. **Project Milestone – Construction:** Start of Construction - June 2017

10. **Project Milestone – Mass Transit Vehicle Acquisition:** Start of Construction N/A

11. **Is Project in Transaction 2040:**
    Yes (X) No ( )

12. **Project in 2010 CLRP: N/A**

13. **Project Leverages other Funding:** (please state amount)
    - Local (X)
    - State ( )
    - Federal ( )
    - Other:

Stated Benefits

- **What Regional benefit(s) does this project offer?**
  - Reduction in travel time – Minimum 13% reductions in travel time is expected
  - Saving in fuel consumption – Average annual fuel savings per signal 8,395 gallons
  - Average annual savings per signal at $30K
  - Corresponding savings in pollutant emissions
  - Improved transit operation will result in decreased traffic volume on Glebe Road
  - Reduced congestion resulting in safety benefits
  - Improved pedestrian / bike safety and operation
  - Improved reliability of the system
  - Improved emergency operation of the system
  - Facilitate emergency evacuations
  - Greatly facilitate the operation of traffic on connected corridors; Route 123, 29, 50, 244 and Route 1
  - Incident management – improved response time

- **How does the project reduce congestion?**
  The system will be fully adaptive and responsive to real time traffic situations. The system will reduce the wastage of green band and will assign green times based on actual demand patterns in the field. In order to reduce congestion the adaptive system will be capable of automatically implementing following traffic signal timing strategies:
  - Yield time
  - Dynamic max
  - Coord adaptive split
  - Virtual split

- **How does project increase capacity? (Mass Transit Projects only)**
  N/A

- **How does project improve auto and pedestrian safety?**
  - Safety is improved by reduction in congestion and travel times, by improving the level of service
  - By providing transit priority and queue jumps at selected locations
  - By providing advance travel information to the pedestrian through VMS
  - By providing emergency preemption system, thus improving incident managements and response time
  - By providing automatic pedestrian and bike detection systems throughout corridor
  - ADA accessibility and pedestrian safety is also improved by providing audible interactive countdown type of pedestrian crossing systems
  - Improving reliability of the system
  - CCTVs help identify incident for a better response

- **List internet links below to any additional information in support of this project:**