VDOT Virginia Department of Transportation

Northern Virginia

ITS Projects – Systems Engineering and Architecture Compliance (Rule 940) Checklist

**This Checklist to be filled out by VDOT-NoVA's ITS / Operations'
Planning Staff and Project Manager.**

Project Name:		
Date	Name of Person Filling/Modifying the Form	Notes

ITS Projects – Systems Engineering and Architecture Compliance (Rule 940) Checklist

SECTION 1 – Project Information

1.1 PROJECT TITLE	1.2 PROJECT NUMBER ☐ New Project ☐ Modification to existing Project

1.3 BRIEF DESCRIPTION/PURPOSE

1.4 CONTACT PERSON/GROUP	1.5 PROJECT LOCATION	1.6 PERIOD OF PERFORMANCE	1.7 BUDGET & FUNDING SOURCE

1.8 NATURE OF WORK
☐ Scoping ☐ Design ☐ Software/Integration ☐ Implementation ☐ Operations ☐ Evaluations ☐ Others (Please specify)
If Other, Please Specify

1.9 RELATIONSHIP TO OTHER PROJECTS AND PHASES

1.10 EQUIPMENT TO BE PURCHASED WITH PROJECT FUNDING

1.11 STATUS ☐ CCB Approval ☐ STOB Approval ☐ Environmental Clearance, If applicable	☐ TIP/STIP Amendment ☐ FHWA Authorization

1.12 IS THERE A WORK PLAN FOR THIS PROJECT WITH TASK BREAKDOWN?
☐ No
☐ Yes, Provide Document Reference
☐ To Be Developed

SECTION 2 – Needs Assessment

2.1 WHAT IS/ARE THE PROBLEM(S) WITH THE CURRENT SITUATION?

2.2 WHAT NEEDS DOES THIS PROJECT ADDRESS?

2.3 HOW WERE THESE NEEDS IDENTIFIED?
☐ Internal VDOT Assessment ☐ Stakeholder Involvement ☐ From Technical Reviews or other studies ☐ Other

Please provide details on how needs were identified – If other documentation was used as reference, please identify it here.

SECTION 3 – Regional Architecture Assessment and Concept Exploration

3.1 STAKEHOLDERS IN VDOT REGIONAL ARCHITECTURE INCLUDED BY PROJECT

Turbo Architecture – "Stakeholder Report" ☐ Attached ☐ Unavailable

3.2 INVENTORY ELEMENTS IN VDOT REGIONAL ARCHITECTURE INCLUDED BY PROJECT

Turbo Architecture – "Inventory Report" ☐ Attached ☐ Unavailable

3.3 INTERFACE IMPACTS (I.E DATA EXCHANGES) DUE TO PROJECT. PORTIONS OF ARCHITECTURE BEING IMPLEMENTED

Turbo Architecture – "Project Architecture Report"   ☐ Attached ☐ Unavailable
Turbo Architecture – "Interconnect and Flow Diagrams" ☐ Attached ☐ Unavailable

3.4 OTHER REGIONAL ARCHITECTURES IMPACTED BY PROJECT
☐ DC Region (MWCOG) ☐ Maryland ☐ Other VDOT Districts ☐ VDOT Statewide ☐ None

Changes communicated to appropriate architecture maintenance agencies ☐ No ☐ Yes

3.5 CHANGES RECOMMENDED TO VDOT NOVA and/or REGIONAL ARCHITECTURES
☐ No ☐ Yes

If "Yes", Please Specify and provide detail

Turbo Architecture – "Region to Project Comparison Report" ☐ Attached ☐ Unavailable

SECTION 4 – Alternative Analysis

4.1 WERE ANY ALTERNATE CONCEPTS/IDEAS CONSIDERED? ANY OTHER SOLUTIONS TO THE PROBLEM?
☐ No   ☐ Yes

Please Specify how the best concept was selected

4.2 REFERENCE DOCUMENTS (IF ANY)

SECTION 5 – Concept of Operations

5.1 IS THERE A CONCEPT OF OPERATIONS (COO) FOR THIS PROJECT?
☐ No   ☐ Yes ☐ To Be Developed

If "No" was selected, please specify reason

5.2 IF "Yes" WAS SELECTED, PLEASE FILL OUT THE FOLLOWING
COO Contains:

	Yes	No
- Scope (Geographic, Timeframe, Region etc)	☐ Yes	☐ No
- Description of what the project/system is expected to do	☐ Yes	☐ No
- Roles and Responsibilities for all stakeholders	☐ Yes	☐ No
- Operational Scenarios	☐ Yes	☐ No
- Project/System Impacts	☐ Yes	☐ No

If "No" was checked in any of the boxes, please specify reason

5.3 PLEASE PROVIDE COO DOCUMENT REFERENCE IF AVAILABLE

Turbo Architecture – "Roles and Responsibilities Report" ☐ Attached ☐ Unavailable

SECTION 6 – Requirement Definitions (High-Level and Detailed)

6.1 ARE HIGH-LEVEL FUNCTIONAL REQUIREMENTS WRITTEN AND DOCUMENTED
☐ No   ☐ Yes   ☐ To Be Developed

6.2 IF "Yes" WAS SELECTED, PROVIDE REQUIREMENTS DOCUMENT REFERENCE IF AVAILABLE

Turbo Architecture – "Functional Requirements Report" ☐ Attached ☐ Unavailable

SECTION 7 – Detailed Design

7.1 IS THERE A DESIGN DOCUMENT AVAILABLE
☐ No   ☐ Yes   ☐ To Be Developed

Please provide reference to design document

7.2 IF "YES" WAS SELECTED, PLEASE FILL OUT THE FOLLOWING

	Yes	No
Are the design details well documented	☐	☐
Do the details of the design trace to requirements definitions	☐	☐
Are boundaries and interfaces of the system clearly identified	☐	☐
Is there a process for Configuration Control	☐	☐

If No was checked in above boxes , please provide an explanation

7.3 DOES THE DESIGN INCORPORATE NATIONAL ITS STANDARDS
☐ No   ☐ Yes

IF YES, Please mention what ITS Standards are being used

Turbo Architecture – "Standards Report" ☐ Attached ☐ Unavailable

7.4 DOES THE DESIGN INCORPORATE ANY VDOT ENTERPRISE STANDARDS
☐ No   ☐ Yes,

IF Yes, Please mention what VDOT Enterprise Standards are being used

SECTION 8 – Implementation

8.1 PROCUREMENT DETAILS

8.2 REFERENCE DOCUMENTS (IF ANY)

SECTION 9 – Integration and Test

9.1 IS THERE AN INTEGRATION PLAN
☐ No   ☐ Yes   ☐ To Be Developed

If "Yes" Please provide reference

9.2 IS THERE A TEST PLAN
☐ No   ☐ Yes   ☐ To Be Developed

If "Yes" Please provide reference

SECTION 10 – System Verification and Acceptance

10.1 IS THERE A SYSTEM VERIFICATION AND ACCEPTANCE PLAN (verification of the entire system and acceptance criteria)

☐ No   ☐ Yes   ☐ To Be Developed

If "Yes" Please provide reference

10.2 IF YES, PLEASE FILL OUT THE FOLLOWING

– Is there a clear criteria for completion	☐ Yes ☐ No
– Are there clear performance metrics for system acceptance	☐ Yes ☐ No
– Will there be adequate system documentation for all users and maintainers	☐ Yes ☐ No

If No was checked in above boxes , please provide an explanation

SECTION 11 – Operations and Maintenance

11.1 WHO WILL MAINTAIN THE SYSTEM

11.2 IS THERE A SCHEDULE FOR UPGRADES/ENHANCEMENTS TO THE SYSTEM

11.3 WILL THERE BE AN EVALUATION OF THE SYSTEM

Please email NOVASmartTravel@VDOT.virginia.gov with questions or comments about this guide.