

Attachment 10

Responsibility Matrix

Attachment 10 - Responsibility Matrix

Work Item:
1 = Design
2 = Furnish and Install
3 = Operations & Maintenance
Responsibility:
A = Primary Responsibility – The party has the primary responsibility for completion of the item.
B = Support / Coordination – The party provides either support or coordination to assist the primary responsible party with successful completion of the item.
C = No Responsibility – The party has no action for the item.

Item	Element / Task / Component / Sub-system Description	Constructor			Contractor			NCTA Program Management			NCTA TRTMC & STOC			NCTA Back Office			Primary Law Enforcement Agency (NCSHP or Local PD)		
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
1.	Oversight of all aspects of operations to ensure all parties are coordinated and performing to expectations.	C	C	C	C	C	C	A	A	A	C	C	C	C	C	C	C	C	C
2.	Define the tolling business rules and tolling policies for the NCTA Roadways.	C	C	C	B	B	B	A	A	A	B	B	B	B	B	B	B	B	B
3.	Toll gantries and foundations. (Complete 540 only)	A/B	A	B	B	B	B	A	B	A	C	B	B	C	C	C	C	C	C
4.	Poles, and overhead and side-mount structures for supporting static signs, dynamic message signs (DMS) and other ITS devices. (Complete 540 only)	A/B	A	B	C	C	C	B	B	A	B	B	B	C	C	C	C	C	C
5.	Digital Video Audit Subsystem	C	C	C	A	A	A	A	B	A	C	B	B	C	C	C	C	C	C
6.	Power distribution services and power assets to all locations including, but not limited to signing locations, vehicle detection sites, and RTCS locations. (Complete 540 only)	A/B	A	B	C	B	A	A	B	B	B	B	B	C	C	C	C	C	C
7.	All WAN/LAN/MAN network communications equipment and wiring for the RTCS as shown in Attachment 12: Communications Schematic.	B	B	B	A	A	A	B	B	B	C	B	B	B	B	B	C	C	C
8.	Incident Management services for the NCTA Roadway.	C	B	C	B	B	B	B	B	B	A	A	A	C	C	C	B	B	B
9.	Upgrade the traffic management software used in the TMC.	C	C	C	C	C	B	B	B	B	A	A	A	C	C	C	B	B	B
10.	Manage traffic alert messages on the DMS, 511 North Carolina and project web site.	C	B	C	C	B	B	B	B	B	A	A	A	C	C	C	B	B	B
11.	Aggregate, interpret and distribute traffic flow information from traffic detectors.	C	C	C	C	C	C	A	A	A	A	A	A	C	C	C	C	C	C
12.	Revise and maintain the NCTA/NC DOT websites with current traffic conditions, advisory sign messages, and camera feeds. The websites will also provide information on how to sign up for NC QuickPass accounts.	C	C	C	B	B	B	A	A	A	B	B	B	B	B	B	C	C	C
13.	Maintain the roadside traffic management equipment, including DMS signs, CCTV cameras, RWIS, detectors and toll network communications.	C	C	C	C	C	A	B	B	B	A	A	B	C	C	C	B	B	B

Attachment 10 - Responsibility Matrix

Item	Element / Task / Component / Sub-system Description	Constructor			Contractor			NCTA Program Management			NCTA TRTMC & STOC			NCTA Back Office			Primary Law Enforcement Agency (NCSHP or Local PD)		
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
14.	Operate the Safety Service Patrol.	C	C	C	C	C	C	B	B	B	A	A	A	C	C	C	B	B	B
15.	Maintain the roadway and roadside structures.	C	B	C	C	C	C	A	A	A	B	B	B	C	C	C	C	C	C
16.	Maintain the Roadway Toll Collection System.	C	C	C	A	A	A	B	B	B	C	C	C	C	C	C	C	C	C
17.	System reports for performance including traffic flow, incidents history, traffic & revenue, AVI penetration rates, image processing quality, and equipment and maintenance performance.	C	C	C	A	A	A	B	B	B	B	C	B	C	C	C	C	C	C
18.	Law enforcement patrols and assistance to motorists in distress.	C	C	C	C	C	C	B	B	B	B	B	B	C	C	C	A	A	A
19.	RTCS Design, Installation Drawings, and System Documentation for Roadside and Roadway Support Systems.	C	B	C	A	A	A	B	B	B	C	C	C	C	C	C	C	C	C
20.	RTCS toll equipment buildings/vaults. (Complete 540 only)	A/B	A	C	B	B	A	A	B	B	C	B	B	C	C	C	C	C	C
21.	RTCS equipment cabinets on the roadway and gantries as needed.	B	C	C	A	A	A	B	B	B	C	C	C	C	C	C	C	C	C
22.	Conduit, junction boxes, pull boxes, etc. from toll equipment buildings/vaults and cabinets to toll gantries, including loop/lead-in boxes. (Complete 540 only)	B	A	B	B	B	A	A	B	B	C	B	B	C	C	C	C	C	C
23.	All RTCS equipment and mounting hardware, excluding the AVI readers/antennas.	C	C	C	A	A	A	B	B	B	C	C	C	C	C	C	C	C	C
24.	Equipment brackets and mounting hardware for overhead toll equipment on toll gantries, for both existing and newly constructed gantries.	C	B	C	A	A	A	B	B	B	C	C	C	C	C	C	C	C	C
25.	All RTCS equipment installations, terminations, and connections, including DVAS	C	C	C	A	A	A	B	B	B	C	B	B	C	C	C	C	C	C
26.	Any required in-pavement toll equipment.	B	B	C	A	A	A	B	B	B	C	B	B	C	C	C	C	C	C
27.	Power, UPS and network communications from demarcation point in toll equipment buildings/vaults and cabinets to overhead toll equipment, in-pavement toll equipment and DVAS cameras.	C	C	C	A	A	A	B	B	B	C	B	B	C	C	C	C	C	C
28.	NCTA Interoperable Partner compatible tri-protocol readers and Automatic Vehicle Identification (AVI) System as selected by NCTA.	C	C	C	B	B	B	A	A	A	C	C	C	C	C	C	C	C	C
29.	Automatic Vehicle Detection and Classification (AVDC) System.	C	C	C	A	A	A	B	B	B	C	C	C	C	C	C	C	C	C
30.	Digital Video Audit System (DVAS) with overview cameras of each RTCS tolling zone.	C	C	C	A	A	A	B	B	B	C	C	C	C	C	C	C	C	C
31.	Maintenance of Traffic (MOT) for Civil Contractor items of work.	A	A	A	B	B	B	B	B	B	B	B	B	C	C	C	B	B	B

Attachment 10 - Responsibility Matrix

Item	Element / Task / Component / Sub-system Description	Constructor			Contractor			NCTA Program Management			NCTA TRTMC & STOC			NCTA Back Office			Primary Law Enforcement Agency (NCSHP or Local PD)		
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
32.	Management of Traffic (MOT) during RTCS installation and maintenance.	B	B	B	A	A	A	B	B	B	B	B	B	C	C	C	B	B	B
33.	Image Capture and Processing Systems (ICPS) including front & rear cameras, lighting, lighting sensors, and accurate and timely image processing.	C	C	C	A	A	A	B	B	B	C	C	C	B	B	B	C	C	C
34.	Verified License Plate (LP) values and jurisdictions using a combination of OCR/ALPR (optional) and manual image review for all image-based transactions and images presented to NCTA CSC Back Office.	C	C	C	A	A	A	B	B	B	C	C	C	B	B	B	C	C	C
35.	Use the verified LP values presented to the NCTA CSC Back Office to determine possible image-based toll (I-Toll) associations for transponder misreads for transaction formation before sending "Bill-by-Mail" notices and to provide transaction dispositions to the RTCS.	C	C	C	B	B	B	B	B	B	C	C	C	A	A	A	C	C	C
36.	MOMS, integrated with the RTCS for sending real-time alerts and for logging maintenance records.	C	C	C	A	A	A	B	B	B	C	C	C	B	B	B	C	C	C
37.	Wrong Way Vehicle detection at existing and new toll sites, integrated with the RTCS for sending real-time alerts, images, and video and interfaces to Wrong Way signs on the roadway.	C	C	C	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B
38.	Wrong Way Vehicle detection signs, sensors and communication tie-ins at selected toll sites.	C	A	C	B	B	A	A	B	B	B	B	B	B	B	B	B	B	B
39.	Wrong Way Vehicle detection signs, sensors and communication tie-ins at selected non-toll sites.	C	A	C	B	B	A	A	B	B	B	B	B	B	B	B	B	B	B
40.	Integration of the Wrong Way Vehicle detection at existing and new non-toll sites into the RTCS for sending real-time alerts, images, and video and interfaces to Wrong Way signs on the roadway.	C	C	C	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B
41.	Facilities for Disaster Recovery Roadway Support Systems.	C	C	C	A	A	A	B	B	B	B	B	B	C	C	C	C	C	C
42.	Network communications equipment (including all switches) for Roadway Support Systems (excluding long haul SMFO fiber).	C	C	C	A	A	A	B	B	B	B	B	B	C	C	C	C	C	C
43.	Roadway Support Systems equipment and software in primary and DR locations.	C	C	C	A	A	A	B	B	B	C	C	B	B	B	B	C	C	C
44.	Interface between RTCS and the NCTA CSC Back Office.	C	C	C	A	A	A	B	B	B	C	C	B	B	B	B	C	C	C
45.	Responsible for issuing AVI transponders, for providing account maintenance services, and for providing the transponder status list for all NCTA and compatible transponders on a daily (bulk) and incremental basis throughout each day.	C	C	C	B	B	B	B	B	B	C	C	C	A	A	A	C	C	C
46.	Responsible for processing all fully-formed toll transactions including AVI and image-based transactions presented from the RTCS.	C	C	C	B	B	B	B	B	B	C	C	C	A	A	A	C	C	C
47.	Responsible for processing the posting disposition from the NCTA Back Office for all toll transactions sent to the NCTA Back Office for reporting and reconciliation purposes.	C	C	C	A	A	A	B	B	B	C	C	C	B	B	B	C	C	C
48.	Responsible for providing all collection efforts for all image-based toll transactions and associated selected images presented from the RTCS including generating and mailing "Bill-by-Mail" invoices, processing payments and dispute resolution.	C	C	C	B	B	B	B	B	B	C	C	C	A	A	A	C	C	C

Attachment 10 - Responsibility Matrix

Item	Element / Task / Component / Sub-system Description	Constructor			Contractor			NCTA Program Management			NCTA TRTMC & STOC			NCTA Back Office			Primary Law Enforcement Agency (NCSHP or Local PD)		
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
49.	Coordination and suspension of tolls during incidents per the NCDOT-approved operating procedures.	C	C	C	B	B	B	B	B	B	A	A	A	C	C	C	C	C	C
50.	Site work, including earthwork, grading, paving, barrier, retaining walls, and drainage throughout the corridor.	A/B	A	B	C	B	B	A	B	A	B	B	B	C	C	C	C	C	C
51.	Responsible for immediately updating MOMs as ITS devices are added or taken out of service on NCTA facilities.	C	C	C	A	A	A	B	B	B	B	B	B	C	C	C	C	C	C
52.	Responsible for integrating existing TRTMC/STOC RTCS workstations into the new RTCS network.	C	C	C	A	A	A	B	B	B	B	B	B	C	C	C	C	C	C
53.	Metro Area Network (MAN) physical network from vault to vault. (Complete 540 only)	B	A	C	B	B	A	A	B	B	B	B	B	C	C	C	C	C	C
54.	Tested SMFO cable interconnecting all toll and ITS nodes.	A	A	C	B	B	A	B	B	B	B	B	B	C	C	C	C	C	C
55.	Ethernet hub and core switches for ITS network. (Complete 540-new and Tri-Ex-retrofit)	C	C	C	C	C	C	B	B	B	A**	A**	A**	C	C	C	C	C	C
56.	Ethernet edge switches for ITS network devices. (Complete 540-new and Tri-Ex-retrofit)	C	C	C	C	C	A^^	B	B	B	A**	A**	B	C	C	C	C	C	C
57.	Ancillary equipment such as cabinet, power, lightning/surge protection, etc. for all ITS devices (Complete 540 only)	A	A	C	B	B	A	B	B	B	B	B	B	C	C	C	C	C	C
58.	Ancillary equipment such as cabinet, power, lightning/surge protection, etc. for all ITS devices (Tri-Ex only)	C	C	C	C	C	A	B	B	B	B	B	B	C	C	C	C	C	C
59.	Out of pavement detection sensors. (Complete 540-new; Tri-Ex-retrofit)	C	C	C	A	A	A	B	B	B	B	B	B	C	C	C	C	C	C
60.	Poles and foundations for ITS devices. (Complete 540)	A	A	C	B	B	B	B	B	A	B	B	B	C	C	C	C	C	C
61.	Poles and foundations for ITS devices. (Tri-Ex)	C	C	C	C	C	C	B	B	A	B	B	B	C	C	C	C	C	C
62.	All-digital 1080p high-definition CCTV cameras (Complete 540-new; Tri-Ex-retrofit)	C	C	C	A	A	A	B	B	B	B	B	B	C	C	C	C	C	C
63.	Roadway Weather Information System sensors (Complete 540-new; Tri-Ex-retrofit)	C	C	C	A	A	A	B	B	B	B	B	B	C	C	C	C	C	C
64.	Dynamic Message Sign (sign cabinet, controllers, LED modules, etc.) (Complete 540)	A	A	C	B	B	A	B	B	B	B	B	B	C	C	C	C	C	C
65.	Dynamic Message Sign (sign cabinet, controllers, LED modules, etc.) (Tri-Ex)	C	C	C	C	C	A	B	B	B	B	B	B	C	C	C	C	C	C
66.	Upgrades to the Activu video wall processors to allow all NCTA and NCDOT digital video feeds to be displayed on the STOC/TRTMC video wall.	C	C	C	C	B	A	B	B	B	A**	A**	B	C	C	C	C	C	C
67.	Maintenance of existing NCTA/NCDOT Video Wall and associated Activu support equipment.	C	C	C	C	C	A	B	B	B	B	B	B	C	C	C	C	C	C

Attachment 10 - Responsibility Matrix

Item	Element / Task / Component / Sub-system Description	Constructor			Contractor			NCTA Program Management			NCTA TRTMC & STOC			NCTA Back Office			Primary Law Enforcement Agency (NCSHP or Local PD)		
		1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3
68.	Displays and communications equipment at the NCTA offices in the Highway Building allowing display of RTCS GUIs	C	C	C	B	A	A	A	B	B	B	B	B	C	C	C	C	C	C
<u>69.</u>	<u>Maintenance of conduit, junction boxes, pull boxes, etc. for all ITS and Tolls Network civil infrastructure (Tri-Ex and Complete 540).</u>	<u>C</u>	<u>C</u>	<u>C</u>	<u>C</u>	<u>C</u>	<u>A</u>	<u>C</u>	<u>C</u>	<u>B</u>	<u>C</u>	<u>C</u>	<u>B</u>	<u>C</u>	<u>C</u>	<u>C</u>	<u>C</u>	<u>C</u>	<u>C</u>

** Denotes responsibility of NCDOT IT.

^^ NCDOT IT would provide switches, Contractor would install