Texas Department of Transportation
Book 2 - Technical Provisions

IH 35E Managed Lanes Project

Attachment 21-1

Toll Systems Responsibility Matrix

ATTACHMENT 21- 1

Texas Department of Transportation **Toll Systems Responsibility Matrix**

LEGEND		Work Description		
Primary Responsibility	A	1	2	3
Support Responsibility	B	Design	Procure	Install and/or Construct
Coordination Responsibility Only	C			
No Responsibility	D			

Element/Task/Component/ Sub-system	D/B CDA Developer (D/B)			System Integrator (SI)			Comments Other Responsibility/Information
	1	2	3	1	2	3	
FACILITIES							
Toll Plaza Layout	C	C	C	~~B~~A	A	A	SI to provide system design. D/B to provide access to SI for construction.
Metered power service to roadside equipment cabinet	~~D~~A	A	A	B	D	C	SI to provide power requirements and special requirement for construction of utilities near toll collection point.
Lighting	A	A	A	B	D	D	SI to provide lighting requirements of toll gantry area such that Developer installed lighting provides gradient through the toll zone and is coordinated with the image capture system.
Toll Gantry Signs	D	D	D	A	A	A	SI to provide and install any signs that will be mounted to a toll gantry.
Complete backup power systems: generators, automatic transfer switches, and fuel tanks	D	D	D	A	A	A	
Foundation and conduits for backup power systems	D	D	C	A	A	A	SI to provide foundations and conduits between foundations.
Uniform Uninterruptible Power Supplies	D	D	C	A	A	A	
Lightning Protection & Grounding	D	D	C	A	A	A	
Duct Bank	A	A	A	B	D	C	D/B to install backbone conduit Duct Bank complete with pull strings.
Fiber Optic cables in Duct Bank for Toll Systems	A	A	A	B	D	C	
Data/Communication service to roadside equipment cabinet	D	D	C	A	A	A	SI to install from duct bank to the roadside equipment cabinet.

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	1	2	3	1	2	3	
Data/Communication wire/fiber from roadside equipment cabinet to toll systems equipment	D	C	C	A	A	A	SI to install from roadside equipment cabinet to toll systems equipment.
Pavement, inclusive of special nonferrous zones and conduit stub outs for in pavement sensors	A	A	A	B	D	C	SI to provide any special requirements for pavement design.
Pavement sensors	B	C	C	A	A	A	D/B to provide access to SI to saw cut and install pavement sensors.
Gantries including special framing for equipment mounts	D	D	C	A	A	A	D/B will coordinate access to roadway for installations.
Toll Equipment mounts on Gantries	D	D	C	A	A	A	D/B will coordinate access to roadway for installations.
Roadside equipment cabinet slabs	D	D	C	A	A	A	D/B will coordinate access to roadway for installations.
Roadside equipment cabinets (including HVAC systems)	D	D	C	A	A	A	D/B will coordinate access to roadway for installations.
Lane Controller Hardware	D	D	C	A	A	A	D/B will coordinate access to roadway for installations.
Communication Equipment	D	D	C	A	A	A	D/B will coordinate access to roadway for installations.
ELECTRONIC TOLL COLLECTION SUB-SYSTEMS (ETC)							
Installation/Electrical Design and Plans	~~C~~B	D	C	A	A	A	D/B to provide toll zone design plans and electrical plans to SI. D/B will coordinate access to roadway for installations.
Automatic Vehicle Classification System and Image Capturing System (ICS) Hardware	~~C~~B	~~C~~D	C	A	A	A	D/B to provide pavement details as needed for SI design efforts. D/B will coordinate access to roadway for installations.

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	1	**2**	**3**	**1**	**2**	**3**	
Roadside Equipment Cabinets	D	D	C	A	A	A	D/B will coordinate access to roadway for installations.
Computer rack system, routers, hubs, switches, firewalls, VPN, modems, patch/distribution panels,	D	D	C	A	A	A	D/B will coordinate access to roadway for installations.
Toll Plaza Host Computer	D	D	C	A	A	A	D/B will coordinate access to roadway for installations.
Back-up Host Computer	D	D	D	A	A	A	
Support equipment at TxDOT or NTTA Customer Service Center	D	D	D	A	A	A	
Workstations/Printers	D	D	D	A	A	A	
Commissioning and Operational Testing	D	D	C	A	A	A	
Lane Controller Software	D	D	D	A	A	A	
Plaza Computer Software	D	D	D	A	A	A	
Host Computer Software	D	D	D	A	A	A	
Toll Collection System Application Software	D	D	D	A	A	A	
Security Access System Software	D	D	D	A	A	A	
Maintenance Online Management System Software	D	D	D	A	A	A	
Factory Acceptance Test	D	D	C	A	A	A	D/B will coordinate access to roadway for testing.
Project Acceptance Test	D	D	C	A	A	A	D/B will coordinate access to roadway for testing.
Training	D	D	D	A	A	A	
Documentation	D	D	D	A	A	A	

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FCC Licenses/Regulations as applies to toll systems	D	D	C	A	A	A	D/B will coordinate access to gather necessary information.
TOLL-RELATED INTELLIGENT TRANSPORTATION SYSTEMS							
Toll Rate Signs – Foundations and Static Sign	A	A	A	B	C	C	
Toll Rate Signs – Digital Elements	B	D	C	A	A	A	
Vehicle Detection Sensors (Shared)	A	A	A	B	C	A	D/B to procure and install for general ITS. D/B to install communication cable to toll network communication cabinet. SI to procure and install toll network cabinet, and connect to toll network.
Travel Time Sensors	A	D	C	B	A	A	SI to provide dimensions of sensor to D/B for incorporation into structural height calculations. D/B to provide access to roadway for installation.
FCC Licenses/Regulations as applies to Travel Time Sensors	A	D	C	B	A	A	D/B to provide location information of travel time sensor locations installations. D/B will coordinate access to gather necessary information.