

All Requirements

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
• TMC: The TOCS System shall support Transportation Management Modules.			SS	0	769
• Transportation Operations Center: The TOCS shall provide functions to support ODOT Transportation Operations Center		R	SS	1	669
• The TOCS shall Track Resources available to operate the transportation system		R	HL	1	753
• The TOCS shall Track People Resources		R	HL	1	759
• TOCS shall enable tracking of available service units by crew or individual ID's	CAD-110	R	ML	1	864
The following detailed requirements are included from list provided by operators- to be re-validated in design phase:					
24. Show a unit enroute					
25. Show a unit arrived					
26. Show a unit cleared					
27. Show a unit cancelled					
28. Show a unit inservice					
29. Show a unit available					
30. Assign a unit travel mode					
31. Assign a unit admin mode					
32. Add radio traffic to unit history (Where does this radio traffic come from? Is this an automated radio traffic record or operator comments referencing a radio communication?)The information comes from the crews themselves. It is info from the field for the live operators. Concerning calls or inc they are on or just information FYI.					
33. Display unit history for current day					
34. Display unit history for other days and times					
• The TOC System shall provide access to crew-based information (similar to on-ramp)	WIN-100	R	HL	1	818
Including: Crew List Crew Notes Call Out Rotations					
• The TOCS shall be capable of measuring assigned resources against available resources. Some will use some won't. Don't make this mandatory.	CAD-1	R	HL	1	12
• The TOCS shall Track Safety of Maintenance Crews & Responders as requested			HL	1	703
• TOCS shall be able to respond to Employee Safety Situations			ML	1	674
• If unable to contact ODOT staff (per EMP-1 and EMP-2), TOCS operators shall be able to manually enter such an event as an "Incident Report".	EMP-3	R	OI		236
• When ODOT staff are in distress (as indicated by current CAD system codes 1298 and 1299), the TOCS shall automatically inform the Oregon State Police of their last known location.	EMP-4	R	ML	3	237
• When ODOT staff are in distress (as indicated by current CAD system codes 1298 and 1299), the TOCS shall automatically display their last known location via a unique icon indication on the graphical map display.	EMP-5	R	ML	3	238

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<ul style="list-style-type: none"> The TOCS shall provide Employee Safety Monitoring functionality for the ODOT Motor Carrier Division staff to the same level as for ODOT operations and maintenance staff. 	EMP-10	R	ML		243
<ul style="list-style-type: none"> The TOCS shall be able to enter status information about select employees. <ul style="list-style-type: none"> The TOCS shall support all existing functionality currently used by ODOT regarding Employee Safety Monitoring. 		R	ML	1	675
<ul style="list-style-type: none"> The TOCS shall Track Vehicle Resources <ul style="list-style-type: none"> The TOCS shall automatically track the current location of ODOT fleet vehicles equipped with AVL technology The TOCS shall provide tracking of all ODOT vehicles throughout the State. <ul style="list-style-type: none"> The TOCS shall support the following ODOT fleet vehicle types as they become equipped with AVL systems: <ul style="list-style-type: none"> -Freeway Service Patrols -COMET vehicles (Portland) -Maintenance crews -Construction vehicles -Snow plows -Winter maintenance vehicles 	EMP-1	R	ML	2	516
		R	HL	3	760
	AVL-1	R	HL	3	448
	FSP-1	R	ML		52
	AVL-6	R	ML		453
<ul style="list-style-type: none"> For Vehicles equipped with AVL and NTCIP DMS signs the TOCS track and indicate there location. 	AVL-2	R	ML	3	449
<ul style="list-style-type: none"> The TOCS shall graphically depict the location of all ODOT fleet vehicles on a map display. <ul style="list-style-type: none"> For AVL-12, the TOCS shall display the vehicle locations on a separate map layer. 	AVL-12	R	ML	2	459
	AVL-12.1	R	ML	2	460
<ul style="list-style-type: none"> The TOCS shall provide communications and data/information flows with all ODOT fleet vehicles equipped with ODOT standard AVL system. <ul style="list-style-type: none"> The TOCS system shall be able to track AVL-equipped vehicles carrying HazMat materials. 	AVL-3	R	ML	2	450
	PV-7	D	ML	3	873
<ul style="list-style-type: none"> The TOCS shall accept standardized AVL formats. <ul style="list-style-type: none"> The TOCS shall accept standardized AVL formats and determine the source(s) of the information. The TOCS shall provide the transmission of on-board roadway and weather sensor data from ODOT fleet 	FSP-10	R	DL		61
	PV-2	HD	ML	2	252
	AVL-7	R	ML	3	454
<ul style="list-style-type: none"> The TOCS system shall support 2-way communications and information flows with existing ODOT AVL systems. <ul style="list-style-type: none"> The TOCS system shall support more that one (1) AVL system simultaneously. 	PV-1	HD	ML		248
	FSP-9	HD	ML		60
<ul style="list-style-type: none"> The TOCS system shall automatically enter/update an incident location into an Incident Report based on ODOT fleet vehicles' AVL system latitudinal and longitudinal coordinates. 	AVL-11	HD	ML		458

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<ul style="list-style-type: none"> The TOCS shall provide the Tracking of ODOT winter maintenance vehicles to support winter maintenance management <ul style="list-style-type: none"> TOCS system operators shall use the AVL system as a Winter Maintenance Management Tool. Explain "Winter Maintenance Management Tool". 			ML	0	697
<ul style="list-style-type: none"> The TOCS shall provide the Tracking of ODOT Incident Response vehicles to support incident management <ul style="list-style-type: none"> The TOCS shall track the locations and message displayed on ODOT Incident Response vehicles. 	AVL-9	D	HL		456
<ul style="list-style-type: none"> The TOCS shall provide 2-way voice communications between a TOC and/or TMOC and the ODOT fleet vehicles. i.e. Radio system. <ul style="list-style-type: none"> The TOCS shall support more than one (1) radio system and/or technology simultaneously. 	FSP-4	R	HL	0	55
<ul style="list-style-type: none"> Track Other Resources <ul style="list-style-type: none"> Need generic ability to categories a resource and track its location and quantity. 	FSP-5	R	ML	0	56
Examples:			HL	1	761
Bailey Bridges, rock crushers.		1	HL	2	825
<ul style="list-style-type: none"> The TOCS shall be capable of displaying the location of all ODOT portable ITS field devices (e.g., CCTV, DMS, HAR, etc.) for which data is available. <ul style="list-style-type: none"> The TOCS system shall be capable of automatically tracking the location of all portable DMS signs (i.e., using AVL system). <ul style="list-style-type: none"> The TOCS shall provide a unique indication (i.e., icon) on the graphical map display/GUI that specifically identifies/locates each DMS sign. The TOCS shall graphically depict the location of all portable DMS signs stationed on ODOT vehicle fleets on a map <ul style="list-style-type: none"> For AVL-14, the TOCS shall display the portable DMS locations on a separate map layer. The TOCS shall allow operator input of location data for portable DMSW signs for tracking and display purposes. (May also apply to ITS devices in general.) 	MAP-33	R	ML	1	367
	DMS-35	HD	ML	3	301
	DMS-7	R	ML	2	266
	AVL-13	R	ML	3	461
	AVL-13.1	R	ML	3	462
	DMS-34	R	ML	3	300
<ul style="list-style-type: none"> The TOCS shall Monitor the Status of the Transportation System <ul style="list-style-type: none"> The TOCS shall provide Traffic Monitoring <ul style="list-style-type: none"> The TOCS shall allow viewing and control of CCTV cameras to support roadway monitoring The TOCS shall support the use of all ODOT fixed Cameras. Both Full motion and still frame for traffic/condition monitoring <ul style="list-style-type: none"> The TOCS shall provide the functionality for data communications and control of ODOT ITS CCTV systems, existing and planned. This CCTV control will be integrated into the TOCS application(s). 		0	HL	1	754
			HL	1	764
		R	HL	0	745
		R	ML	0	258
	CCTV-1	R	ML	1	208

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<ul style="list-style-type: none"> The TOCS shall be capable of supporting # TBD or more individual CCTV cameras expandable to the limits of the system hardware. 	CCTV-1.2	R	ML	3	210
<ul style="list-style-type: none"> The TOCS shall support shared control of a minimum of # TBD CCTV cameras by # TBD different operators at the same time without apparent interference expandable to the limits of the system hardware. 	CCTV-4	R	DL		213
<ul style="list-style-type: none"> The TOCS shall support CCTV control commands (pan, tilt, zoom, etc) by the user. 	CCTV-5	R	ML	2	214
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS system shall communicate simultaneously with all CCTV devices through a common interface so that multiple drivers can be written for different technologies. 	CCTV-1.1	HD	ML		209
<ul style="list-style-type: none"> The TOCS system shall support the use of video multiplexers whereby multiple sources are displayed on the same video output. 	CCTV-13	HD	ML		230
<ul style="list-style-type: none"> The CCTV control GUI shall support current camera functions available at the camera controller, excluding those parameters that may render the camera controller non-functional (e.g., communications address, baud rate). 	CCTV-9	HD	ML		220
<ul style="list-style-type: none"> The TOCS shall support a unique indication (i.e., icon) on the graphical map display/GUI that specifically identifies/locates each CCTV camera. 	CCTV-10	R	ML	2	221
<ul style="list-style-type: none"> A full listing of all CCTV input sources and output display devices shall be provided by the TOCS, such that users may send any input to any output (or a single input to multiple outputs with multiple steps) directly from this list. 	CCTV-11	R	ML	3	224
<ul style="list-style-type: none"> <ul style="list-style-type: none"> CCTV inputs should remain assigned to one or more output displays until overwritten by another input. The TOCS shall automatically drop the current input signal once a new input is specified for any output device. 	CCTV-11.1	R	ML	3	225
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The system shall display to the user which CCTV input is assigned to which output, for all inputs and outputs available within the TOCS system. 	CCTV-11.2	HD	ML		226
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS system shall support: Display and editing of video image labels, using text defined by the System Administrator for each device. Label location within the image should be configurable. Labels shall be inserted such that both exported 	CCTV-11.3	HD	DL		227
<ul style="list-style-type: none"> The TOCS system shall support video image transfers from CCTV cameras those located on FSP vehicles. 	FSP-12	D	ML	3	64
<ul style="list-style-type: none"> The TOCS shall support the use of external agencies Cameras. 		R	ML	0	191
<ul style="list-style-type: none"> The TOCS system shall be capable of sharing video images with other Agencies (e.g., emergency services, police, fire, etc.) 	CCTV-2	HD	ML		211
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS system shall be capable of sharing control (e.g., pan, tilt, zoom, etc.) with other Agencies (e.g., emergency services, police, fire, etc.) 	CCTV-3	HD	ML		212
<ul style="list-style-type: none"> CCTV system shall be capable of manually "blocking" the release/viewing of video images. 	CCTV-7	R	ML	1	218

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<ul style="list-style-type: none"> • CCTV system shall be capable of automatically "blocking" the release/viewing of video images. 	CCTV-8	HD	ML		219
<ul style="list-style-type: none"> • The TOCS system shall provide a video input snapshot utility which allows users to capture a graphic from a single video frame and save this as a (bmp), (jpeg) or (gif) file on the local workstation. 	CCTV-12	D	ML		228
<ul style="list-style-type: none"> • The TOCS will use Traffic Monitoring Stations to determine traffic conditions 		R	HL	3	249
<ul style="list-style-type: none"> • The TOCS shall support Fixed Traffic Monitoring Stations (Detection Stations) 			ML	3	689
<ul style="list-style-type: none"> • The TOCS shall provide a unique indication (i.e., icon) on the graphical map display/GUI that specifically identifies/locates each TMS station.. 	DET-11	R	ML	2	199
<ul style="list-style-type: none"> <ul style="list-style-type: none"> • The TOCS system TMS control GUI shall incorporate the following capabilities: Shall provide a selectable listing of all available TMS, from which users may select, a station directly and view TMS data from that site. 	DET-11.1	HD	ML		200
<ul style="list-style-type: none"> <ul style="list-style-type: none"> • The TOCS system TMS control GUI shall incorporate the following capabilities: Shall provide a GUI for displaying the most recent poll data for a selected station, including a time stamp, the volume during the period, average speed during the period, an 	DET-11.2	HD	ML		201
<ul style="list-style-type: none"> <ul style="list-style-type: none"> • The TOCS system TMS control GUI shall incorporate the following capabilities: Shall include a save function, allowing users to save the data viewed within the GUI. This may include either current poll data or historical, archive data. 	DET-11.3	HD	ML		202
<ul style="list-style-type: none"> • The TOCS shall provide communications and data/information flows with ODOT detection and surveillance systems. 	DET-1	R	ML	1	392
<ul style="list-style-type: none"> <ul style="list-style-type: none"> • The TOCS shall be capable of capturing data from roadway field devices that include information down to the lane 	DET-4	R	ML	2	398
<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> • The TOCS shall provide a data-smoothing algorithm for all detection station data/information returned from the roadway field devices and provide diagnostics indicating error conditions. These smoothing algorithms shall be user-programmable so that the System Administrator can adjust algorithm parameters. 	DET-4.3	R	DL		401
<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> • The TOCS system shall automatically check all TMS data received from the field to ensure valid data. (i.e., range of acceptable values for all data types). (note deletions of solution-specific terms). 	DET-4.3.1	D	ML		203
<ul style="list-style-type: none"> • The TOCS shall support data input from the following data sources for use in travel time detection: -ODOT vehicle fleets equipped with Automatic Vehicle Locations (AVL) systems -Video Image Detection systems (VIDs) -Commercial vehicle fleets equipped with Automatic Vehicle Identification (AVI) systems at weigh stations -Traffic signal control systems' detection systems and/or roadway field devices -Automatic Traffic Recording (ATR) 	DET-6	HD	ML		405
<ul style="list-style-type: none"> • The TOCS system shall support incident reports from motorists via telephone call-ins with voice recognition software. 	DET-7	D	ML		406
<ul style="list-style-type: none"> • The TOCS shall use applicable ITS standards to interface to TMS detection stations. 	DET-8	R	ML	1	407

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<ul style="list-style-type: none"> The TOCS shall be scalable to support statewide detection systems, including the Statewide freeway system, major expressways, and near inter-modal connections (i.e., areas around the ports). <ul style="list-style-type: none"> The TOCS shall support all standard TMS monitoring station data (volume, speed, occupancy). 	DET-2	HD	ML		396
<ul style="list-style-type: none"> The TOCS system shall support the use of portable detection systems in strategic locations. 	IM-4	D	ML	3	79
<ul style="list-style-type: none"> The TOCS shall display traffic conditions collected from the traffic monitoring system via a dynamic map display. <ul style="list-style-type: none"> The TOCS system shall support integration with other Agency GUI/map displays. (The type of integration support is TBD between ODOT and the Agency(ies) in question). 		R	HL	3	796
<ul style="list-style-type: none"> The TOCS system shall support integration with other Agency GUI/map displays. (The type of integration support is TBD between ODOT and the Agency(ies) in question). 	TCS-6	HD	ML	3	871
<ul style="list-style-type: none"> The map shall display dynamic speed/flow segments overlaid on the street and freeway network within the base map. Segments that are linked to specific TMS (configurable by the System Administrator) shall change between # TBD)colors, indicating the values of the data being received by the TMS (i.e. travel speed, flow rate, etc) linked to the segment. For segments not linked to a TMS, manual input of speed/flow conditions by an operator shall be allowed. <ul style="list-style-type: none"> The TOCS system shall support a Local/City/County level graphical map display. 	MAP-23	R	ML	1	357
<ul style="list-style-type: none"> The TOCS system shall support a Local/City/County level graphical map display. 	DATA-9	HD	ML		639
<ul style="list-style-type: none"> The TOCS shall not support the use of ODOT fleet vehicles as roadway speed probes. 	AVL-10	NR	NR	0	457
<ul style="list-style-type: none"> Ability to record images on request. 		R	HL	3	827
<ul style="list-style-type: none"> ✓ The TOCS system shall support the capture of information regarding travel time between weigh stations obtained from Commercial Vehicles. 	DATA-3	HD	HL	3	631
<ul style="list-style-type: none"> The TOCS system shall support automated incident detection. 	IM-93	HD	HL	3	166
<ul style="list-style-type: none"> The TOCS system shall support the use of more than one (1) data source as input to determining an incident. Ambiguous. <ul style="list-style-type: none"> Per data source, the TOCS system shall be capable of setting thresholds in order to determine a potential incident. 	IM-1	HD	DP?		76
<ul style="list-style-type: none"> Per data source, the TOCS system shall be capable of setting thresholds in order to determine a potential incident. 	IM-2	HD	DP?		77
<ul style="list-style-type: none"> Per TOCS system data source, these thresholds shall be configurable parameters determined by operator input. 	IM-3	HD	DP?		78
<ul style="list-style-type: none"> The TOCS system shall communicate simultaneously with all incident management data sources through a common interface so that multiple drivers can be written for different technologies. Ambiguous. 	IM-5	D	DP?		80
<ul style="list-style-type: none"> The TOCS shall do Road and Weather condition monitoring <ul style="list-style-type: none"> The TOCS shall support data entry of the current Road Weather data for road segments by ODOT Maintenance and TOCS operators 		R	HL	3	763
<ul style="list-style-type: none"> The TOCS shall support data entry of the current Road Weather data for road segments by ODOT Maintenance and TOCS operators 			ML	1	840
<ul style="list-style-type: none"> Interface to "earthquake monitoring system" 		R	HL	2	831

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• The TOCS shall provide the display of RWIS data..	RWIS-6	R	HL	4	468
• The TOCS shall provide communications and information flows with all RWIS stations.	RWIS-1	R	ML	2	463
• The TOCS shall not support the integration of ODOT RWIS information with data from NOAA or NWS for weather “forecasting” purposes.	RWIS-14	NR	NR		478
• The TOCS system shall support the integration of ODOT RWIS information with data from NOAA or NWS for weather operations, management, and maintenance purposes (manual or automatic).	RWIS-15	HD	OI		479
• The TOCS shall integrate RWIS station data with ODOT vehicle probe RWIS sensor data (manual or automatic).	RWIS-16	R	ML	3	480
• The TOCS system shall support integration of RWIS data with ODOT maintenance crew roadway and weather reports (manual or automatic). What does “manual or automatic” mean? Is there an integration component?	RWIS-17	HD	ML		481
• The TOCS shall display the location of all RWIS stations as an icon on a map layer.	RWIS-5	R	ML		467
• The TOCS shall support only one (1) RWIS data type display per the RWIS map layer.	RWIS-4	R	ML	2	466
• The TOCS shall provide graphical map displays of all RWIS data on a separate map layer.	RWIS-2	R	ML	2	464
• The RWIS data to be displayed shall be configurable.	RWIS-6.2	R	ML	1	470
• The TOCS shall display RWIS data that meets a user-defined threshold.	RWIS-6.1	R	ML	1	469
• For RWIS-18, The TOCS shall provide a configurable parameter that allows operators to select the RWIS data type.	RWIS-19	R	ML	2	483
• The TOCS shall provide the ability to display weather forecast data from NOAA		R	HL	4	821
• The TOCS system shall visually depict a graphical view of storm fronts augmented with NOAA and/or NWS information. . Explain. Ambiguous.	RWIS-7	HD	ML	3	471
• The TOCS shall provide weather-related alarm notifications for operators.	WIN-4	R	HL	1	487
• The TOCS shall manage alarms from ODOT standard warning systems		R	ML	1	799
• ODOT standard Warning systems will be based on the OPT22 device.		R	ML	1	800
• The TOCS shall manage alarms from ODOT standard wind warning systems		R	ML	1	798

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<ul style="list-style-type: none"> The TOCS shall manage alarms from DOOT standard flood warning systems. 		R	ML	1	797
<ul style="list-style-type: none"> The TOCS shall provide the transmission of RWIS alarm reports. <p>Transmission to whom?</p> <p>What are "alarm reports"?</p> <p>Ambiguous.</p>	RWIS-10	R	ML		474
<ul style="list-style-type: none"> The TOCS shall manage ITS field Devices and Equipment 		R	HL	1	765
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall track and manage VMS/DMS sign messages 		R	HL	1	802
<ul style="list-style-type: none"> The TOCS shall monitor Specialized Devices to alert TOCS operators when conditions of concern arise. 		R	HL	3	794
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall monitor Overheight Bridge Detection equipment and alert TOCS operators, and other predetermined personnel when an Overheight Vehicle is detected. 		D	ML	0	795
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS system shall support data input from the following data sources for use in travel time detection: ODOT vehicle fleets equipped with Automatic Vehicle Locations (AVL) systems Video Image Detection systems (VIDs) Commercial vehicle fleets 	DET-6	R	ML	1	403
<ul style="list-style-type: none"> The TOCS system shall be capable of generating alarms from all ODOT field devices within an ODOT designated zone. 	EMP-6	HD	ML		239
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Per EMP-6, the TOCS shall provide the following functionality: -Display alarm on TOCS workstation screen -Automatically archive information into TOCS database system -Notify construction zone Project Manager 	EMP-7	R	ML		240
<ul style="list-style-type: none"> <ul style="list-style-type: none"> ✓ The TOCS's shall support an automatic interface to the Remedy application. Automatic notification may be based upon thresholds 	DFD-3	R	ML	2	194
<ul style="list-style-type: none"> The TOCS shall track and Manage ODOT standard Devices 		R	HL	1	803
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall provide communications and information flows with existing ODOT systems and/or roadway field devices. 	DFD-1	R	ML	2	189
<ul style="list-style-type: none"> New Requirement-The TOCS shall provide a GUI map for device status and location tracking 	MAP-101		ML	0	846
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall provide a way for users to select which TMS data elements to view 	MAP-18	R	ML	2	352

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<ul style="list-style-type: none"> Data from each device type shall be displayed on the map within its own data layer. The TOCS shall provide user-operated on/off controls for all data layers, accessible with a single user action from any map view. The following layers are to be supported: <ul style="list-style-type: none"> -TMS -CCTV -DMS -HAR -Incidents -Construction Events -Planned Events # TBD additional layers beyond those listed 	MAP-17	R	ML	1	351
<ul style="list-style-type: none"> The TOCS shall provide icons to display location of devices 	MAP-24	R	ML	1	358
<ul style="list-style-type: none"> The TOCS shall provide mouse "fly-over" tags (or "tool tips") for all map icons linked to devices or incident records. 	MAP-27	R	ML	1	361
<ul style="list-style-type: none"> TOCS users shall be able to access device control, configuration, and data view GUI's for specific devices from the TOCS map, by mouse clicking on device icons. 	MAP-34	R	ML	1	368
<ul style="list-style-type: none"> The TOCS shall provide Maintenance functions for Roadside Field Devices <ul style="list-style-type: none"> The TOCS shall include a failure management system to that provides for: <ul style="list-style-type: none"> -Error detection - for all devices where practical -Logging -Notification -Report extraction The TOCS shall monitor ODOT system devices for errors (e.g., CCTV cameras, traffic signal, RWIS stations, ramp meters, etc.) based on set thresholds. <ul style="list-style-type: none"> The TOCS shall automatically generate a "trouble ticket" for notifications received from roadway field devices (per O&M-1). TOCS operators will also be able to manually enter "trouble tickets" for non-electronic field devices. <ul style="list-style-type: none"> The TOCS shall provide a logging or tracking capability that ties/connects into a maintenance or failure log. The TOCS shall perform active status/health checks periodically and notify maintenance and/or issue trouble ticket based on thresholds. <ul style="list-style-type: none"> Per O&M-1, the TOCS shall provide notifications based on time-of-day (TOD) . Per O&M-9, the TOCS shall provide a configurable parameter that allows operators to define trouble ticket threshold(s) for problem report generation. For each trouble ticket, the TOCS system shall maintain the same data fields/entries per roadway field device system. The TOCS system trouble ticket shall maintain the same data fields per roadway field device. 		R	HL	2	705
	DFD-2	R	HL	2	192
	DFD-2.1	R	ML	2	193
	O&M-9	R	HL	2	500
	DFD-5	R	ML	3	196
	DFD-4	R	ML	2	195
	DFD-7	R	ML	3	235
	O&M-11	R	ML	2	502
	O&M-12	HD	ML		503

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<ul style="list-style-type: none"> The TOCS trouble tickets shall remain "open" within the system until specific actions are taken to close the 	O&M-13	R	ML	2	504
<ul style="list-style-type: none"> The TOCS shall provide the automatic transmission of visual and audio alarms (upon reaching a specified threshold which could be unique to each device type) to notify operators on their workstations. <ul style="list-style-type: none"> The TOCS shall provide a configurable parameter/threshold that allows operators to select the alarm report data type to be displayed. 	O&M-21	R	ML	1	512
<ul style="list-style-type: none"> The TOCS shall provide the ability to review the maintenance history of all roadway field devices. <ul style="list-style-type: none"> The TOCS system shall compare roadway field device logs against network logs (automatic and manual). Ambiguous. Explain for what? 	O&M-24	R	ML	1	515
<ul style="list-style-type: none"> The TOCS shall provide the ability to review the maintenance history of all roadway field devices. <ul style="list-style-type: none"> The TOCS system shall compare roadway field device logs against network logs (automatic and manual). Ambiguous. Explain for what? 	O&M-19	R	ML	2	510
<ul style="list-style-type: none"> The TOCS system shall compare roadway field device logs against network logs (automatic and manual). Ambiguous. Explain for what? 	O&M-20	HD	ML		511
<ul style="list-style-type: none"> The TOCS shall provide communications and information flows with all ODOT electronic roadway field devices that provide a "status" indication (automatic and manual). <ul style="list-style-type: none"> TOC/TMOC receive information from the roadway field device/system TOC/TMOC send request to roadway field device 	O&M-1	R	ML	2	492
<ul style="list-style-type: none"> The TOCS system shall support incident-specific signal monitoring to detect flashing red conditions. 	DFD-6	HD	HL	3	247
<ul style="list-style-type: none"> The TOCS shall provide the capability to track the status of manually controlled roadside devices (i.e. Signs that have to be manually uncovered or covered or turned.) 	O&M-99	R	HL	1	665
<ul style="list-style-type: none"> Track highway restrictions, for width, hieghts, and length. 		R	HL	1	826
<ul style="list-style-type: none"> The TOCS shall do Incident Management <ul style="list-style-type: none"> The TOCS shall provide an interface to enable access to LEDS for license and warrant checks. The TOCS shall provide an interface to the OSP CAD system. <ul style="list-style-type: none"> TOCS Interface to OSP will support geo-coding of incidents to match OSP TOCS Interface to OSP will enable two-way transfer of incident records between OSP and ODOT TOC. The TOCS shall provide Towing Dispatch functionality using the OSP Tow rotation system <ul style="list-style-type: none"> The TOCS system shall provide electronic access to the OSP's tow rotation system. TOCS Interface to OSP will enable read data acces to all OSP incidents- both current and archival. 	IPAT-2	R	ML	2	852
	CAD-10	R	HL	1	21
	CAD-103	??	ML	1	850
	CAD-102	R	ML	1	849
	TOW-100	R	HL	1	702
	TOW-1	HD	ML	1	187
	CAD-101	R	ML	1	842

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
• TOCS Interface to OSP will include "Administrative Messaging" functionality of PSSI CAD	CAD-104	R	ML	1	843
• TOCS Interface to OSP will support "Screen to Screen Messaging" functionality of PSSI CAD	CAD-105	R	ML	1	845
• The TOCS shall do Response Plan Management		R	HL	1	678
• The TOCS shall allow for the activation of predefined Response plans.		R	HL	1	807
• After a planned event report is generated, a response plan shall be generated automatically by the TOCS.	PE-6	R	ML	2	181
• The TOCS shall provide a recommended listing of equipment and actions that may be needed to deal with an incident.	IM-67	R	HL	1	140
• The TOCS Response plans will provide a recommendation of activation of ITS Devices.			HL	1	822
• The TOCS shall provide a recommended listing of signal timing plans used within a response plan.	IM-59	R	ML	3	132
• The TOCS shall provide a recommended listing of ramp meters used within a response plan.	IM-63	R	ML	3	136
• The TOCS shall provide a recommended listing of alternate routes to be used within a response plan. Based on preplanned routes.	IM-56	R	ML	1	129
• The TOCS shall provide a recommended listing of DMS signs to be used within a response plan.	IM-35	R	ML	1	110
• For IM-35, the TOCS shall recommend message text for each DMS sign.	IM-36	R	ML	1	111
• For IM-36, recommended text shall be based on the incident location and impact entered by the user.	IM-37	R	ML	1	112
• For IM-35, this shall be an interactive list where users may select and post specific messages, edit recommended messages and then post them, or not post any.	IM-38	R	ML	1	113
• The TOCS shall provide a recommended listing of HAR stations to be used within a response plan.	IM-39	R	ML	1	114
• For IM-39, the TOCS shall recommend message text for each HAR station.	IM-40	R	ML	1	115
• The TOCS shall provide a recommended listing of traveler information messages for various ATIS media.	IM-43	R	ML	1	118
• The TOCS shall provide the ability for an operator to manually override any automatic response functions.	RMC-9	R	ML	1	44
• TOCS-generated incident response plans shall require operator input and/or acknowledgement prior to automated response task execution.	RMC-11	R	ML	1	47
• The TOCS system shall provide a separate response plan screen for selected incidents. "viewer" is ambiguous.	IM-15	HD	ML		90
• For each response plan, the TOCS system shall provide access to device configuration controls. Is this attainable?	IM-16	D	ML		91

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
<ul style="list-style-type: none"> The TOCS shall require operator review and validation of weather warning sensor alarms (RWIS, high-water, high-wind, etc) before disseminating to the public. 	DATA-4	R	ML	1	632
<ul style="list-style-type: none"> The TOCS shall require that only operator-approved messages be disseminated to TripCheck. 	TRIP-3	R	ML		657
<ul style="list-style-type: none"> The TOCS shall provide interfaces to the Highway Advisory Telephone System <ul style="list-style-type: none"> The TOCS system shall provide the capability to validate all highway advisory telephone (HAT) and 511 ATIS messages prior to dissemination. 				0	698
<ul style="list-style-type: none"> The TOCS shall provide filtering and formatting of exported incident reports. <ul style="list-style-type: none"> The TOCS shall provide the capability for operators to modify ATIS messages. 	CAD-7	R	ML	3	18
<ul style="list-style-type: none"> The TOCS shall provide filtering and formatting of exported incident reports. <ul style="list-style-type: none"> The TOCS shall provide the capability for operators to modify ATIS messages. 	FILT-5	R	ML	2	654
<ul style="list-style-type: none"> The TOCS shall support an activation of ODOT's roadside warning devices(DMS) to communicate warning messages to motorists including: <ul style="list-style-type: none"> -DMS signs -Static warning signs equipped with flashing beacons Including Oversize vehicle and High water/wind -Fixed display signs (i.e., neon tubes) 	RWS-1	R	HL	1	330
<ul style="list-style-type: none"> The TOCS shall have the capability to view all activated RWS systems and messages from any TOC and/or TMOC. 	RWS-2	R	ML	2	331
<ul style="list-style-type: none"> The TOCS shall support the ability for any ODOT Regional TOC and/or TMOC to have 2-way communications to all of ODOT's DMS signs (regardless of location) for control and/or information-sharing purposes. <ul style="list-style-type: none"> The TOCS shall be capable of supporting 2-way communications and data/information flows with all existing ODOT DMS systems. 	DMS-5	R	ML	2	264
<ul style="list-style-type: none"> The TOCS shall be capable of supporting 2-way communications and data/information flows with all existing ODOT DMS systems. 	DMS-1	R	ML	2	256
<p>Redundant – already in DET section</p> <ul style="list-style-type: none"> The TOCS shall provide 2-way communications and information flows with existing ODOT DMS systems. The TOCS shall have a polling capability to provide a status check of the DMS sign, formatted as it appears on the sign (e.g., textual display, communications, power, etc.) The TOCS shall have the ability to display message(s) on all other DMS signs that support Oregon or NTCPI protocols. The TOCS shall provide user control of DMS sign functions available at the sign controllers. 	DMS-1	R	ML	2	257
	DMS-4	R	ML	3	263
	DMS-6	R	ML	2	265
	DMS-14	R	ML	2	277
<p>Ambiguous.</p>					
<ul style="list-style-type: none"> ✓ The TOCS shall provide 2-way data communications with portable DMS signs located on FSP vehicles. 	FSP-11	R	ML	3	63
<ul style="list-style-type: none"> The TOCS system shall have the capability to activate all RWS systems and messages from any TOC and/or TMOC. 	RWS-3	HD	ML	2	332
<ul style="list-style-type: none"> The TOCS shall provide a message hierarchy control, allowing users to specify the priority of multiple messages requested be posted to a specific DMS sign. 	DMS-8	R	ML	2	270

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
<ul style="list-style-type: none"> The TOCS shall automatically manage the priority of messages and shall ensure that the highest priority message requested is always displayed on the sign. 	DMS-15	R	ML	2	278
<ul style="list-style-type: none"> The TOCS system shall provide a message scheduler for DMS. 	DMS-29	HD	ML		295
<ul style="list-style-type: none"> The TOCS system shall be capable of communications and control of all portable DMS signs that support Oregon and NTCIP protocols. 	DMS-33	HD	ML		299
<ul style="list-style-type: none"> The TOCS user interface shall have a GUI screen to control DMS signs 				0	687
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The DMS control GUI will incorporate the following abilities: <ul style="list-style-type: none"> -Shall provide a selectable listing of all TOCS signs, where users with permissions can take control of a sign directly from this listing with a single action. 	DMS-7.1	R	ML	3	267
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The DMS control GUI will incorporate the following abilities: <ul style="list-style-type: none"> -Shall provide a message library, which lists all sign messages contained therein and allows users to view selected messages prior to choosing them. 	DMS-7.2	R	ML	3	268
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The DMS control GUI will incorporate the following abilities: <ul style="list-style-type: none"> Once the desired sign(s) are selected, users shall be able to post a message to them in a single step. 	DMS-7.3	D	ML		269
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The DMS control GUI will incorporate the following abilities: <ul style="list-style-type: none"> -Shall provide a free-form message text editor with basic editing functions. 	DMS-9	R	ML	2	271
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The DMS control GUI will incorporate the following abilities: <ul style="list-style-type: none"> -This editor shall display messages within a simulated sign face, which represents the selected sign properties (i.e., full vs. line matrix, 2 vs. 3 lines, correct character count, etc.). 	DMS-10	R	ML	2	272
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The DMS control GUI will incorporate the following abilities: <ul style="list-style-type: none"> Once the sign(s) for display have been selected, the editor shall allow users to post a message to them in a single step. 	DMS-11	D	ML		273
<ul style="list-style-type: none"> The TOCS shall provide a sign properties configuration GUI, where items such as font, brightness, number of phases, time between phase transitions, etc. may be specified. 	DMS-12	R	ML	3	274
<ul style="list-style-type: none"> The TOCS system shall support the concept of "tool tips" or "fly-over" help to provide further details to the operator without the need to open additional windows. 	DMS-13	HD	ML		275
<ul style="list-style-type: none"> <ul style="list-style-type: none"> <ul style="list-style-type: none"> Within the "tool tips", the TOCS system shall be capable of manual note entry and/or edits to the information/details. 	DMS-13.1	D	DL		276
<ul style="list-style-type: none"> The TOCS user interface will allow message to be posted to DMS signs 				0	677
<ul style="list-style-type: none"> The TOCS shall support the use of Highway advisory Radio as a Traffic Advisory Device. 		R	HL	2	727
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall support changing messages on HAR systems 		HD	ML		250

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
<ul style="list-style-type: none"> The TOCS shall be capable of providing 2-way communications and data/information flows with all existing ODOT HAR systems. 	HAR-1	R	ML	2	302
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall be capable of supporting and/or controlling #TBD or more HAR systems and/or technologies simultaneously. <p>Ambiguous.</p>	HAR-1.1	R	ML	2	304
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS system shall support #TBD or more HAR stations, expandable to the limits of the system hardware. 	HAR-2	HD	ML		305
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS system shall be capable of 2-way communications to all portable HAR stations. 	HAR-18	HD	ML		322
<ul style="list-style-type: none"> The TOCS system shall have the ability to place messages on other Agency HAR stations that are compatible with ODOT systems. 	HAR-7	HD	ML		311
<ul style="list-style-type: none"> The TOCS system shall be capable of setting/establishing operational thresholds (i.e., levels of roadway congestion). 	HAR-3	HD	ML		306
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS system shall be capable of setting/establishing operational thresholds (i.e., levels of roadway congestion). Once a threshold is met, the TOCS system shall be capable of automatically recommending the specific HAR station(s) to use and the speci 	HAR-4	HD	DS?		307
<ul style="list-style-type: none"> The TOCS shall be capable of automatically "turning-on" a flashing beacon indication (where such sign is coupled with a HAR station) when a "priority" message is to be broadcast. 	HAR-5	R	ML	2	308
<ul style="list-style-type: none"> The TOCS system shall provide a polling status check of the HAR station (e.g., message broadcast, communications, power, etc.) 	HAR-6	HD	ML		309
<ul style="list-style-type: none"> The TOCS system shall provide a task scheduler which provides the following functionality to the user through a GUI: Shall provide a quick-scheduler function, where users can post a message for a set period of time in single step (i.e., 5-min 	HAR-15	HD	ML		319
<ul style="list-style-type: none"> The TOCS system shall be capable of manually tracking the location of all portable HAR stations. 	HAR-19	D	ML		323
<ul style="list-style-type: none"> The TOCS system shall be capable of automatically tracking the location of all portable HAR stations (i.e., using AVL system). 	HAR-20	D	ML		324
<ul style="list-style-type: none"> The TOCS shall manage Incident information 		R	HL	1	762
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS operators shall be able to manually Manage Incident Information 		R	HL	1	694
<ul style="list-style-type: none"> The TOCS shall provide the capability to create, read, update, and delete incident records containing user-entry or automatically populated fields. 	IM-6	R	ML	1	81
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall provide the ability to record the following information types per incident report: <ul style="list-style-type: none"> -Who (i.e., responsible/involved Agencies) -What (i.e., incident type) -When (i.e., time of incident, anticipated duration) -Where (i.e., location) How/Why (i.e., cause of incident) -ODOT property damage & responsible party 	CAD-3	R	ML	1	14

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
<ul style="list-style-type: none"> The TOCS shall provide the capability to assign priority to an incident. 	CAD-8	R	ML	1	19
<ul style="list-style-type: none"> The TOCS system shall track the status of an incident via the TOCS system graphical map display. <ul style="list-style-type: none"> The TOCS shall automatically place incident icons on the map at the appropriate location based on location information input by the operator. <ul style="list-style-type: none"> ? All icons shown on the map, related with an incident, shall automatically be deleted by the TOCS upon the following actions <ul style="list-style-type: none"> -Closure of the emergency/incident record -Removal of a device from the TOCS by an operator 	IM-83	HD	ML		156
	IM-88	R	ML	1	161
	IM-89	R	ML	1	162
<ul style="list-style-type: none"> The TOCS shall support one-time data entry for all fields in the incident report. <ul style="list-style-type: none"> All data entry and functional control of Incident and Dispatch screens will be keyboard enabled with shortcut keys to accelerate the process of entry or functional command 	CAD-4	R	ML	1	15
	CAD-110	R	ML	1	878
<ul style="list-style-type: none"> The TOCS system shall support the use of "decision-tree" questions to assist the user in updating the incident report. 	CAD-9	HD	ML		20
<ul style="list-style-type: none"> The TOCS shall retain the use of all standard OSP CAD system field codes. 	CAD-13	R	ML	1	855
<ul style="list-style-type: none"> The TOCS system shall enable incidents 	CAD-102	R	DL	1	859
<ul style="list-style-type: none"> The TOCS system shall enable closing incidents 	CAD-102	R	DL	1	858
<ul style="list-style-type: none"> The TOCS system shall enable display of incident records for closed incidents 	CAD-102	R	DL	1	857
<ul style="list-style-type: none"> The TOCS system shall enable reopening of closed incidents 	CAD-103	R	DL	1	856
<ul style="list-style-type: none"> The TOCS system shall enable redirection of incidents between TOC centers and OSP 	CAD-104	R	DL	1	854
<ul style="list-style-type: none"> TOCS users shall be able to schedule events as an incident . <ul style="list-style-type: none"> ✓ At the time a planned event is scheduled to occur, the TOCS shall manage it as an active incident. 	IM-79	R	ML	1	152
	PE-5	R	ML	1	180
<ul style="list-style-type: none"> The TOCS system shall provide a function to print a single-page summary report of an active or closed incident, 	IM-17	HD	ML		92
<ul style="list-style-type: none"> The TOCS shall require supervisor review of an incident report that is entered by an operator before it is submitted to the TOCS. 	CAD-15	R	ML	1	26
<ul style="list-style-type: none"> The TOCS shall Integrate incident data from other sources 		R	HL	1	756

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
• Integrate with 911		R	HL	2	828
• The TOC System shall integrate with the OEM Emergency Management System currently in development	??	R		3	819
• The TOCS shall collect incident data from the Portland TMOC.		R	HL	1	699
• The TOCS shall support incident information received from neighboring States.	DATA-5	R	HL	2	633
• The TOCS shall receive camera images (not video) from neighboring states.	DATA-5.2	R	HL	3	635
• The TOC System shall support receipt of data from the following systems: -OSP CAD -911 -Mayday -NEMS	DATA-100	R		1	815
• The TOCS system shall support information received from local Agencies.	DATA-7	HD	HL	3	637
• The TOCS shall receive and have the capability to import ATIS and TMDD compliant messages and incident related				0	723
• The TOCS system shall provide access to Mayday system data (once specific systems are put in-effect). Ambiguous (future?)	MAY-1	HD	HL	3	70
• The TOCS shall not support the answering or delivery of incoming Mayday calls.	MAY-2	NR	NR		71

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID	
<p>✓ The TOCS system shall provide incident dispatch (unit's assigned to incidents) data tracking from within the incident record management interface.</p> <p>The following design details are included from Region 4 list: Attach crews to incidents (What kind of crew are we talking about? A work crew OR are they identified by ODOT TEAMS system crew numbers? Eg. Crew 0441 (information systems project delivery) or Crew 7605 (Traffic Management ITS Unit)It could be any type of crew, maintenance, Region, District, Weighmasters, or any individual. It can be done by crew # or by individual call sign (4208 Bend maintenance or 10M81 Larry Schoening on the Bend Maintenance crew. 16. Attach more than one crew to incident 17. Attach more than one incident to a crew 18. Dispatch by crew # or call sign 19. Display available units (What kind of units? Comet vehicles, maintenance vehicles? Available to a district- a region to where?)All of the above. Any unit or crew member within ODOT. 20. Display incidents pending 21. Display incidents dispatched 22. Activate a unit- Does this mean that they are on duty? Yes , it can show them in service or on a call. 64. Ability to pre-empt an incident from dispatched status back to pending 65. Ability to relate one incident to another (example 1257 to a tow call) 66. Ability to relate two units (two units?) to the same incident (OW- out with) (Is Out With a functionality that closes both related incidents?)No 68. Show a controlled unit (Does "Show" mean display? Where and how should it be displayed? And, what is a controlled unit? Is that a unit that is being dispatched?)Show does mean display. They are displayed in a section on a screen in numerical order. It is a unit that is on and assigned to a incident. 69. Show a unit uncontrolled 56. Ability to view other command areas 57. Assign command areas for each Region (Is the boundary of a command area geographically or administratively described? Can the command area definition be changed by the operators?)They are geographically described at this time. There are @ 7 command areas now, we can pick and choose which ones we want to monitor. Each operator can pick what they want. The areas themselves are set and the operator can not change the boundaries.</p>		R	HL	1	867	
<ul style="list-style-type: none"> Notification of Other Agencies: The TOCS shall share incident information to external agency partners through defined interface 			1	HL	1	746
<ul style="list-style-type: none"> The TOCS shall provide automatic notification and acknowledgements of incident reports to external agencies. The agency notified will be based on incident type and location. <ul style="list-style-type: none"> The TOCS shall provide remote system access for Emergency Management Staff to monitor incident status. <ul style="list-style-type: none"> After notifications and acknowledgments are processed, the TOCS shall not monitor/track the status of what other Agencies are doing to respond to the emergency/incident.. 	NTFY-5	R	HL	1	6	
<ul style="list-style-type: none"> The TOCS shall provide remote system access for Emergency Management Staff to monitor incident status. <ul style="list-style-type: none"> After notifications and acknowledgments are processed, the TOCS shall not monitor/track the status of what other Agencies are doing to respond to the emergency/incident.. 	CAD-17	R	ML	3	28	
<ul style="list-style-type: none"> After notifications and acknowledgments are processed, the TOCS shall not monitor/track the status of what other Agencies are doing to respond to the emergency/incident.. 	NTFY-9	NR	NR		10	
<p>✓ The distribution of messages and reports through LEDS should be customizable to lists of specific recipients.</p>	??	R	ML	1	877	
<ul style="list-style-type: none"> The TOCS shall automatically update Agency notifications on an event-driven basis when changes to the incident report are received. 	NTFY-10	R	ML	3	11	
<ul style="list-style-type: none"> The TOCS shall be capable of automatically disseminating traffic and operations information generated from incident reports via FAX, e-mail, and paging systems. <ul style="list-style-type: none"> The TOCS shall provide the capability to a user to administer the severity filters for incident publication. 	TOID-1	R	ML	3	325	
<ul style="list-style-type: none"> The TOCS shall be capable of automatically disseminating traffic and operations information generated from incident reports via FAX, e-mail, and paging systems. <ul style="list-style-type: none"> The TOCS shall provide the capability to a user to administer the severity filters for incident publication. 	TOID-2	R	ML	2	326	

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
<ul style="list-style-type: none"> The TOCS shall automatically apply severity filters for incident publication. 	TOID-	R	ML	2	327
<ul style="list-style-type: none"> The TOCS shall have the capability to manually override the severity filters for specific incidents. 	TOID-	R	ML	2	328
<ul style="list-style-type: none"> The TOCS shall provide simultaneous operation of more than one (1) type of notification system (e.g., FAX, paging system, e-mail, system-to-system, compatible database exchanges, etc.). 	NTFY-7	R	ML	2	8
<ul style="list-style-type: none"> <ul style="list-style-type: none"> ✓ The TOCS shall automatically export the incident reports to the following systems: <ul style="list-style-type: none"> -HTCRS (Phase 1) -E-mail (Phase 2 or 3) -Paging system (Phase 1) -LEDS Administrator messaging (Phase 2 or 3) 	CAD-6	R	ML	3	17
<ul style="list-style-type: none"> The TOCS shall provide manual notification and acknowledgements of incident reports: <ul style="list-style-type: none"> -Per Agency -Per emergency/incident type 	NTFY-6	R	HL	1	7
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall provide the capability to develop and maintain a "contact list" of all Agencies that need to be contacted per 	NTFY-1	R	ML	2	1
<ul style="list-style-type: none"> <ul style="list-style-type: none"> ✓ The TOC system shall identify PSAP boundaries within the system. 	??	R		1	814
<ul style="list-style-type: none"> <ul style="list-style-type: none"> ✓ The TOCS shall integrate its operations with the other Agencies (e.g., OEM, OERS, etc.) 	CAD-11	R	OI	1	22
<ul style="list-style-type: none"> Notification ODOT Personnel: The TOCS shall provide incident information to ODOT personell 		R	HL	1	767
<ul style="list-style-type: none"> <ul style="list-style-type: none"> Instant messaging. Notify ODOT personell with popup window 		R	HD	2	833
<ul style="list-style-type: none"> The TOCS shall provide access to HazMat placard numbers in an electronic format. 	HAZ-1	R	ML	2	30
<ul style="list-style-type: none"> The TOC System shall automatically output an incident completion report to a predefined list of recipients 	RMC-100	R	ML	2	817
<ul style="list-style-type: none"> The TOCS system shall support the ability to process requests for other State license plate and registration information. 	LEDS-2	HD	ML		34
<ul style="list-style-type: none"> The TOCS shall provide the ability to process requests for State of Oregon license plates and registration information. 	LEDS-1	R	ML	1	33
<ul style="list-style-type: none"> The TOCS shall update ODOT personell of incident information via pages 			HL	1	747
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS paging system shall support both individual and broadcast pages. 	PAGE-3	R	ML	3	246
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall support the use of more than one (1) paging service concurrently. 	PAGE-4	R	ML	3	408

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
✓ TOCS shall integrate paging system to automate incident data transfer to page message to eliminate redundant entry.	PAGE-10	??	ML	1	841
• The TOCS shall provide routing assistance and directions to ODOT fleet vehicle.	EVR-1	R	ML	1	65
• The TOCS shall provide an electronic version and/or database of all roadways throughout the State (e.g., Interstates, State highways, forest roads, etc.)	EVR-2	R	ML	1	66
✓ The TOCS shall not support any route guidance functionality.	RG-1	NR	NR		664
• The TOCS shall provide the use of automatic and scheduled operator prompts for communication tasks.	CAD-16	R	ML	3	27
• The TOCS shall do Winter Maintenance Management		R	HL	1	757
✓ Collect road condition data from field personell			HL	1	823
• The TOCS system shall support trend analysis of RWIS data.	RWIS-18	HD	ML		482
• The TOCS system shall support the operations of automatic de-icing systems.	WIN-6	D	ML		489
• The TOCS shall support the installation of detection systems to manage the automatic de-icing system roadway applications to ensure vehicle and motorist safety.	WIN-8	R	OI		491
• The TOCS shall do Traffic Control			HL	3	758
• The TOCS shall provide an integrated VSL program using all of ODOT's roadway field devices.	VSL-1	R	HL	4	379
• The TOCS shall be capable of viewing the speed limit displayed on VSL devices.	VSL-3	R	ML	2	381
• The TOCS shall be capable of manually modifying the speed limit on VSL field devices.	VSL-2	R	ML	2	380
• The TOCS shall be capable of supporting portable VSL units.	VSL-5	R	ML	3	383
• The TOCS system shall support VSL control based on input from other TMS system data (e.g. RWIS)	VSL-6	D	ML	4	384
• The TOCS shall provide coordination/Interface with local signal systems		R	HL	3	690
• The TOCS shall be capable of coordinating system operations with any Oregon City/Agency that operates a centralized Traffic Control System (TCS) using # TBD standard interfaces.	TCS-1	R	ML	3	373
• All TOCS integration with a TCS shall be based upon pre-approved agreements/Memorandums-of-Understanding (MOUs) between ODOT and the Agency(ies).	TCS-3	R	OI	1	375
• The TOCS system shall support integration with other Agency TCS operations. (The type of integration support is TBD between ODOT and the Agency(ies) in question).	TCS-4	HD	ML		376

Requirement Description

PRD	Priority	Level	Phase	ID	
TCS-2	D	ML	3	374	
		HL	3	691	
RM-1	R	ML	3	370	
TCS-5	HD	ML	3	872	
RM-2	R	ML	2	372	
		SS	0	685	
		R	HL	1	835
CAD-17	R	ML	3	861	
		ML	1	839	
		R	1	832	
FSP-3	R	HL	3	54	
O&M-HTCRS	R	HL		410	
IDI-1	R	HL		411	
		SS	0	701	
CAD-18	R	ML	3	29	
GEN-AD-6	R	HL	1	875	
IDI-5	R	ML	1	415	
			0	695	
TRAIN-1	R	ML	1	446	
TRAIN-2	HD	ML		447	

- In those instances where there is no centralized TCS, the TOCS system shall be capable of integrating system operations with any Oregon arterial on-street controllers using # TBD standard interfaces.
- The TOCS shall support Ramp Metering as a Traffic Management Device
 - The TOCS shall provide control of and data collection from ramp metering operations throughout the State.
 - The TOCS system shall support integration with other Agency ramp meter operations. (The type of integration support is TBD between ODOT and the Agency(ies) in question).
 - The TOCS shall support all of the ODOT Region 1 ramp metering functionality provided by the current Region 1 software, including the SWARM (System Wide Adaptive Ramp Metering) algorithm.
- Remote TOC module for district office, maintenance offices, emergency cents.
 - District Offices need different interface to the CAD data for view only access. Needs an easier to use front end than CAD.
 - The TOCS shall provide remote system access for Emergency Management Staff to monitor incident status.
 - The TOCS shall support data entry of the current Road Weather data for road segments by ODOT Maintenance district personnel and TOCS operators
 - Notification of TOC operators when VMS signs are changed by non-TOC personnel- IE district office maintenance crews etc.
 - The TOCS shall provide remote access to retrieve/view ODOT vehicle tracking information/reports.
 - The TOCS shall support construction and maintenance information entries and updates by ODOT District offices.
 - The TOCS shall provide ITS device control by ODOT District offices within their geographical boundaries.
- TOC System Technical Requirements
 - The TOCS shall have the capability to display all users currently logged on to the system.
 - The TOCS shall provide the capability to create ad-hoc reports.
 - The TOCS shall provide system administrator defined configurable parameters to assign access privileges to ODOT staff and outside Agencies.
 - Training Requirements
 - The TOCS shall provide an on-line help tutorial.
 - The TOCS System shall provide a training mode environment that provides simulated/off-line TOCS System operations for operator training purposes.

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
• The TOCS TOC center system shall have a map based Display				0	704
• Both graphical and GIS map image formats shall be supported as base map applications.	MAP-3	R	ML	2	337
• Users shall be able to display a # TBD or more unique map sessions within any system client.	MAP-5	R	ML	1	339
• Users may select the map to be displayed (e.g., incident/planned events, CCTV, DMS, roadway characteristics, etc.).	MAP-2	R	ML	1	336
• The TOCS shall include an operator interface for creating new map layers and assigning data to the new layer.	MAP-4	R	ML	2	338
• The TOCS shall support the use of roadway mileposts for all items displayed on the map roadway segments, regardless of base map format.	MAP-10	R	ML	1	344
• The TOCS system shall support user-interactive panning and zooming commands for the map (i.e., extent of pan and zoom are defined by the user, using the mouse). Pre-defined, locked zoom and pan extents may also be used.	MAP-15	HD	ML		349
• Map elements (i.e., streets, speed/flow segments, device icons, etc.) shall be automatically scalable between zoom levels	MAP-16	R	ML	1	350
• The TOCSs shall provide graphical or geo-coded base maps – containing current streets and highways down to the minor arterial classification – for all Counties within the State.	MAP-6	R	ML	1	340
• The TOCS shall initially use base maps that are not more than # TBD calendar year old.	MAP-7	R	IM		341
• The TOCS shall support the use of geo-code coordinates for all items displayed on the map, regardless of base map format.. Define “geocode coordinates”.	MAP-8	R	ML	1	342
• Geocode coordinates shall be in a standard (latitude, longitude) format using applicable NTCIP location referencing if available. Define “geocode coordinates”.	MAP-9	R	ML	1	343
• The TOCS system map shall support map icon and base map editing by System Administrators.	MAP-20	HD	ML		354
• The TOCS system shall provide a map drawing utility, where users may create and edit polylines, shapes or text on the map.	MAP-21	HD	DL		355
• The System Administrator shall have the capability to assign unique icons to specific data types, e.g. Traffic Incidents, planned events, and construction incidents.	MAP-22	R	ML	1	356
• The TOCS system map shall provide a display point for the geocode coordinates of the mouse as it travels across the map.	MAP-31	HD	ML		365
✓ The TOC system shall support common-name locations	MAP-100	R		1	812
• The System Administrator shall be able to specify which map elements are displayed at different map zoom levels.	MAP-32	R	ML	1	366

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
✓ The TOC system shall support straight-line data	MAP-101	R		1	809
• System Access/Security				0	750
• The TOCS shall require a username and password for all users in order to gain access to the system.	SEC-1	R	ML	1	431
• The TOCS system's username/password shall be the same as that used by the Operating System (OS).	SEC-3	HD	ML		433
• After a configurable amount of time, TOCS system operators shall be required to log back into their client session.	SEC-5	HD	ML		435
• All TOCS security options shall be applicable to both networked and remote/dial-in users.	SEC-6	R	ML	1	436
• The TOCS shall support unique user profiles.	SEC-7	R	ML	1	437
• The TOCS shall provide the capability of assigning specific privileges based on unique user profiles.	SEC-9	R	ML		439
• The TOCS's user privileges shall be defined by the System Administrator.	SEC-10	R	ML	1	440
• The TOCS shall provide a user priority assignment, configurable by the System Administrator, for resolution of command conflicts from concurrent users.	SEC-14	R	ML	1	444
• TOCS users with higher priority shall be able to override commands from lower priority users, take control of devices from lower priority users, etc.	SEC-15	R	ML	1	445
• System Operations				0	751
• The TOCS shall provide a utility that allows System Administrators to create full-system and database backups.	SYS-1	R	ML	1	416
• The TOCS shall provide system redundancy and fail-over capabilities.	SYS-7	R	ML	1	422
• The TOCS shall provide access from remote terminals and laptops to edit/monitor databases, data entry forms, etc.	SYS-8	R	??		423
• The TOCS shall provide staff ability to use laptop to connect to various device controllers in-the-field (e.g., DMS sign, CCTV camera, etc.).	SYS-9	R	ML	1	424
• The TOCS shall provide full system functionality to all networked (LAN/WAN connected) and remote dial-up users.	SYS-10	R	ML	1	425
• All TOCS updates shall be propagated to all users. Explain system updates.	SYS-11	R	ML	2	426
• The TOCS shall provide the capability to shutdown and re-start the full system (i.e., not just the client). Explain.	SYS-12	R	ML	3	427
• The ability to shutdown or re-start the TOCS shall be a defined user privilege granted by the system administrator based on appropriate security access.	SYS-13	R	ML		428

Requirement Description	PRD	Priority	Level	Phase	ID
<ul style="list-style-type: none"> In the event of a non-graceful shutdown (i.e., power outage), the TOCS shall be able to re-boot and return to full operation on a cold-standby basis. <p>“Cold standby basis” is ambiguous.</p>	SYS-14	R	ML	3	429
<ul style="list-style-type: none"> The TOCS shall be self-recovering, such that after a cold-standby restart, the system shall be fully operational without additional operator or administrator intervention. <p>Explain “cold standby restart”.</p>	SYS-15	R	ML	2	430
<ul style="list-style-type: none"> The TOCS shall provide remote access. 	IDI-2	R	ML		412
<ul style="list-style-type: none"> External Subsystems 			SS	0	670
<ul style="list-style-type: none"> Roadside Equipment Subsystem: The ITS shall support Roadside equipment. 		R	SS	1	682
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The ITS shall support Highway Advisory Radio 	HAR-	R			303
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall support Roadside Warning Systems 				0	728
<ul style="list-style-type: none"> Archived Data Subsystem: The ITS shall support Archived Data Management 			SS	0	683
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall provide an automated archiving function for incident data within its database files. 	IM-70	R	ML	1	143
<ul style="list-style-type: none"> Automated Vehicle Location Archived Data 				0	729
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall provide an automated archiving functionality for data generated by ODOT’s AVL systems. 	AVL-AD-1	R	ML	2	585
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall provide the capability to use archived AVL system data to retrace a fleet vehicles route. 	AVL-AD-3	R	ML	2	587
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall only provide archived AVL system data to internal ODOT staff. 	AVL-AD-4	R	OI		588
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall use the archived AVL system data for deploying resources based on historical need. 	AVL-AD-5	R	OI		589
<ul style="list-style-type: none"> Computer-Aided Dispatch Archived Data 				0	730
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall provide an automated archiving functionality for data generated by ODOT’s CAD system. 	CAD-AD-1	R	ML	1	572

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
<ul style="list-style-type: none"> For CAD-AD-2, the TOCS shall support access and viewing of CAD data for the following: <ul style="list-style-type: none"> -ODOT Maintenance Managers -ODOT Risk Management -ODOT District Offices -ODOT Project Managers -ODOT staff via internal network (intranet) -ISPs 	CAD-AD-4	R	OI		575
<ul style="list-style-type: none"> The TOCS shall automatically restrict the following CAD data from external access and viewing: <ul style="list-style-type: none"> -Internal ODOT comments -Personal data -License plate data -Litigation issues 	CAD-AD-5	R	ML	1	576
<ul style="list-style-type: none"> The TOCS shall archive the following CAD system logs: <ul style="list-style-type: none"> -Call out logs -Crew (maintenance) schedule logs 	CAD-AD-7	R	ML	3	578
<ul style="list-style-type: none"> The TOCS shall use the CAD archived data for the following purposes: <ul style="list-style-type: none"> -Emergency response -Future prediction of emergency response teams -Liability -Budget -Research -Improve business process, practices, and model efficiency -Forecasting of problem areas -Research 	CAD-AD-8	R	OI		579
<ul style="list-style-type: none"> Contact & Availability Data Archived Data <ul style="list-style-type: none"> The TOCS shall provide an automated archiving functionality for data generated by ODOT's contact and availability lists. 				0	731
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall archive contact and availability data for emergency situations (floods, slide removals, HazMat). 	CON-AD-1	R	ML	2	580
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall archive contact and availability data for emergency situations (floods, slide removals, HazMat). 	CON-AD-3	R	ML	2	582
<ul style="list-style-type: none"> Device Maintenance Logs Archived Data <ul style="list-style-type: none"> The TOCS shall provide an automated archiving functionality for device maintenance log data generated by ODOT's systems. 				0	732
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall provide archiving of device maintenance log data sent from other ODOT systems. 	DML-AD-1	R	ML	3	602
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall provide archiving of device maintenance log data sent from other ODOT systems. 	DML-AD-4	R	ML	3	605
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall be able to request device maintenance log data to be archived from ODOT's systems. 	DML-AD-5	R	ML	3	606

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
<ul style="list-style-type: none"> ? The TOCS shall use the device maintenance log archived data for the following purposes: <ul style="list-style-type: none"> -Maintenance cost data (money spent per system) -Maintenance history per system (Device ID, type of problem) -Identify work needs and schedules for ODOT maintenance staff -Inventory updates (serial number, installation data) -Program management -Program budgets -Maintenance staff performance (system breakdown date, fix date) -Performance 	DML-AD-6	R	OI		607
<ul style="list-style-type: none"> The TOCS shall provide the following reporting functionality: <ul style="list-style-type: none"> -Utility costs (power, communications) -Resource utilization (number of hours, staff to fix) 	DML-AD-7	R	OI		608
<ul style="list-style-type: none"> Dynamic Message Signs Archived Data <ul style="list-style-type: none"> The TOCS shall provide an automated archiving functionality for data generated by all of ODOT's DMS signs. 				0	733
<ul style="list-style-type: none"> The TOCS shall provide DMS data archive updates when messages change. 	DMS-AD-1	R	ML	2	544
<ul style="list-style-type: none"> The TOCS shall support the receipt of data sent from the DMS systems for data archiving purposes. 	DMS-AD-3	R	DL		546
<ul style="list-style-type: none"> The TOCS shall be able to request data to be archived from the DMS system. 	DMS-AD-4	R	ML	2	547
<ul style="list-style-type: none"> The TOCS system's DMS data archiving functionality shall support the following users: <ul style="list-style-type: none"> Risk Management OSP ODOT Maintenance Internal web application 	DMS-AD-5	R	ML	2	548
<ul style="list-style-type: none"> The TOCS system's DMS data archiving functionality shall support the following uses: <ul style="list-style-type: none"> Performance and quality control metrics ITS device analysis Maintenance planning Knowing what messages were displayed and when displayed Travel patt 	DMS-AD-6	HD	OI		549
<ul style="list-style-type: none"> The TOCS system's DMS data archiving functionality shall support the following uses: <ul style="list-style-type: none"> Performance and quality control metrics ITS device analysis Maintenance planning Knowing what messages were displayed and when displayed Travel patt 	DMS-AD-7	HD	OI		550
<ul style="list-style-type: none"> Freeway Service Patrols/COMET Archived Data <ul style="list-style-type: none"> The TOCS shall provide an automated archiving functionality for data generated by ODOT's Freeway Service Patrols (including COMET vehicles). 				0	734
<ul style="list-style-type: none"> General System Archived Data 	FSP-AD-1	R	ML	2	583
<ul style="list-style-type: none"> General System Archived Data 				0	735

Requirement Description

- The TOCS shall provide an automated archiving functionality.
- The TOCS shall support the receipt of data sent from other ODOT systems (see GEN-AD-2) for data archiving purposes.
- The TOCS shall provide the archiving of data as generated by all of its systems and roadway field devices:
 - RWIS
 - Traffic & Roadside Data
 - DMS
 - HAR
 - Ramp Metering
 - Traffic Monitoring Stations
 - HTCRS
 - CAD
 - Contact & Availability Lists
 - Freeway Service Patrols/COMET
 - AVL Systems
 - ForseCOM & LEDS
 - Weather Warning Systems
 - Device Maintenance Logs
- All archived TOCS data shall be accessible for retrieval and viewing by users of the TOCS.
- The TOCS shall provide the capability for the user to request data to be archived from other ODOT systems (see GEN-AD-2).
- The TOCS shall provide the capability to create ad-hoc reports.
- The TOCS's archived data functionality shall not provide automatic reporting on a pre-established frequency.
- For each ODOT system (per GEN-AD-2), the TOCS system shall provide a utility for users to record a data file from selected systems over a user-defined period of time.
- All archived TOCS system data stored shall be accessible for report generation by the TOCS system.
- For each ODOT system (GEN-AD-2), the TOCS's archived data frequency shall be less than or equal to the system's operational data frequency within user-defined parameters.
- The TOCS shall not be required to archive manual logs.
- The TOCS's data archiving functionality shall not provide access to the general public.

PRD	Priority	Level	Phase	ID
GEN-AD-1	R	ML	1	518
GEN-AD-2	R	ML	3	519
GEN-AD-2.1	R	IM		520
GEN-AD-3	R	ML	3	521
GEN-AD-5	R	ML	3	522
GEN-AD-6	R	ML	2	523
GEN-AD-7	NR	NR		524
GEN-AD-8	D	ML		525
GEN-AD-9	HD	ML		526
GEN-AD-11	R	ML	3	528
GEN-AD-12	NR	NR		529
GEN-AD-13	NR	NR		530

Requirement Description	PRD	Priority	Level	Phase	ID
<ul style="list-style-type: none"> The TOCS shall provide the capability for systems administrators to restrict access to archived data. 	GEN-AD-15	R	ML	2	532
<ul style="list-style-type: none"> The TOCS shall maintain data within its archival system as long as State requirements state for data retention. 	GEN-AD-16	R	ML	2	533
<ul style="list-style-type: none"> Highway Advisory Radio Archived Data <ul style="list-style-type: none"> The TOCS shall provide an automated archiving functionality for data generated by all of ODOT's HAR stations. 				0	736
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall provide HAR data archive updates when messages change. 	HAR-AD-1	R	ML	2	551
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall support the receipt of data sent from the HAR stations for data archiving purposes. 	HAR-AD-3	R	DL		553
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall be able to request data to be archived from the HAR stations. 	HAR-AD-4	R	ML	2	554
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall be able to request data to be archived from the HAR stations. 	HAR-AD-5	R	ML	3	555
<ul style="list-style-type: none"> The TOCS system's HAR data archiving functionality shall support the following users: Risk Management OSP ODOT Maintenance Internal web application 	HAR-AD-6	HD	OI		556
<ul style="list-style-type: none"> The TOCS system's HAR data archiving functionality shall support the following uses: Performance and quality control metrics ITS device analysis Maintenance planning Knowing what messages were displayed and when displayed Travel patt 	HAR-AD-7	HD	OI		557
<ul style="list-style-type: none"> Highway Travel Conditions Reporting System Archived Data <ul style="list-style-type: none"> The TOCS shall provide an automated archiving functionality for data generated by ODOT's HTCERS system. 				0	737
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall maintain all current HTCERS rules regarding data update frequency. 	HTCERS-AD-1	R	ML	2	566
<ul style="list-style-type: none"> <ul style="list-style-type: none"> For HTCERS-AD-2, the TOCS shall support access and viewing of HTCERS data for the following: -ODOT Maintenance Managers -ODOT Risk Management -ODOT District Offices -ODOT Project Managers -ODOT staff via internal network (intranet) -ISPs 	HTCERS-AD-3	R	ML	2	568
<ul style="list-style-type: none"> <ul style="list-style-type: none"> For HTCERS-AD-2, the TOCS shall support access and viewing of HTCERS data for the following: -ODOT Maintenance Managers -ODOT Risk Management -ODOT District Offices -ODOT Project Managers -ODOT staff via internal network (intranet) -ISPs 	HTCERS-AD-4	R	OI		569

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
<ul style="list-style-type: none"> ? The TOCS shall automatically restrict the following HTCRS data from external access and viewing: <ul style="list-style-type: none"> -Internal ODOT comments -Personal data -License plate data -Litigation issues 	HTCRS-AD-5	R	ML	1	570
<ul style="list-style-type: none"> Law Enforcement Detection System & ForseCOM Archived Data <ul style="list-style-type: none"> The data archiving functionality provided for all LEDS data within the TOCS shall be accomplished by the CAD system. The TOCS shall provide distinct levels of access to archived LEDS data. The following are "levels of access". <ul style="list-style-type: none"> -Agency-only (not to TripCheck) -Operations-only (TOC level) -Eyes-only (specific ODOT staff) -Public information 				0	738
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall provide an automated archiving functionality for data generated by all of ODOT's ramp meters. 	LEDS-AD-1	R	ML	3	590
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall provide access and viewing of ramp metering data for the following: <ul style="list-style-type: none"> -ODOT Maintenance Managers -Engineers -Planners -Operators -Bridge engineer -Law enforcement -Federal reporting -Internet -Developers 	LEDS-AD-3	R	ML	2	592
<ul style="list-style-type: none"> <ul style="list-style-type: none"> For RM-AD-2, the TOCS shall provide access and viewing of ramp metering data for the following: <ul style="list-style-type: none"> -ODOT Maintenance Managers -Engineers -Planners -Operators -Bridge engineer -Law enforcement -Federal reporting -Internet -Developers 	LEDS-AD-3	R	OI		593
<ul style="list-style-type: none"> Ramp Meter Data Archived Data <ul style="list-style-type: none"> The TOCS shall provide an automated archiving functionality for data generated by all of ODOT's ramp meters. For RM-AD-2, the TOCS shall provide access and viewing of ramp metering data for the following: <ul style="list-style-type: none"> -ODOT Maintenance Managers -Engineers -Planners -Operators -Bridge engineer -Law enforcement -Federal reporting -Internet -Developers 				0	739
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall provide an automated archiving functionality for data generated by all of ODOT's ramp meters. 	RM-AD-1	R	ML	2	558
<ul style="list-style-type: none"> <ul style="list-style-type: none"> For RM-AD-2, the TOCS shall provide access and viewing of ramp metering data for the following: <ul style="list-style-type: none"> -ODOT Maintenance Managers -Engineers -Planners -Operators -Bridge engineer -Law enforcement -Federal reporting -Internet -Developers 	RM-AD-4	R	OI		561
<ul style="list-style-type: none"> Roadway Network Performance <ul style="list-style-type: none"> The TOCS shall make all collected roadway data retrievable by ODOT Transportation Development. The TOCS shall be capable of archiving all TripCheck data/information. 				0	740
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall make all collected roadway data retrievable by ODOT Transportation Development. 	RNP-1	R	ML	3	385
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall be capable of archiving all TripCheck data/information. 	RNP-2	R	ML	2	387
<ul style="list-style-type: none"> Roadway Weather Information Systems Archived Data <ul style="list-style-type: none"> The TOCS shall provide an automated archiving functionality for data generated by all of ODOT's RWIS stations. 				0	741
<ul style="list-style-type: none"> <ul style="list-style-type: none"> The TOCS shall provide an automated archiving functionality for data generated by all of ODOT's RWIS stations. 	RWIS-AD-1	R	ML	2	534

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
<ul style="list-style-type: none"> All RWIS data archived by the TOCS shall be accessible for retrieval and viewing.. 	RWIS-AD-3	R	ML	1	536
<ul style="list-style-type: none"> Traffic & Roadside Data Archived Data <ul style="list-style-type: none"> The TOCS shall provide an automated archiving functionality for data generated by all of ODOT's Traffic and Roadside systems. 	TRD-AD-1	R	ML	2	538
<ul style="list-style-type: none"> Traffic Monitoring Stations Archived Data <ul style="list-style-type: none"> The TOCS system shall provide an automated archiving functionality. <ul style="list-style-type: none"> All archived TMS data stored shall be accessible for retrieval and viewing by the TOCS. The TOCS system shall provide a utility for users to record a data file from selected TMS sites over a user-defined period of time. The TOCS system shall provide print functionality, allowing users to print formatted hard copies of data viewed within the dedicated The TMS archive database files shall support export functionality (TBD). The TOCS shall provide an automated archiving functionality for data generated by all of ODOT's traffic monitoring stations.. For TMS-AD-2, the TOCS shall provide access and viewing of traffic monitoring station data for the following: <ul style="list-style-type: none"> -ODOT Maintenance Managers -Engineers -Planners -Operators -Bridge engineers -Law enforcement -Federal reporting -Internet -Developers Weather Warning Systems Archived Data <ul style="list-style-type: none"> The TOCS shall provide an automated archiving functionality for data generated by ODOT's Weather Warning Systems (WWS). The TOCS shall provide WWS data archive updates when messages change. The TOCS shall support the receipt of data sent from the WWS systems for data archiving purposes. 	DET-12	HD	ML		234
	DET-12.1	R	ML	2	204
	DET-12.2	D	ML		205
	DET-12.3	HD	DL		206
	DET-12.4	HD	DL		207
	TMS-AD-1	R	ML	2	562
	TMS-AD-4	R	OI		565
				0	744
	WWS-AD-1	R	ML	2	595
	WWS-AD-3	R	DL		597
	WWS-AD-4	R	ML	2	598

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
<ul style="list-style-type: none"> The TOCS shall be able to request data to be archived from the WWS systems. 	WWS-AD-5	R	ML	2	599
<ul style="list-style-type: none"> The TOCS system's WWS data archiving functionality shall support the following users: Risk Management OSP ODOT Maintenance Internal web application 	WWS-AD-6	HD	OI		600
<ul style="list-style-type: none"> The TOCS system's WWS data archiving functionality shall support the following uses: Performance and quality control metrics ITS device analysis Maintenance planning Knowing what messages were displayed and when displayed Travel patt 	WWS-AD-7	HD	OI		601
<ul style="list-style-type: none"> ISP: The ITS shall support Traveler Information Dissemination through the use of Information Service Providers 		R	SS	1	681
<ul style="list-style-type: none"> The ISP shall use multiple media to disseminate Traveler information 		R	HL	0	720
<ul style="list-style-type: none"> The ISP shall disseminate traveler information via Highway Advisory Telephone <ul style="list-style-type: none"> Coordination with National & Statewide 511 Programs The TOCS shall support all current HAT system features and functionality. 		R	HL	1	719
			ML	0	717
<ul style="list-style-type: none"> The TOCS shall provide the dissemination of ATIS messages for use my other ISP or Media Providers 	511-3	R	ML	3	662
<ul style="list-style-type: none"> The TOCS shall provide the dissemination of ATIS messages for use my other ISP or Media Providers <ul style="list-style-type: none"> The ODOT ISP subsystem shall publish ATIS messages to a single demarcation point from which media and outside sources can 	DISS-1	R	HL		646
<ul style="list-style-type: none"> The TOCS shall provide the dissemination of ATIS messages containing the following information: -Speed -Travel times -Congestion locations -Chain restrictions -Commercial vehicle restrictions -Incident information -Detour/alternate routes 	MED-18	R	ML	2	627
<ul style="list-style-type: none"> The TOCS shall provide the dissemination of ATIS messages to outside Agencies and travelers. 	INFO-1	R	ML	2	642
<ul style="list-style-type: none"> The TOCS shall provide the dissemination of ATIS messages to outside Agencies and travelers. 	IPAT-1	R	ML	2	643
<ul style="list-style-type: none"> The ISP shall disseminate traveler information via Cable TV stations. 		R	HL		31
<ul style="list-style-type: none"> The TOCS system shall support the dissemination of ATIS messages to Personal Digital Assistants (PDAs). 	DISS-2	HD	ML		647
<ul style="list-style-type: none"> The ODOT ISP subsystem shall support the Notification of the Media of Transportation related incidents. 				0	724

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
<ul style="list-style-type: none"> The ODOT ISP subsystem shall provide a standardized media notification process.. 	MED-10	R	ML	2	618
<ul style="list-style-type: none"> The ODOT ISP subsystem shall distribute ATIS messages to ODOT staff via multiple dissemination outlets. <ul style="list-style-type: none"> The ODOT ISP subsystem shall be capable of generating Advanced Traveler Information System (ATIS) messages (automatic and manual). <ul style="list-style-type: none"> The ODOT ISP subsystem shall create consistent ATIS messages for all recipients in terms of content, format, and data entry fields. The ODOT ISP subsystem shall provide the distribution ("push") of ATIS messages to the media/outside sources. 	MED-7	R	ML	3	615
<ul style="list-style-type: none"> The ODOT ISP subsystem shall only distribute ATIS messages to the media that meet the user-defined filter criteria or are specifically "flagged" for distribution. 	MED-1	R	ML	2	609
<ul style="list-style-type: none"> The ODOT ISP subsystem shall create consistent ATIS messages for all recipients in terms of content, format, and data entry fields. 	MED-2	R	ML	1	610
<ul style="list-style-type: none"> The ODOT ISP subsystem shall provide the distribution ("push") of ATIS messages to the media/outside sources. 	MED-17	R	DL		626
<ul style="list-style-type: none"> The ODOT ISP subsystem shall only distribute ATIS messages to the media that meet the user-defined filter criteria or are specifically "flagged" for distribution. 	MED-11	R	ML	1	620
<ul style="list-style-type: none"> The TOCS system shall support a registration process for the media to receive ODOT ATIS messages. <ul style="list-style-type: none"> The ODOT ISP subsystem shall require that only operator-approved messages be disseminated. The ODOT ISP subsystem shall notify the appropriate ODOT staff prior to ATIS dissemination to the media. <ul style="list-style-type: none"> The ODOT ISP system shall not support a time lag between ATIS dissemination to ODOT staff and the media. Once registered, the ODOT ISP subsystem shall provide the ability for the media to update their contact information. The ODOT ISP subsystem shall provide the ability for ODOT administration of the media ATIS subscription service. 	MED-12	HD	ML		621
<ul style="list-style-type: none"> The ODOT ISP subsystem shall require that only operator-approved messages be disseminated. 	MED-4	R	ML	1	612
<ul style="list-style-type: none"> The ODOT ISP subsystem shall notify the appropriate ODOT staff prior to ATIS dissemination to the media. 	MED-5	R	ML	2	613
<ul style="list-style-type: none"> The ODOT ISP system shall not support a time lag between ATIS dissemination to ODOT staff and the media. 	MED-6	NR	NR		614
<ul style="list-style-type: none"> Once registered, the ODOT ISP subsystem shall provide the ability for the media to update their contact information. 	MED-15	HD	ML		624
<ul style="list-style-type: none"> The ODOT ISP subsystem shall provide the ability for ODOT administration of the media ATIS subscription service. 	MED-16	R	ML	2	625
<ul style="list-style-type: none"> ✓ The ODOT ISP subsystem shall not support the request ("pull") of ATIS messages from the media/outside sources. 	MED-19	NR	NR		628
<ul style="list-style-type: none"> Information Update Frequency <ul style="list-style-type: none"> For each dissemination outlet (DISS), the TOCS shall provide operator-configurable parameters defining the frequency of ATIS message updates. 				0	722
<ul style="list-style-type: none"> For each dissemination outlet (DISS), the TOCS shall provide operator-configurable parameters defining the frequency of ATIS message updates. 	FREQ-1	R	ML	3	649
<ul style="list-style-type: none"> Device and Vehicle Requirements <ul style="list-style-type: none"> Network Surveillance <ul style="list-style-type: none"> Device Failure Detection The TOCS system's TMS detection systems shall attempt to provide roadway coverage/density on a consistent basis (i.e., # TBD feet spacing between TMS). 				0	668
<ul style="list-style-type: none"> Network Surveillance <ul style="list-style-type: none"> Device Failure Detection 				0	671
<ul style="list-style-type: none"> Device Failure Detection 				0	688
<ul style="list-style-type: none"> The TOCS system's TMS detection systems shall attempt to provide roadway coverage/density on a consistent basis (i.e., # TBD feet spacing between TMS). 	DET-3	HD	IM		397

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
• Vehicles				0	673
• Probe Vehicle Information				0	693
• The AVL system shall be portable in order to move from vehicle to vehicle.	PV-3	HD	ML		253
• Traffic Control				0	672
• Dynamic Message Sign Systems				0	726
• The TOCS shall provide an interface with the ODOT Region 1 TMOC Advanced Traffic Management System.	CAD-14	R	DL	1	25
• Not valid or need validating.				0	770
✓ The TOCS system shall support roadway infrastructure monitoring per established "incident zone" (per RMC-7).	WTHR-1	HD	ML		49
• The TOCS system shall automatically populate the geocode location coordinates in the database for the record represented by the icon when placed on the map.	MAP-29	HD	DL		363
• Reversible Lane Control Systems				0	715
• The TOCS system shall support an integrated RLCS program using all of ODOT's roadway field devices.	RLCS-1	D	ML		377
• The TOCS system shall support an integrated High Occupancy Vehicle (HOV) lane management and/or enforcement program using all of ODOT's roadway field devices.	RLCS-2	D	ML		378
• The TOCS shall maintain all existing CAD system features, functionality, and fields as supported within the OSP CAD system (PSSI Response).	CAD-12	R	ML	1	23
• Deleted Items				0	686
• The TOCS shall support multiple base maps.	MAP-1	R	ML	1	335
• Drawbridge Management				0	708
✓ The TOCS system shall perform multiple tasks simultaneously. Ambiguous.	RMC-5	HD	ML		40
• Homeland Security Requirements				0	709
• Planned Event Management				0	711
• The TOCS shall provide planned event management.	PE-1	R	DL	1	176
• Winter Maintenance				0	714

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
✓ .The TOCS shall provide the display of notification data via "pop-up" windows and a status bar message. This feature shall be user	RMC-10	R	ML	1	45
• Deleted Stuff				0	676
• The ISP shall disseminate Traveler information via TripCheck Internet Website				0	725
• The TOCS shall be a data source to TripCheck.	TRIP-1	R	ML	3	655
• The TOCS system shall apply ITS standards for all TOCS-to TripCheck communications.	TRIP-4	HD	ML		658
• The TOCS shall apply ITS standards for all TOCS-to media/ISP communications.	TRIP-5	R	ML	2	659
• The TOCS shall not support interactive ATIS functionality except for those that are currently supported by TripCheck.	ITI-1	NR	NR		663
• Potential actions for response elements given in IM- through IM- (below) shall be provided for all response plans generated by the TOCS.	IM-31	R	ML	1	106
• For each response element (below), the TOCS shall support configurable parameters from which to update their use within a specific response plan.	IM-32	R	ML	1	107
• Response plans shall be capable of assigning and/or tracking the priority of incidents, planned events, construction activities, etc for ITS and/or roadway field device control.	IM-33	R	ML	1	108
• Incident Management				0	710
• The TOCS system shall implement alternate signal timing plans at ODOT- and/or other Agency-controlled intersections to assist ODOT fleet vehicles as they travel to an incident location. Needs clarification.	EVR-3	HD?	ML		67
• The TOCS shall provide tracking of COMET vehicle speeds.	DATA-2	R	ML	3	630
• The TOCS system shall track the status of all sub-systems within roadway field devices.	O&M-7	HD	ML		498
• Information Provided to Agencies and/or Travelers				0	721
✓ The TOCS shall provide the ability of ODOT to serve as the ISP for each ODOT Region.	IPAT-3	R	OI		645
• The TOCS system shall be capable of automatically positioning the CCTV camera based on a detection event and sounding an alert.	CCTV-6	HD	ML		216
• The TOCS system shall be capable of accurately re-positioning the camera back to a programmable setting (i.e., pre-set) after panning	CCTV-6.1	HD	ML		217
✓ The TOCS shall create an incident record based on the following:	CAD-2	R	DL	2	13
-Manually-entered information					
-Detection system inputs					
-Interface to an external Agency					

Requirement Description

Requirement Description	PRD	Priority	Level	Phase	ID
• The TOCS shall contain a response plan capability.	RMC-1	R	DL	1	35
• The TOCS system shall support 2-way communications and data flows with all ODOT fleet vehicles that use an AVL system.	FSP-8	HD	DL		59
✓ The TOCS system shall support ODOT's ITS device/system inventory via a graphical map display.	O&M-15	D	DL		506
✓ The TOCS shall provide data/information flows from ODOT Roadway Weather Information System (RWIS) stations	DET-5	R	DL	2	402
✓ The TOCS system shall be capable of automatically creating an incident report upon TOC operator verification.	RWS-4	HD	ML		333
✓ The TOCS will provide the tracking of any ODOT Vehicle equipped with AVL.			DL	0	716
• The TOCS system shall be able to track/locate other ODOT AVL-equipped vehicles.	PV-6	HD	DL		254
• Automatically Track Location of ODOT vehicles with AVL Technology			DL	0	696
✓ The TOCS system shall support direct, automatic entry of information from ODOT fleet vehicles into its database systems.	AVL-5	D	ML		452
• Only one TOCS system user shall be allowed to edit an incident record at any one time.	IM-21	HD	DP		96
• The TOCS system shall support information from the ODOT Motor Carrier Division.	DATA-11	HD	ML		641
• Detour Routing				0	707
• The TOCS shall not automatically provide the routing of a vehicle to an incident location (e.g., signal priority, pre-emption, etc.)	DR-	NR	NR		69
• Response Management & Coordination				0	712
✓ Weather-Related Emergency Response Management		R	HL	1	713
✓ The TOCS system shall support manual entries by the operator indicating the condition of the specific component, identified by critical infrastructure component.	WTHR-2-	HD	ML		50
✓ The TOCS shall provide automatic notification of ODOT staff for weather-related alarms.	WIN-5	R	ML	1	488
✓ The TOCS system's TMS detection stations shall be capable of supporting integrated freeway/arterial corridor management activities.	DET-9	D	HL		197
• No Home				0	771
• ITS Device Integration with Maintenance & Construction Operations				0	749
• ODOT Interfaces with External Partners (Operational Data Exchange)				0	684
• Traffic/Operation Information Dissemination				0	748

Requirement Description

✓ Call Taking

PRD	Priority	Level	Phase	ID
	R	HL	1	766

Count of All Requirements: 568