

TRAFFIC MANAGEMENT CENTERS				
Definition: Traffic Management Centers have two key operational functions: real-time active monitoring and coordination, and traffic management strategy implementation. These functions are accomplished by both staff and systems. TMCs provide a safer transportation system for users by being both responsive to incidents and innovative in technologies to accomplish that goal.				
	What is placing us in our current tier?		What is keeping us from advancing to the next tier?	
	- Current Traffic Management Centers include the Statewide Traffic Management Center (Columbia), SCDOT District 6 TMC (Charleston), and City of Charleston Traffic Management Center (Charleston). - SCDOT manages interstate travel solely. - CCTV cameras provide surveillance capabilities. - Some processes are documented but the documents are outdated. - Statewide ITS Architecture is from 2015 and systems engineering process is applied sometimes. - Local TMC has staffing shortages. - Interagency collaboration is minimal.		- Limited funding for TMC Operations, with no SCDOT funding beyond interstate operations - Limited documentation or standardized processes for local TMC operations - Systems engineering process not fully mainstream - Agency decisions not driven by performance measures - Challenges around staff retention and training. Unclear roles and few full-time staff dedicated to ITS at the local level. - SCDOT has ITS staff and funding, but funding and staffing does not provide for growth. - Agencies primarily focus on the TMC role for specific events. - Limited capacity in staffing and experience to fully recognize benefits of TMC coordination across multiple agencies.	
	Level 1 (Ad-hoc)	Level 2 (Managed)	Level 3 (Proactive)	Level 4 (Fully Collaborative)
Business Processes	Ad-hoc planning for TMC functions, vision not well defined; TMC processes specific to SCDOT are not documented	Some planning for asset management; processes for specific corridors or region, but not consistent statewide; some TMC processes documented	TMC operations needs captured in budget, standardized processes, consistent review/update of TMC strategic direction	TMC vision is integrated in all aspects of DOT business; Planning for Operations is standard practice; asset lifecycle cost is part of five-year programming processes; processes are regional
Systems and Technology	Ad hoc approaches to system implementation; systems engineering (SE) not applied consistently; procurement processes; ITS architecture is outdated; individual systems that are not integrated	Some elements of SE are used, including ConOps, architectures, developed and documented with costs included; TMC monitors some field systems; SE process applied to some aspects of TMC operations; some emerging technology considerations	Systems, technology standardized and integrated on a regional/corridor basis; statewide SOPs updated used; integrated statewide network; SE process is mainstreamed into TMC business practices; integrated systems	Architectures and technology routinely upgraded to improve performance; systems integration/ interoperability maintained on continuing basis; Strong support for adopting advanced technologies
Performance Measurement	Some outputs measured and reported for some aspects of TMC operations; typically, historical performance information	Some elements of TMC performance are tracked and reported; focus is primarily on usage/activity reports assessing trends; some real-time data is used for operational decision-making at the TMC	Performance outcomes guide recommend operational improvements; real-time data routinely used for decision-making; TMC uses some real-time data from other centers/sources	Operational decisions based on multi-jurisdictional real-time information; performance management strategy guides innovation at the TMC.
Culture	Individual staff champions promote operations; TMC operations priorities based primarily on champion focus areas; TMC not often included in work zone (WZ) or event planning, incident debriefing, etc.	Role of TMC acknowledged but connection to core ops areas is not always recognized; TMC engaged in pre-planning for WZ, TIM and PSE based on individual relationships	TMC is a core program, region values TMC role and input to key processes, TMC operating needs factored in early as part of other planning/scoping decisions	TMC highly integrated with many processes, region sees TMC as a valuable asset, high value on TMC data
Organization and Staffing	Individual staff champions promote operations; TMC functions learned mostly OJT; career path for TMC is limited and not well defined	Core KSA's identified and help support TMC ConOps; roles for in-house and contractor staff are defined; some training, but limited external training opportunities; communication between DOT and contractors is fragmented and event-based	TMC career path is clearly defined; established and successful training program; performance standards are clear and documented; good communication between staff and contractors	Commitment to ongoing training and professional development; strong retention of staff due to career path and advancement opportunities; strong and well-known performance standards
Collaboration	Relationships ad hoc, and on personal basis (public-public, public-private)	Collaboration with external partners is formal, and usually driven by specific needs, TMC roles still fragmented and event-based; real-time collaboration with public safety for incidents	Multi-agency and coordinated operations for planned events; some partnerships for key corridors; TMC role defined and understood	Multi-agency response strategies are mainstreamed into TMC operations; operating processes and procedures documented and used frequently
Service Layer Actions to Advance to Next Level				

TRAFFIC INCIDENT MANAGEMENT				
Definition: Traffic Incident Management is the intersection of many different TSMO strategies to respond to and manage incidents on the roadways safely and efficiently. Traffic Incident Management can be implemented at any setting or location and involves high levels of collaboration between agencies. A maximized TIM program includes rapid detection and verification of incidents location and severity, quick response to the scene, safe management at the scene, and quickly clearing the incident to reopen the lanes. Each of these tasks can take many forms and includes various activities.				
	What is placing us in our current tier?		What is keeping us from advancing to the next level?	
	• SCDOT manages the TIM program in the State. • The SHEP program covers all control-of-access roadways in the region 7 days per week, extended hours on weekends. • SHEP/DPS have regional TIM meetings with SCDOT, first responders, and public works agencies to discuss education, lessons learned, and challenges. • 511 Program provides capability for users to define commuter routes and time of day to receive notifications of atypical traffic conditions. • North Charleston Fire Department, City of Charleston Police, and potentially others use HAAS Alert Devices to alert travelers via Waze of an approaching emergency vehicle. • Charleston County, Dorchester County, and Berkely County Dispatch Centers use Alastar software to integrate data, manage incident response, and execute dynamic dispatching. • Some public safety agencies are capturing performance measures for incident duration and clearance times. • Quick Clearance legislation is in place. • Regional coordination meetings among emergency responders		• The TIM program is currently focused on freeways and limited on arterials. • Limited performance measures used by agencies for TIM, except for local public agencies. • Limited data integration or coordination between agencies. • Video sharing is not in place between transportation agencies. • Alastar is integrating a lot of data, but not integrated between external agencies. • Traveler information data is not integrated so users may not get comprehensive trip information. • Limitations in the usefulness of data captured on crash reports. • Poor EMS coordination on clearing lanes on interstate after crashes • Lack of regular AAR meetings • Lack of peer exchange between local emergency responders and state-level agencies	
	Level 1 (Ad-hoc)	Level 2 (Managed)	Level 3 (Proactive)	Level 4 (Fully Collaborative)
Strategic	TIM activities are ad hoc, and no formal TIM program exists. Activities are reactive only. TIM activities are only independently funded from the operational budgets of partner agencies.	A TIM program has been established by a single agency with one or two key initiatives. TIM planning is mostly ad-hoc.	There is a multidisciplinary TIM program that meets at a semi-regular interval. The leadership is clear with routine participation from key agencies. TIM is included in regional transportation plans at a high level. Some activities are annually funded.	A formalized multidisciplinary TIM program is supported by dedicated staff, and routinely meets. There is a full-time position dedicated to the TIM program. Regional planning is routine and integrated. The TIM program is well-funded.
Performance Measures	Performance measures are not typically measured. Data are present but not accessible or useful. No performance targets have been established. Status quo is generally acceptable.	Some performance measures (RCT, ICT) are routinely measured. Some data is integrated but only for a small subset of incidents. Subjective or qualitative targets for RCT and ICT are established.	Performance measures are routinely measured and reported. Data is collected for a significant proportion of incidents. Quantitative, data-driven performance targets are established.	Performance measures are routinely measured, reported, and used to improve the system or region-wide outcomes.
Tactical	There is no authority removal law or driver removal law in place. There is minimal outreach and education. There is no formalized incident response program or procedures.	An authority removal law and driver removal law is in place but may not be ideally worded or complete. A simple SSP provides motorist assistance only along some major roadways based on volumes or incident frequency. Some consideration is given to incident response procedures.	An authority removal law and driver removal law is in place but may not be well understood or enforced. A mid-level SSP is in place that provides services beyond motorist assistance. Procedures for incident response are well-documented though not universally understood or followed.	An authority removal and driver removal law is integrated and utilized on a regular basis. There is a sustained and fully-functional SSP that provides motorist assistance, clearance and recovery services, and emergency traffic control assistance. Procedures for incident response are well-documented and adopted.
Support	Minimal investment is made into public safety agency coordination and incident monitoring. There is no preplanned alternate routing or support for signal timing adjustments. Detour planning happens on-scene and is based on responder knowledge of the area.	There is some video sharing with the public but no or minimal SCDOT access to CAD software and systems. There is some pre-planning for alternate routes.	Video sharing is available between agencies but not all agencies are aware. CAD information is viewed by the TMC on a dedicated system or monitor. A standard policy is in place for alternate routing and signal timing but might not be widely distributed or viewed.	TIM related data/video is routinely shared among all responding agencies. CAD data is electronically transmitted to TMC/TOC and can populate data fields in TMC/TOC software. Alternate route and signal timing policies are widely known, and comprehensive guides are followed.
Service Layer Actions to Advance to Next Level				

ARTERIAL AND SIGNAL COORDINATION				
Definition: Arterial & Signals Management focuses on signalized arterial routes which play a significant role in the performance of SCDOT's comprehensive transportation network. Some of these arterial networks are managed through centralized signal systems that span signalized intersections on multiple corridors, but an even greater number are managed by interconnected coordinated signal systems located on a single corridor. Arterial management emphasizes signal operations, timing strategies, and performance measures.				
	What is placing us in our current tier?		What is keeping us from advancing to the next level?	
	- Multiple agencies have a program for signal maintenance. - Before and after travel time runs assess signal timing project implementations (considers emissions, delay, and travel times). - Extension of staff expands the resources available to perform traffic signal coordination. - Standard practices exist for design and operations within each agency. - Some adaptive signal systems in place.		- Limited collaboration between freeway and arterial management. - Funding and staffing constraints limit the effectiveness of achieving optimal signal coordination, management, and performance. - SCDOT and maintaining agencies are currently unable to remotely manage traffic signal systems. - Local funding primarily focused to expanding roadway capacity. - No routine updates for signal plans - Limited signal timing projects are coordinated for routes that cross multiple jurisdictions.	
	Level 1 (Ad-hoc)	Level 2 (Managed)	Level 3 (Proactive)	Level 4 (Fully Collaborative)
Business Processes	Traffic signal management program business decisions and resource allocations are ad hoc and/or compliant driven. Allocation of resources is focused primarily on keeping the traffic signal system functioning, but not necessarily at its optimum level of performance.	Traffic signal management planning, design, operations, and maintenance decision-making generally operate in silos and are not well integrated. Resource allocation decisions are focus primarily on maintaining reliability of infrastructure.	Traffic signal management decision-making is objective-based. The region has business processes that are flexible to adjust and trade-off resource allocations to extend good basic service beyond traditional operating conditions.	Traffic signal management decision-making is performance-based and multimodal. The region has the ability to replace equipment and systems technologies based on end-of-life predictions.
Systems and Technology	Traffic signal systems and technologies limit the region's ability to provide good basic service. Systems and technologies have limited capabilities to remotely manage, operate, and maintain the system. Limited use of system engineering concepts has resulted in the procurement of an array of systems and technologies with incompatible features and functions. Management and maintenance of systems and technologies is primarily complaint-driven.	The region has the capability to identify malfunctions and manage operations limited to specific intersections or corridors. The region can achieve consistency in design and operations through standard practice. The region routinely deploys advanced signal timing concepts (such a volume density, traffic responsive, actuated coordination, etc.) to achieve operational objectives and can implement pre-planned responses to planned and unplanned events. Tracking of assets and work items performed primarily through spreadsheets.	Traffic signal infrastructure is connected to a management system which can alert operators to equipment malfunctions as assist with managing timing plans. The region has capability to remotely manage that system, but management decisions are operator-driven with little automated decision support. Consistency in design and operations is achieved through the use of standard designs and hardware specifications. Systems and technology can support pre-planned responses and advanced concepts such as transit signal priority, work zone management, etc.	The region has the capability to dynamically respond to changing operational conditions to support the needs of all stakeholders to meet operational objectives. The region is able to automatically identify and respond to service disruptions and can reestablish continuity of service remotely. Procurement policies and practices support the procurement products and technologies that represent "best value" for achieving design and functional consistency. Consistency of design and operations is achieved the application of system engineering processes.
Performance Measurement	Performance measures are not connected to regional goals and objectives. Instead, use of performance measures is limited to special studies (upon request by administration or confirm reported operational deficiency). Performance measures are not used to proactively locate where operations and maintenance issues exist. Productivity is evaluated by tracking activities (e.g. number of maintenance call received, number of signals retimed, etc.)	The region has defined performance measures to assess project implementations (such as before/after evaluations). The region may collect output-oriented performance measures for operations and maintenance activities. Operational and management decisions are based on periodic manual observations in the field.	The region has defined performance measures to assess project implementations. The region uses outcome-oriented performance measures for operations and maintenance activities. Operational and management decisions are based on real-time, high-quality data accessible from remote locations.	Region has defined performance measures to assess system performance. System performance is monitored on regular, on-going basis. Automated systems are often used to collect and assess system performance. Performance data is used to identify performance and efficiency trends. The region uses performance to better allocate resources, identify maintenance deficiencies, and equipment failures, etc.

ARTERIAL AND SIGNAL COORDINATION				
Culture	Traffic signal management does not have a champion or core group within the region that can promote traffic signal operations and maintenance concerns and priorities. Leaders have shared responsibilities with other core agency functions. Outreach to stakeholders and media occurs on an ad hoc basis. Region does not any have standardized approaches for communicating with public and policy makers	Traffic signal management is recognized as one of many functions within the region, but no special emphasis placed on performance. The region supports teams dedicated traffic management functions, but no broad acknowledgement or awareness by leadership as to what they do. Outreach to the public and policy maker regarding traffic signal operations occurs on an as needed basis, primarily related to projects.	Traffic signal management acknowledged as important function by regional decisions makers. Traffic signal management champion resides at decision-making level. Regular outreach occurs to communicate with policy-makers regarding traffic signal operations through traditional means (reports, fact sheets, etc.).	Region viewed as a progression region by peers and the entire program staff can serve as a champion for the traffic signal operations issues and concerns. Regional staff is unified as to the goals, objectives, and priorities of the region and uses them to drive decision-making. Programs can still function at high level, even with the departure of key leaders. The region seeks opportunities to proactively promote region's mission, goals, and objectives in person before advisory groups, citizenry, and policymakers through both traditional and non-traditional (social media, dashboards, etc.) communications media.
Organization and Staffing	Staff maintains minimum level capabilities necessary to do the job. This limits the agencies to assign staffing resources only to limited number of activities. Often, engineering and technical staff have other responsibilities other than traffic signal operations.	Key staff is well versed on basic signal timing design and operational concepts. Work force development efforts are focused on raising the level of competency of the staff. Programs within agencies reside in structured silos (planning, design, maintenance, operations, etc.) with limited coordination between silos.	Staff is well versed in both basic and advanced traffic signal control and management concepts and can execute solutions on existing technologies. Workforce development efforts focus on expanding breadth of competencies and providing redundancy in core competencies. The agencies can dedicate staff resources to high priority corridors/areas on a limited basis.	Staff is highly motivated and qualified and has the capability to develop and deploy innovative solutions to complex operational situations. Workforce development efforts focus on providing a nimble workforce that has the ability to adapt to different situations, depending on the needs of the region. The region uses a matrix approach to managing traffic signal operations. Staff has capability to perform activities across network and across functional units.
Collaboration	No data sharing exists between regional partners. Collaboration with internal and external stakeholders is rare, often forced upon agencies by policymakers or administrators.	Information and data are archived internally and shared upon request with other stakeholders. The agency collaborates with internal and external stakeholders on a case-by-case or project basis, but these collaborations are not sustained over time.	Formal and well-documented archiving system is used to store collected data. Data can be quickly and easily accessed through well-documented and standardized electronic format, easy to use by all partners. The regional agencies seek collaborations with other transportation stakeholders that to capitalize on opportunities to satisfy needs of operational objectives.	The regional agencies routinely collaborate with internal and external stakeholders (e.g., fire, police, transit, advocacy groups, etc.) that allow them to capitalize on opportunities to satisfy needs of multiple stakeholder objectives. Data is shared in real-time with regional operating partners and is used to support numerous regional activities (such as regional planning models, support real-time traveler information displays, etc.).
Service Layer Actions to Advance to Next Level				

TRAVELER INFORMATION				
Definition: Traveler Information provides near real-time information to transportation system users to make informed decisions as it relates to safe and efficient travel. This information can be related to congestion, incidents, or generally unsafe conditions due to weather or other unexpected conditions. The information can be shared via dynamic message signs, agency websites, social media, 511, or directly to connected vehicles.				
	What is placing us in our current tier?		What is keeping us from advancing to the next level?	
	• SCDOT maintains some traveler information systems such as dynamic messaging signs (DMS), the 511 System, and Twitter. • BCDCOG has a beach traffic camera feed page. • BCDCOG has plans to expand Real Time Arrival signs at stops through CARTA • New vendor selected for app-based parking payment for City of Charleston. • North Charleston Fire using social media for traveler information around incidents • Airport has parking availability information in new parking decks.		• Low Public awareness on available systems and pre-trip planning software. • Limited to no performance measurement program for TravInfo. • Standalone traveler information systems that are not connected or integrated (SHEP/DPS and Charleston/Berkeley/Dorchester Counties). • Limited parking capacity information is available in real time. • Limited strategies to address wayfinding to available parking at high volume destinations (reduce circling) • Airport does not provide parking availability information or reservations prior to arrival or in advance of trips.	
	Level 1 (Ad-hoc)	Level 2 (Managed)	Level 3 (Proactive)	Level 4 (Fully Collaborative)
Business Processes	Traveler information is ad-hoc and unintegrated. Any traveler information initiatives are independent or one-off efforts.	There is a plan for traveler information activities, but it is not fully formed or widely distributed. There is some planning or strategy integrated into the plan.	Programming and budgeting for traveler information is standard and documented.	Traveler Information processes are streamlined and undergo recurring analysis and improvements.
Systems and Technology	There are no real systems or technology to support Traveler Information.	Basic traveler information systems exist but are not well known or integrated.	Traveler information technology is widely deployed and used. Some redundancy and resiliency in traveler information exists.	Traveler information technology is advanced, integrated, and used across the state. Traveler Information data sources are varied and redundant.
Performance Measurement	No regular performance measurement occurs.	Performance measurement is based on output or primarily takes place during after action analysis.	Performance measurement is based on outcome. Performance measures are well documented with achievable goals and are used to improve strategy.	The program is driven by key performance measures which are routinely utilized for management, reported both internally and externally, and archived.
Culture	There is minimal understanding of the value of traveler information.	The key regional members value the traveler information program.	There is a formal core program that fosters an appreciation for traveler information both internally and externally.	The region has explicitly committed to achieving the goals of the program through traveler information with widespread support.
Organization and Staffing	Any traveler information work done is performed by someone with available skills. There is no formal traveler information staff.	A core staff member has responsibility for traveler information with a clearly defined role.	There is a management position dedicated to traveler information with limited support staff.	There is a staffed team of dedicated traveler information personnel with performance measures dedicated to the role/program.
Collaboration	Collaboration across the region is infrequent and informal.	There is regular collaboration in some regions. Some informal agreements exist across agencies.	There is regular regional and statewide collaboration. Formal agency agreements dictate collaboration across agencies.	There is a high level of coordination across key players, both private and public.
Service Layer Actions to Advance to Next Level				

ITS AND COMMUNICATIONS				
Definition: ITS and Communications: Communications networks are the backbone of functional intelligent transportation systems. Since all intelligent transportation systems require communications and an exchange of data, a strong plan for managing all devices, fiber, and assets is essential. This can all be documented in deployment plans and guidelines. One key component of this is identifying risks and vulnerabilities and mitigating those risks.				
	What is placing us in our current tier?		What is keeping us from advancing to the next level?	
	- Agencies have been working to expand their own communication networks. - SCDOT has been working to expand its fiber network along the interstates. - ITS efforts have been largely focused on fiber, DMS, and CCTV coverage. - Maintenance of devices is largely reactive and performed by regional signals staff. - SCDOT has dedicated ITS staff - Local responsibilities for ITS and communications infrastructure is provided by staff with shared functions - Some standards for device installation		- Limited programming and budgeting for ITS and Communications investments. - Limited experience applying the systems engineering process for project implementation. - Limited knowledge of ITS strategies beyond fiber, DMS, and CCTV coverage. - Local staff mostly focused on signals, fiber optic cables, and cameras but not broader ITS applications. - Currently agencies are not sharing communications infrastructure or access to devices. - Limited access to technical expertise to support the program within the region - If ITS-related operations expand, more dedicated staff will be needed for implementation.	
	Level 1 (Ad-hoc)	Level 2 (Managed)	Level 3 (Proactive)	Level 4 (Fully Collaborative)
Business Processes	ITS and Communications activities are ad-hoc and not integrated	There is an ITS and Communications plan, but it has deficiencies.	Programming and budgeting for ITS Communications is standard and documented.	ITS and Communications processes are streamlined though still subject to improvement.
Systems and Technology	Deployment of ITS and Communications systems takes place outside of the systems engineering process and is more reactive	Systems engineering employed and used for ITS and Communications documentation	ITS and Communications systems and technology are standardized, documented, and trained statewide	ITS and Communications systems and technology is routinely upgraded and utilized to improve efficiency performance
Performance Measurement	There are no regular performance measures for ITS and Communications	ITS and Communications strategies are measured via output and after action analysis	ITS and Communications outcome measures used to improve strategy	ITS and Communications key output are routinely utilized for management, reported internally and externally, and archived
Culture	The value of ITS and Communications is not widely understood	There is a region wide appreciation of the value of ITS and Communications	There is a formal core program for ITS and Communications to grow the regional value of the program	There is explicit regional commitment to achieve the objectives of the ITS and Communications program
Organization and Staffing	The ITS and Communications efforts of the region relies on fragmented roles based on legacy organization and available skills	There is an active effort to staff ITS and Communications related projects. Core staff capacities have been identified	There is a top level management position and core staff for ITS and Communications	Operations staff for ITS and Communications have certification for core capacity positions including performance incentives
Collaboration	Relationships are fostered on informal and infrequent basis	There is regular collaboration at a regional level	There is a collaborative interagency adjustment of roles/responsibilities by formal interagency agreements	There is a high level of operations coordination institutionalized among key players both public and private
Service Layer Actions to Advance to Next Level				

EMERGENCY RESPONSE & RESILIENCY				
Definition: Emergency Response and Resiliency includes the region’s preparedness for impacts from significant weather or unplanned events. This includes activities that should occur prior to, during, and after the event. Agencies typically involved are transportation agencies, emergency management, state police, local law enforcement, and others that can provide real time data related to impacts or resources during different phases of the event.				
	What is placing us in our current tier?		What is keeping us from advancing to the next level?	
	• SCEMD manages large scale emergency events such as hurricanes and coordinates with other agencies. They have standardized documentation shared with all agencies. • SCDOT uses ITS technology and resources such as portable changeable message signs, traffic cameras, congestion monitoring, and SHEP for evacuation operations. • Technology such as DMS during lane reversal and Wireless Emergency Alerts (WEA) are used to communicate with the public during an extreme event. • Lane reversal is practiced with partner agencies before hurricane season begins. • Emergency response is recognized throughout the region as critical due to frequency of hurricanes. Hurricane Guides are produced each year by SCEMD. • Most local agencies have EM plans and hazard mitigation plans. • SCEMD maintains the State Emergency Operations Center in West Columbia. During emergency operations, they are prepared to staff the center 24 hours a day using state agency staff, and staff from both non-profit and private organizations. • After Action Reviews are conducted and support the development of plans after events. • Each County Emergency Operations Center activates and staffs of 24 hours a day during an emergency. • SCDOT TMCs staff for 24 hours a day during an emergency.		• Limited use of technologies beyond foundational ITS infrastructure during emergencies. • Limited understanding from leadership regarding the value of technology investments to support emergency response. • Limited use of performance measures to support AARs and future technology implementations. • Region not leveraging emergency response technology for secondary uses.	
	Level 1 (Ad-hoc)	Level 2 (Managed)	Level 3 (Proactive)	Level 4 (Fully Collaborative)
Business Processes	The region’s response is informal and reactive to major events. There is little to no information on the documentation process.	While the response to smaller events is more reactive, major events are nominally assessed and planned for. The documentation process is outlined but not consistently used throughout the region.	A formal process for emergency response has been established. There is a standardized documentation process. Funding and other institutional barriers prohibit the region from addressing the immediate needs post-event.	A formal documentation process is widely used for multiple agencies and a database or platform is used to archive historic information. The historic information is reassessed annually to identify outstanding needs.
Systems and Technology	No standard protocol or systems exists for emergency management or coordination across agencies.	Technology is available to support planning but is inconsistently used. There is a standard protocol for emergency response management.	Technology is used for situational awareness and verification. Available technologies are widely used and coordination between partnering agencies is established.	All available technologies are used to the fullest extent. Information sharing is common practice between agencies.
Performance Measurement	There is no formal coordination after major events. The data that is collect is not applied or stored adequately.	There is some coordination after major events with multiple agencies involved. There is adequate review of data for pre-event, during, and post-event. The data is used to track progress.	There is a formal coordination process during and after major events with multiple agencies involved. The data is used to set pre- and post-goals for the agencies.	Formally coordination process is common practice. All available data sources are used to drive multiagency decisions.
Culture	The value of multiagency coordination is not a priority. There is no adequate funding in place to respond to major events.	Leadership sees the value in multiagency response. There is still need for funding resources (staff, technology, etc.). While resiliency is considered, it is not a high priority region wide.	Leadership recognizes and actively funds resources to enhance emergency response needs. The region recognizes and actively advocates for resilient planning and standards.	Leadership advocates for more funding to further enhance emergency response needs. Planning for resiliency is a cornerstone of the region’s standards.

EMERGENCY RESPONSE & RESILIENCY				
Organization and Staffing	There are few, if any, tools in place that allow for expansion of staffing during a major event. There are little to no training tools available.	There are some tools in place that allow for expansion of staffing during an event, but mostly rely on internal staff. There are informal exercises in place to train new staff.	There are tools in place that allow for expansion of staffing levels—internal, partner agencies, and volunteers—during an event. Training tools are reassessed after each event for future responses. There are formalized exercises in place to train new staff.	Response tools are common practice and allow for expansion of staffing levels—internal, partner agencies, and volunteers—during an event. Training tools are reassessed frequently, and all relevant staff participates in these exercises.
Collaboration	The After-Action Review (AAR) includes some key, internal staff. There is limited partnership between agencies.	The AAR includes a few agencies. There is some partnership to balance responsibilities and information sharing.	The AAR includes most agencies involved. There is strong partnership to balance responsibilities and information sharing.	The AAR includes all agencies involved. Strong partnerships exist between agencies and are not dependent on individuals. Agency partnerships leverage well-coordinated information sharing.
Service Layer Actions to Advance to Next Level				

DATA MANAGEMENT				
Definition: Data Management includes all activities related to collecting, storing, and using data. It also addresses procedures around data security, integration, and resiliency. Data collection should be efficient and effective; analysis should support an overall performance management program, and efforts should clearly align with achieving the region’s identified objectives.				
	What is placing us in our current tier?		What is keeping us from advancing to the next level?	
	• SCDOT maintains the TEAMS database for signals inventory. Partner agencies can request and gain access. • Some SCDOT GIS datasets are available to be shared with external partners. • The Alastar system integrates data from multiple sources within individual counties. • Data security protocols are coordinated at the individual agency level. • HERE data feeds travel time calculations. • Some agencies are partnering to integrate data from Waze through Public Partnerships Program. • Existing statewide data procured and shared (RITIS, ClearGuide)		• Limited guidance or standards for how to acquire, access, or share data externally. • Both institutional and physical obstacles impede regional partners from gaining access to datasets owned by other agencies. • There are limited processes for data validation and maintenance. • Not all agencies use data to inform decisions and develop performance measures. • Limited training for staff on accessing and validating data. • Limited capacity in staffing or skills to coordinate or support data integration. • Differing security requirements between agencies.	
	Level 1 (Ad-hoc)	Level 2 (Managed)	Level 3 (Proactive)	Level 4 (Fully Collaborative)
Business Processes	There are no formal guidelines on how data is acquired, stored, or shared. Contracts with private sector data providers are ad hoc.	There is limited formal guidance on how data is acquired, stored, or shared internally. Contracts with private sector data providers reflect regional agency needs.	There is formal guidance on how and where data is acquired, stored, or shared both internally and externally. Contracts with private sector data providers align with regional objectives.	Guidance on how and where data is acquired, stored, and shared both internally and externally is institutionalized. Contracts with private sector data providers are well integrated and common practices.
Systems and Technology	There is a lack of awareness of the existing data for both internal and external use. Maintenance is non-existent or occurs when issues are encountered.	The data is not easily accessible and may be housed in multiple locations at the agency level. Maintenance may occur occasionally. Individual datasets exist but are not integrated.	The data is housed in multiple locations at the agency level but easily accessible by partner agencies. Maintenance of the data systems occurs often. Some datasets are integrated.	The data is well-integrated and housed in a single location that is easily accessible by multiagency staff. Data repository undergoes routine maintenance. Redundancy of central data supports continuity.
Performance Measurement	Data is not readily available to inform data-driven decisions. The data is not validated through a formal process.	The data is occasionally used to inform data-driven decisions. There is a lag in accessibility for the most recent data. Data validation occurs on an individual level.	The data supports data-driven decisions that align with regional goals. There is a data validation process in place.	The data is comprehensive and supports data-driven decisions that align with multiagency objectives. There is a well-integrated data validation process.
Culture	Leadership does not recognize the value of acquiring, purchasing, or investing in new or existing data sources. The data acquisition process is not well-funded to keep up with regional needs.	Leadership seldom recognizes the need to acquire, update, and validate data sources. With limited resources, agencies must “make-do” with available information.	Leadership understands the need for more funding to acquire relevant and recent data. The region has some funds to invest in new data tools or sources.	Leadership advocates for more funding to further the available data for multiagency use. The region actively invests in using and purchasing the latest data sets.
Organization and Staffing	There is informal training on where and how internal and external data is housed.	There is some training that provides all internal staff with knowledge of where to find data. There may be some guidance on validating sources internally and externally, but that process is not formalized.	Training is updated to reflect the latest data management processes which all staff are encouraged to take. Regional leadership encourages the use of cross-cutting data sources.	Regional leadership actively invests time and resources to promote new efficiencies. All staff are encouraged to participate in training that is updated frequently to reflect enhanced processes.
Collaboration	Agencies maintain individual datasets focused on their individual objectives.	Some internal and external coordination occurs for data alignment and limited data integration. Data security protocols and data management are coordinated at the individual agency level.	Significant internal and external coordination occurs for data integration. Some consistency in data security protocols.	There is multiagency consistency in data security protocols and data management. Cross-cutting performance driven decisions are made in the larger interest of the agency or region.
Service Layer Actions to Advance to Next Level				