

# TRANSCOM<sup>SM</sup>

## 2016-2018 Strategic Plan

*Supporting member agencies to improve the multi-modal mobility and safety of over 20 million travelers within the New York, New Jersey, and Connecticut region.*





# TRANSCOM<sup>SM</sup>

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**Matthew Edelman**  
EXECUTIVE DIRECTOR

**TO: TRANSCOM Board of Trustees**

**FROM: Matthew Edelman**

**RE: TRANSCOM 2016-2018 Strategic Plan**

**DATE: September 14, 2015**

**COPY TO: TRANSCOM Technology & Operations Committee  
Federal Highway Administration  
NYMTC, NJTPA, SWRPA**

We are pleased to provide you with TRANSCOM's Strategic Plan. This plan will be an essential resource as TRANSCOM continues to serve its member agencies and the Region, as a whole. It prepares our coalition for adapting to the challenges in regional transportation that lie ahead.

There are many individuals and organizations who made this effort possible. First, FHWA/USDOT's Resource Center staff provided excellent facilitation of this process. They utilized a Capability Maturity Model (CMM), that was created largely for the self-assessment of state DOTs, and showed tremendous flexibility in adapting it to our multi-agency coalition. Unlike a state DOT, TRANSCOM does not have a single point of authority at the top. Richard Denney, Ralph Volpe and Grant Zammit facilitated meetings with many participants. Not only were discussions productive, but their synthesis of the results of these meetings was comprehensive. We also want to thank FHWA Associate Administrator Jeffrey Lindley, and his colleagues at FHWA headquarters, for providing the talents of the Resource Center.

This plan would not have been produced without the leadership of TRANSCOM Board Chair, Veronique Hakim, and Technology & Operations Chair, Mark Muriello. They ensured active member agency engagement and focused the participants' attention on the importance of developing a Strategic Plan which was both visionary and pragmatic. Participation by the member agencies, the MPOs, and the three State FHWA Division offices was extensive. There was a diversity of jurisdictional views and professional views. Operations, highway, transit, public safety, and planning personnel each brought a different perspective to these discussions.

I also want to recognize the valuable contribution of TRANSCOM staff, in particular Tom Batz, Sanjay Patel, Bob Glantzberg, and, of course, Michelle Fitzgerald Abiyaghi.

Again, thanks to all of you for your time and your insight.

Matthew Edelman  
Executive Director



## EXECUTIVE SUMMARY

The importance of strategic planning for TRANSCOM is to establish a shared vision for regional transportation system operations and provide the framework to ensure TRANSCOM's programs, services and systems are directed in a manner that moves toward that future. TRANSCOM is a coalition of members that recognizes that collective actions and coordinated programs, rather than individual efforts, better serve users of a diverse and interconnected transportation network. As such, the TRANSCOM Strategic Planning process deliberately explored individual member agency input on its goals and how they relate to both the region and its shared customers. Furthermore, the Strategic Plan explored how TRANSCOM may be positioned to support outcomes and performance at a regional scale and on a system level. We are confident that the approach of beginning with, and building upon input from members, aligns this strategic plan well with each member agency's goals. We are also confident that the strategic plan positions TRANSCOM to better serve its member agencies and their customers while also adding value at a regional level. By providing intermediate steps that guide this organization and the region it serves, the strategic plan moves the region toward solutions to the most pressing transportation challenges of today and tomorrow.

Throughout its 30-year history, TRANSCOM's strategic direction has been a reflection of the regional goals and objectives articulated by its member agencies. For almost two years, with guidance from the USDOT/FHWA Resource Center, representatives from each of the 16 transportation and public safety agencies from New Jersey, New York, and Connecticut worked together on this regional, multi-modal and multi-disciplinary effort. Further detail about this process can be found in Appendix A, page 25.

Four key decisions were made within this process:

1. The current services provided by TRANSCOM meet the needs of the region.
  - The 2016-2018 Strategic Plan should focus on how TRANSCOM can serve the region and the agencies' defined vision for the future in a greater capacity, building upon its current service offerings.
2. Regional transportation operations and coordination is no longer the aspiration it was a generation ago; rather, it is a reality and an ongoing necessity. Independent agency action alone will not meet the region's mobility needs. All agencies must work together to meet the needs of their customers.
3. The coalition's goals for the future of regional transportation are:
  - **Regional Coordination:** Coordinate as a region to ensure a seamless, safe, reliable, and efficient daily journey for our region's customers.
  - **Sustainability:** Create and advocate for a financially and operationally sustainable coalition that is structured and resourced to facilitate regional goals and system objectives.
  - **Performance Measurement and Management:** Understand and articulate regional travel patterns, system reliability, and the value of regional transportation system operations, and advocate them accordingly.
  - **Planning for the Future:** Prepare for the future needs of our region's members and their customers by assessing emerging trends and encouraging innovation to address future transportation improvements.
4. The strategic planning process must be an ongoing effort to maintain focus on the organization's goals and objectives over time. The plan should be the foundation for all TRANSCOM activities and it should be refined, as directed by the Board of Trustees, in order to sustain its relevance to TRANSCOM and its members.

Objectives for each goal were also defined in order to establish needed actions and measurements to achieve the goal. Strategies outlining how TRANSCOM should proceed in the next three years, and beyond three years, to support the goals and objectives were also noted. The end product of these discussions is the 2016-2018 TRANSCOM Strategic Plan.



# **TRANSCOM<sup>SM</sup>**

## **2016-2018 STRATEGIC PLAN TABLE OF CONTENTS**

	<b><u>PAGE</u></b>
TRANSCOM Mission Statement and Statement of Purpose	<b>5</b>
List of TRANSCOM Member Agencies and Associates	<b>6</b>
TRANSCOM Organizational History	<b>7</b>
Regional Goals and Objectives	<b>9</b>
TRANSCOM Strategic Plan: Next Three Years	<b>11</b>
TRANSCOM Strategic Plan: Beyond the Next Three Years	<b>21</b>
Summary List of Strategies: Next Three Years vs. Beyond Three Years	<b>23</b>
Achieving the Plan: Progress Reporting and Ensuring Responsiveness to the Membership	<b>27</b>
Appendices	
Appendix A – Strategic Planning Context	<b>31</b>
Appendix B – Pictorial Representation of Regional Goals, Objectives, and Strategies	<b>33</b>
Appendix C – USDOT/FHWA Resource Center Internal Assessment	<b>49</b>
Appendix D – Results of USDOT/FHWA Resource Center Capability Maturity Model	<b>67</b>
Appendix E – USDOT/FHWA Resource Center Interview Findings Presentation	<b>71</b>
Appendix F – Description of TRANSCOM Current Program and Services	<b>83</b>



## TRANSCOM MISSION STATEMENT

TRANSCOM improves the mobility and safety of the traveling public by supporting its member agencies through interagency communication and the enhanced utilization of their existing traffic and transportation management systems.

Further, as additional systems become available, TRANSCOM is a forum for ensuring that they are implemented in a coordinated manner.

As a coalition of transportation and public safety agencies, TRANSCOM serves as a focus for bringing even greater funding into the region to improve regional traffic and transportation management.

## TRANSCOM STATEMENT OF PURPOSE

*The following is the statement of purpose presented in the Certificate of Incorporation for TRANSCOM Inc. It is included here because it provides a more comprehensive and complete description of TRANSCOM's mission.*

TRANSCOM is organized and operated for the following purposes:

- To improve the mobility and safety of the traveling public.
- To support the Member Agencies and other entities, all of which are governmental agencies, through regional interagency communication and coordination, and through the enhanced utilization of their existing transportation management systems.
- To relieve the Member Agencies of the burden of undertaking regional efforts individually.
- To conduct and facilitate multi-agency research, testing, deployment, and expansion of transportation management systems to improve the safety and mobility of the traveling public.
- To serve as a forum for ensuring that new or expanded transportation management systems are implemented in a coordinated manner, to maximize the use of public transportation resources.
- To provide outreach to non-member agencies in the region (including local police agencies) and to the public regarding incidents, construction, and other matters of regional significance.
- To enable the public to benefit from the Corporation's information-gathering by making its multi-modal, multi-agency transportation information available to the public.

## **TRANSCOM MEMBER AGENCIES AND ASSOCIATES**

TRANSCOM is a coalition of 16 transportation and public safety agencies in the New York – New Jersey – Connecticut metropolitan region.

### **BOARD OF TRUSTEES MEMBER AGENCIES**

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### **AGENCY ASSOCIATES**

FEDERAL HIGHWAY ADMINISTRATION – CONNECTICUT DIVISION  
FEDERAL HIGHWAY ADMINISTRATION – NEW JERSEY DIVISION  
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## TRANSCOM ORGANIZATIONAL HISTORY AND REGIONAL ROLE

In mid-1980s, the Port Authority established a Trans-Hudson Task Force to advance initiatives to sustain and enhance interstate transportation capacity and services. One of the findings of this effort was that greater construction project coordination was needed among the numerous agencies in the region. This lack of coordination resulted at times in the reduction of capacity through simultaneous construction in parallel corridors. Similarly, the study also concluded that major incidents had regional consequences -- greater communication and coordination was needed during these events.

The Port Authority knew that they could not solve this issue alone. A meeting of regional transportation leaders was convened to discuss the situation, which resulted in the creation of a cooperative, multi-agency organization. Initially funded and staffed by the Port Authority, TRANSCOM was created and eventually grew into an organization that receives funding and support from all major transportation agencies in New York, New Jersey and Connecticut.

Since its creation, TRANSCOM has become an essential organization for regional operations. Member agencies have recognized that a single region, with a single regional economy, a single transportation system, and a single customer base needs a means of coordinating transportation operations on a regional basis. At the same time, TRANSCOM has also understood that this coordination cannot be achieved without recognizing and respecting each agency's separate jurisdiction and control over its own facilities. This has been an essential element in creating TRANSCOM's culture of collaboration.

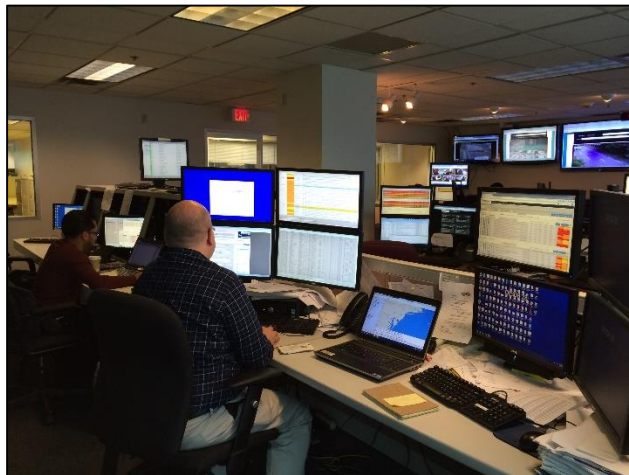
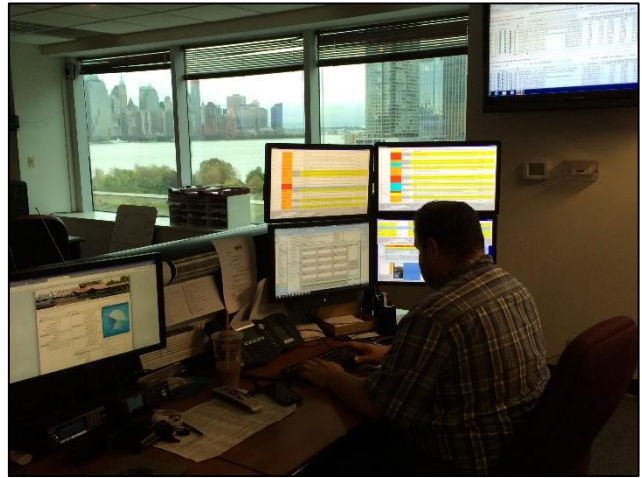
Today's regional transportation network has become more integrated and interdependent, transcending institutional and geographic boundaries. As such, the needs of the region have extended beyond construction coordination and regional incident management. TRANSCOM's role has expanded to include the integration and distribution of transportation and incident information and the management of regional ITS programs. It has since become an integral part of transportation operations in a region encompassing some 20 million residents in three States, with all the agencies working together to serve their multi-modal and regional transportation needs. TRANSCOM has succeeded through a cooperative of model for regional coordination, which builds upon rigorous systems and comprehensive data, while developing strong working relationships with the staff from the member agencies.

Every program, project, and system that TRANSCOM has developed with its member agencies involved fundamental changes in regional operations. Initiatives such as regional construction coordination and the use of variable message signs as regional resources involved changing the way decisions were made and assets were deployed. This was also true with the development of numerous subsequent initiatives: the TRANSMIT system, which utilizes toll tags as anonymous probes for travel times on over 3,000 one-way miles of highway; an OpenReach network, which integrates and distributes event, travel time, and video information among the operating agencies and across modes; and a Data Fusion Engine, which provides travel times across agency boundaries while integrating the full range of technologies available, along with an archiving tool that serves as a resource for planning and performance measures. Not only have all of these programs been applied successfully, they were conceived and developed by TRANSCOM staff and the member agencies together.

Overlaying all of these operational and technical activities is an institutional and administrative infrastructure that ensures accountability. The 2014-2018 TRANSCOM Multi-Year Membership Agreement among member agencies specifies different categories of Operations Support, along with percentage contribution shares. Furthermore, TRANSCOM's By-Laws specify the roles and responsibilities of the Board of Trustees, other committees, corporate officers, and the member agencies, along with rules for corporate actions and governance.

TRANSCOM's track record in regional operations has attracted visitors from all over the world, including from China, Australia, Japan, Canada, Brazil, Sweden, Thailand, New Zealand, Abu Dhabi, Hungary, and Malaysia. TRANSCOM has been asked to speak around the United States about its projects, programs, and experiences as a leader in regional transportation operations and collaborative management and decisions making. The Federal Highway Administration continues to use TRANSCOM as a national model of regional coordination and transportation systems management and operations. TRANSCOM has worked cooperatively on an ongoing basis with FHWA's Office of Operations on their efforts to link operations and planning. The Office has also reached out to TRANSCOM as an important resource in demonstrating a regional perspective on the effective use of ITS resources during severe weather and other emergencies.

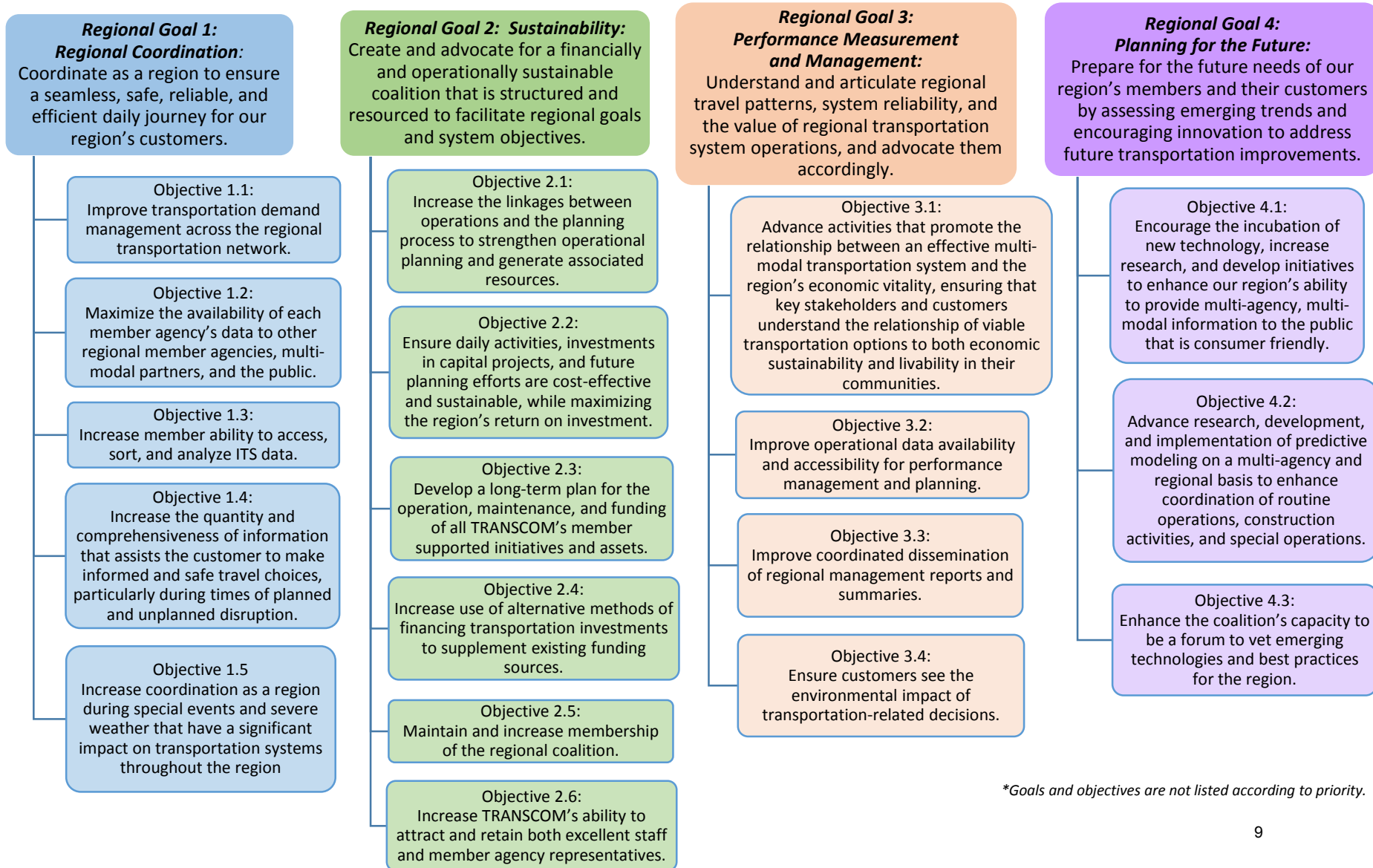
Finally, TRANSCOM has been honored to testify before the US House of Representatives Committee on Transportation & Infrastructure and the US Senate's Environment & Public Works Committee; the latter testimony was to present TRANSCOM's communications roles during the 9/11 attacks. TRANSCOM's process for regional communications during major emergencies has continued, having played a vital role during Hurricanes Sandy and Irene and, most recently, the blizzards of the 2014.



*A regular work day for the  
TRANSCOM Operations  
Information Center.*

# 2016-2018 REGIONAL GOALS AND OBJECTIVES\*

At the March 2015 workshop, members established regional goals and objectives. These regional goals and objectives envisioned the future of the region and set the stage for TRANSCOM's strategic direction outlined in this strategic plan.



\*Goals and objectives are not listed according to priority.



## TRANSCOM STRATEGIC PLAN: THE NEXT THREE YEARS, 2016-2018

Member agencies affirmed that current services provided by TRANSCOM (Appendix A, page 25) meet the needs of the region. It was also decided that the 2016-2018 Strategic Plan should focus on how TRANSCOM can serve the region and assist agencies with achieving their vision for the future in a greater capacity, building upon current roles and service offerings. Recognizing the realities of current staffing and resource constraints, and the need for new partnerships in the future, the strategies and supporting activities were designated as either short-term (next three years) or long-term (beyond three years). TRANSCOM strategies for the next-three years are provided within this section.

### ***Regional Goal 1: Regional Coordination***

***Coordinate as a region to ensure a seamless, safe, reliable, and efficient daily journey for our region's customers.***

#### Objective 1.1: Improve transportation demand management across the regional transportation network.

Strategy 1.1.1\*: Coordinate and develop a common operating picture during emergency transportation events such as severe weather and major planned events.

*This common operating picture includes coordination of situational awareness, emergency operating plans, system resumption activities, consistent traveler information, and more connection to Transportation Demand Management (TDM) programs.*

*In the next three years, TRANSCOM will strengthen regional communications to include visualization of transportation conditions, weather, meeting attendees, evacuation plans, any associated conflicts, and additional information and tools as required.*

Strategy 1.1.2: TRANSCOM will utilize and enhance its central database for planned lane-level closures and transit construction in order to mitigate disruption and conflicts.

*Members noted that this strategy is an immediate and on-going need for the next three years. The desire for TRANSCOM to increase its efforts, and become more active, in construction coordination was expressed.*

*Activities in support of this strategy are:*

- Further harnessing archived ITS data to enhance transportation management.*
- Enhancing TRANSCOM system capabilities to further regional transportation data integration and information dissemination.*
- Strengthening systems to coordinate construction projects with evacuation routes.*

#### Objective 1.2: Maximize the availability of each member agency's data to other regional member agencies, multi-modal partners, and the public.

Strategy 1.2.1: \*Continue to enhance TRANSCOM systems as the primary and central source of regional transportation information, particularly network travel times and incident and construction information.

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\* Existing TRANSCOM activity, as of July 2015.

Strategy 1.2.2: Promote the use of TRANSCOM systems that quickly generate notifications as needed in order to enhance the efficiency of regional transportation communications and reduce lag time (i.e., the time it takes to pass transportation information to its members and the public).

Strategy 1.2.3: Increase accessibility of TRANSCOM's regional transportation information to public safety agencies.

*TRANSCOM will conduct outreach to major municipal and county police, offices of emergency management, and fire departments to expand the use of TRANSCOM data for situational awareness.*

Strategy 1.2.4: Standardize event language to more easily represent and report conditions.

Strategy 1.2.5: Support member agencies' social media efforts to relay communication among one another and with multi-modal partners, with a focus on the commercial trucking associations and large companies.

Objective 1.3: Increase member ability to access, sort, and analyze ITS data.

Strategy 1.3.1\*: Develop enhancements to the TRANSCOM OpenReach system requested by member agencies to increase their ability to access, sort and analyze the data.

*An example of this is developing a severe incident icon to help agencies quickly recognize incidents with major network impacts.*

Strategy 1.3.2\*: Develop functional enhancements to the Real-Time Data Fusion/Data Comparison Module requested by member agencies.

*An example of this is the ability to show a monthly average travel time for specific multi-agency trips.*

Objective 1.4: Increase the quantity and comprehensiveness of information that assists the customer to make informed and safe travel choices, particularly during times of planned and unplanned disruption.

Strategy 1.4.1: Expand existing systems capacity and applications to include freight, transit, parking, evacuation plans, and weather information.

*Members pointed to this is as both a short-term and a long-term strategy that should include on-going elements that are available today, as well as striving for enhancements to make today's systems more comprehensive.*

*Activities in support of this strategy are:*

- *Automating TRANSCOM systems to note discrepancies or conflicts, and working with agency members to alleviate conflicts accordingly.*
- *Increasing efforts to ensure the transportation network reflects the unique demands of the transit operators and riders.*
- *Increasing efforts to ensure the transportation network reflects the unique demands of the emergency management community.*

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\* Existing TRANSCOM activity, as of July 2015.

Objective 1.5: Increase coordination as a region during special events and severe weather that have a significant impact on transportation systems throughout the region.

Strategy 1.5.1\* : Maintain a database of the locations, dates, times, sponsoring organizations and key agencies affected for special events in the region, on a real-time basis.

*This effort also involves integration with construction coordination, since some planned projects may need to be cancelled or modified to minimize congestion on impacted routes before, during and after an event.*

Strategy 1.5.2\*: Provide the most up-to-date regional construction information and coordinates construction planning and expected traffic impacts with member agencies.

Strategy 1.5.3\*: Maintain a long-term data base of all construction planned or underway for the region.

*This effort also involves knowing where construction is taking place on a real-time basis, so that member agencies can cancel or modify a project if it is on a key diversion route around a major incident.*

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\* Existing TRANSCOM Activity, as of July 2015.



## ***Regional Goal 2: Sustainability***

***Create and advocate for a financially and operationally sustainable coalition that is structured and resourced to facilitate regional goals and system objectives.***

Objective 2.1: Increase the linkages between operations and the planning process to strengthen operational planning and generate associated resources.

Strategy 2.1.1: Provide the planning community access to TRANSCOM's transportation data to ensure the relevance of operations to the planning process.

Objective 2.2: Ensure daily activities, investments in capital projects, and future planning efforts are cost-effective and sustainable, while maximizing the region's return on investment.

Strategy 2.2.1\* : Review new ITS solutions and operational strategies, presenting it to the Technology and Operations Committee (Tech & Ops) accordingly.

Strategy 2.2.2: The Tech & Ops Committee will evaluate outcomes of its regional transportation systems and capital projects on an annual basis.

Objective 2.3: Develop a long-term plan for the operation, maintenance, and funding of all TRANSCOM's member supported initiatives and assets.

Strategy 2.3.1\*: TRANSCOM provides financial and administrative functions to support regional, multi-modal transportation management functions, including personnel management, employee benefits program administration, and administrative procedures and support for all TRANSCOM staff.

Strategy 2.3.2\*: Maintain up-to-date business and strategic plans for TRANSCOM that are based on lessons-learned, opportunities, and challenges.

Strategy 2.3.3\*: Scan external funding opportunities for projects and initiatives that are aligned with the TRANSCOM Strategic Plan and are best carried out on a regional level, rather than as a local endeavor.

Objective 2.4: Increase use of alternative methods of financing transportation investments to supplement existing funding sources.

Strategy 2.4.1: Seek to increase the use of alternative methods of financing its transportation investments.

*Activities in support of this strategy are:*

- *Seeking efficient coordination of joint grants and additional funding opportunities among multiple member agencies and/or with other regional transportation partners.*
- *Seeking new external partnerships and foundation support with organizations that would benefit from regional systems/projects.*

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\* Existing TRANSCOM activity, as of July 2015.

- *Revisiting the potential use of funding from the U.S. Department of Homeland Security and other Federal funding sources.*

Objective 2.5: Maintain and increase membership of the regional coalition.

Strategy 2.5.1\*: Continue to coordinate and facilitate communication with and among all agencies, regardless of size and/or financial contribution.

Strategy 2.5.2: Assess the opportunity of expanding TRANSCOM's geographical and functional boundaries, identifying levels of engagement and presenting options to the Board of Trustees.

Strategy 2.5.3: Create new administrative procedures and rules of engagement for all members to support TRANSCOM functions.

Strategy 2.5.4: Seek ways to strengthen member engagement.

Objective 2.6: Increase TRANSCOM's ability to attract and retain both excellent staff and member agency representatives.

Strategy 2.6.2: Create a staffing succession plan.

Strategy 2.6.3: Create an agency representative succession plan with each TRANSCOM Committee to outline how best to attract quality agency representatives.

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\* Existing TRANSCOM activity, as of July 2015.

### ***Regional Goal 3: Performance Measurement and Management***

***Understand and articulate regional travel patterns, system reliability, and the value of regional transportation system operations, and advocate them accordingly.***

Objective 3.1: Advance activities that promote the relationship between an effective multi-modal transportation system and the region's economic vitality, ensuring that key stakeholders and customers understand the relationship of viable transportation options to both economic sustainability and livability in their communities.

Strategy 3.1.1: Provide data and assist agencies with their analysis of travel time and delay to assess and articulate the effect of incidents on transportation conditions and the value of coordinated regional management and operational activities.

*An activity in support of this strategy is:*

- *Preparing agency and public reports to communicate travel times and delays.*

Strategy 3.1.2: Conduct a regular analysis to measure the effectiveness of regional transportation coordination.

*Members noted an intent to assess the value added of TRANSCOM operations and systems, not to provide policy analysis. Furthermore, members articulated that while these analyses may be initiated by TRANSCOM staff, the sole task of completion should not be TRANSCOM's responsibility; TRANSCOM will work with member agencies to seek any additional resources and appropriate communications to create a satisfactory final product.*

*An activity in support of this strategy is:*

- *Assessing whether agency-level responses are consistent with regional responses.*

Strategy 3.1.3: TRANSCOM will work with member agencies, regional partners (such as MPOS and universities), and other stakeholders to employ regional and corridor performance measures in accordance with national requirements.

*Activities in support of this strategy are:*

- *Seeking the creation of regional performance metrics for transportation congestion: extent, duration, cost, and causes.*
- *Seeking the creation of performance measures for travel time reliability (i.e., non-recurring travel delays).*
- *Strengthening and expanding the existing archived analysis tool (SPATEL) in support of established regional and corridor performance measures.*
- *Seeking partnerships with targeted universities to advance SPATEL accessibility through front-end interfaces and data analysis tools.*

Objective 3.2: Improve operational data availability and accessibility for performance management and planning.

Strategy 3.2.1\*: Continue to evaluate the effectiveness of the real time and historical dashboards.

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\* Existing TRANSCOM activity, as of July 2015.

Strategy 3.2.2: Obtain and integrate origin/destination data to support planning models.

Objective 3.3: Improve coordinated dissemination of regional management reports and summaries.

Strategy 3.3.1\*: Develop data output from the TRANSCOM Data Systems and disseminate transportation network conditions in a consumer friendly language.

Strategy 3.3.2\*: Support the use of standards for distributing information to the traveling public via 511, VMS and private sector applications via the standardized data feed, etc.

Strategy 3.3.3: Strive for easily transferable reports for all levels of use, including public traveler information, operations support, and executive management reporting.

Strategy 3.3.4: Publish all technical and operational reports on its website once they are approved by member agencies.

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\* Existing TRANSCOM activity, as of July 2015.

## ***Regional Goal 4: Planning for the Future***

***Prepare for the future needs of our region’s members and their customers by assessing emerging trends and encouraging innovation to address future transportation improvements.***

Objective 4.1: Encourage the incubation of new technology, increase research, and develop initiatives to enhance our region’s ability to provide multi-agency, multi-modal information to the public that is consumer friendly.

Strategy 4.1.1\*: Review and update the TRANSCOM portion of the Regional Architecture, Concept of Operations, and System Engineering Analysis Report.

Strategy 4.1.2\*: Establish a research and development agenda to identify and advance coordination of regional transportation system operations through the Tech & Ops Committee and endorsed by the Board of Trustees. Use as a platform for pursuing projects, pilot programs, and additional funding.

Strategy 4.1.3: Working with the Tech & Ops Committee, identify, understand, and share data sources and uses about future transportation technology, such as connected, semi-autonomous, and autonomous vehicles.

Strategy 4.1.4: Support the development of third-party, regional, multi-agency, multi-modal applications that are consumer friendly.

Objective 4.2: Advance research, development, and implementation of predictive modeling on a multi-agency and regional basis to enhance coordination of routine operations, construction activities, and special operations.

Strategy 4.2.1: Seek partnerships with Metropolitan Planning Organizations (MPOs), targeted universities, and others to establish a network of partners to support regional development of predictive modeling and technology.

*Activities in support of this strategy are:*

- *Beginning to integrate archived ITS data to assist in the development of predictive modeling and technology.*
- *Using TRANSCOM systems to verify the accuracy of predictive modeling tools by comparing predicted data to actual event data.*
- *Incorporating predictive travel times in existing systems, making them available to the agencies and the public.*

Objective 4.3: Enhance the coalition’s capacity to be a forum to vet emerging technologies and best practices for the region.

*Members noted that the intent of this strategy is not for TRANSCOM to develop or test new technology, nor is it to engage with procurement strategies. Rather, the intent of this strategy is*

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\* Existing TRANSCOM activity, as of July 2015.

*for TRANSCOM to be a forum to discuss new technology enhancements to the network while ensuring that it is acting in consensus with its members.*

Strategy 4.3.1\* : Work with member agencies to determine new and desired technology enhancements for the regional transportation network.

Strategy 4.3.2: Work to establish TRANSCOM as an essential regional forum to vet emerging technologies and best practices, including information sharing around those technologies.

*An activity in support of this strategy is:*

- *Seeking to host symposia and information exchanges about emerging trends, technologies, and best practices.*

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\* Existing TRANSCOM activity, as of June 2015.

## TRANSCOM STRATEGIC PLAN: BEYOND THE NEXT THREE YEARS

Member agencies affirmed that current services provided by TRANSCOM (Appendix A, page 25) meet the needs of the region. It was also decided that the 2016-2018 Strategic Plan should focus on how TRANSCOM can serve the region and assist agencies with achieving their long-term vision for the future. The following section outlines the strategies and supporting activities that were designated as long-term strategies that extend beyond the next three years (i.e., 2019 and beyond).

### ***Regional Goal 1: Regional Coordination***

***Coordinate as a region to ensure a seamless, safe, reliable, and efficient daily journey for our region's customers.***

Objective 1.1: Improve transportation demand management across the regional transportation network.

Strategy 1.1.3: Develop and refine standard regional traffic management plans to enhance preparedness and responsiveness to major incidents, construction activities, and other network disruptions.

*An anticipated activity in support of this strategy is:*

- *On an a quarterly basis, TRANSCOM will host forums to conduct regular post-event reviews (incident, construction, and special events) in order to further understand traffic and transit impacts and incorporate results into transportation management accordingly.*

*Members chose to make this a “beyond three-year strategy” in order to give TRANSCOM time to organize this activity. Regional traffic management plans should be developed immediately after the post-event reviews. Members also noted the importance of further enhancing TRANSCOM’s construction coordination role prior to the award stage.*

Objective 1.2: Maximize the availability of each member agency’s data to other regional member agencies, multi-modal partners, and the public.

Strategy 1.2.6: Identify opportunities for member agencies to jointly deploy ITS assets, infrastructure, and operating strategies.

*Members noted that for this strategy, joint-deployment should be consistent with the approved Regional Architecture, where applicable.*

Strategy 1.2.7: Support Transportation Systems Management and Operations (TSMO) strategies for regional operating agencies, counties, and municipalities.

Objective 1.4: Increase the quantity and comprehensiveness of information that assists the customer to make informed and safe travel choices, particularly during times of planned and unplanned disruption.

Strategy 1.4.2: Establish a network of partners to develop a framework for pursuing regional level Integrated Corridor Management (ICM)/Active Transportation Demand Management (ATDM).

*TRANSCOM anticipates that an ICM/ATDM framework will be based on automatic responses to transportation network problems and will at a minimum require the following: 1) A standardized*

*process for exchanging data before systems are implemented; 2.) An integrated regional multi-modal database; 3.) Agency decision-making and intervention, with agency responses confirmed, monitored, and modified on a regional basis; 4.) Tied to a full range of delivery systems to the traveler.*

Strategy 1.4.3: Enhance its 24/7 Operations Information Center to support an ICM/ATDM framework and associated strategies.

## ***Regional Goal 2: Sustainability***

***Create and advocate for a financially and operationally sustainable coalition that is structured and resourced to facilitate regional goals and system objectives.***

Objective 2.2: Ensure daily activities, investments in capital projects, and future planning efforts are cost-effective and sustainable, while maximizing the region's return on investment.

Strategy 2.2.3: Integrate national guidance and tools such as MAP-21 and SHRP2 ((Strategic Highway Research Program 2) products) into TRANSCOM decision-making.

Objective 2.6: Increase TRANSCOM's ability to attract and retain both excellent staff and member agency representatives.

Strategy 2.6.1: As needed, assess whether employee compensation and benefits are sufficient to attract and retain excellent organizational staffing while continuing to seek efficiencies.

## ***Regional Goal 3: Performance Measurement and Management***

***Understand and articulate regional travel patterns, system reliability, and the value of regional transportation system operations, and advocate them accordingly.***

Objective 3.4: Ensure customers see the environmental impact of transportation-related decisions.

Strategy 3.4.1: Become a repository of data for member agencies to assess and articulate the impact of transportation decisions on the environment, such as air quality, and the financial costs of congestion.

*An anticipated activity in support of this strategy was noted as:*

- *Supporting the establishment of performance measurements for environmental impacts, such as emissions and energy use.*

## SUMMARY LIST OF STRATEGIES: NEXT THREE YEARS VS. BEYOND THREE YEARS

### Next Three Years

#### ***Regional Goal 1: Regional Coordination***

- Strategy 1.1.1\*: Coordinate and develop a common operating picture during emergency transportation events such as severe weather and major planned events.
- Strategy 1.1.2: TRANSCOM will utilize and enhance its central database for planned lane-level closures and transit construction in order to mitigate disruption and conflicts.
- Strategy 1.2.1: Enhance TRANSCOM systems as the primary and central source of regional transportation information, particularly network travel times and incident and construction information.
- Strategy 1.2.2: Promote the use of TRANSCOM systems that quickly generate notifications as needed in order to enhance the efficiency of regional transportation communications and reduce lag time (i.e., the time it takes to pass transportation information to its members and the public).
- Strategy 1.2.3: Increase accessibility of TRANSCOM's regional transportation information to public safety agencies.
- Strategy 1.2.4: Standardize event language to more easily represent and report conditions.
- Strategy 1.2.5: Support member agencies' social media efforts to relay communication among one and other and with multi-modal partners, with a focus on the commercial trucking associations and large companies
- Strategy 1.3.1\*: Develop enhancements to the TRANSCOM OpenReach system requested by member agencies to increase their ability to access, sort and analyze the data.
- Strategy 1.3.2\*: Develop functional enhancements to the Real-Time Data Fusion/Data Comparison Module requested by member agencies.
- Strategy 1.4.1: Expand existing systems capacity and applications to include freight, transit, parking, evacuation plans, and weather information.
- Strategy 1.5.1\*: Maintain a database of the locations, dates, times, sponsoring organizations and key agencies affected for special events in the region, on a real-time basis.
- Strategy 1.5.2\*: Provide the most up-to-date regional construction information and coordinates construction planning and expected traffic impacts with member agencies.
- Strategy 1.5.3\*: Maintain a long-term data base of all construction planned or underway for the region.

#### ***Regional Goal 2: Sustainability***

- Strategy 2.1.1: Provide the planning community access to TRANSCOM's transportation data to ensure the relevance of operations to the planning process.
- Strategy 2.2.1\*: Review new ITS solutions and operational strategies, presenting it to the Technology and Operations Committee (Tech & Ops) accordingly.
- Strategy 2.2.2: The Tech & Ops Committee will evaluate outcomes of its regional transportation systems and capital projects on an annual basis.
- Strategy 2.3.1\*: TRANSCOM provides financial and administrative functions to support regional, multi-modal transportation management functions, including personnel management, employee benefits program administration, and administrative procedures and support for all TRANSCOM staff.
- Strategy 2.3.2: Maintain up-to-date business and strategic plans for TRANSCOM that are based on lessons-learned, opportunities, and challenges.

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\* Existing TRANSCOM activity, as of July 2015.

- Strategy 2.3.3: Scan external funding opportunities for projects and initiatives that are aligned with the TRANSCOM Strategic Plan and are best carried out on a regional level, rather than as a local endeavor.
- Strategy 2.4.1: Seek to increase the use of alternative methods of financing its transportation investments.
- Strategy 2.5.1\*: Continue to coordinate and facilitate communication with and among all agencies, regardless of size and/or financial contribution.
- Strategy 2.5.2: Assess the opportunity of expanding TRANSCOM's geographical and functional boundaries, identifying levels of engagement and presenting options to the Board of Trustees.
- Strategy 2.5.3: Create new administrative procedures and rules of engagement for all members to support TRANSCOM functions.
- Strategy 2.5.4: Seek ways to strengthen member engagement.
- Strategy 2.6.2: Create a staffing succession plan.
- Strategy 2.6.3: Create an agency representative succession plan with each TRANSCOM Committee to outline how best to attract quality agency representatives.

### ***Regional Goal 3: Performance Measurement and Management***

- Strategy 3.1.1: Provide data and assist agencies with their analysis of travel time and delay to assess and articulate the effect of incidents on transportation conditions and the value of coordinated regional management and operational activities.
- Strategy 3.1.2: Conduct a regular analysis to measure the effectiveness of regional transportation coordination.
- Strategy 3.1.3: TRANSCOM will work with member agencies, regional partners (such as MPOS and universities), and other stakeholders to employ regional and corridor performance measures in accordance with national requirements.
- Strategy 3.2.1\*: Continue to evaluate the effectiveness of the real time and historical dashboards.
- Strategy 3.2.2: Obtain and integrate origin/destination data to support planning models.
- Strategy 3.3.1\*: Develop data output from the TRANSCOM Data Systems and disseminate transportation network conditions in a consumer friendly language.
- Strategy 3.3.2\*: Support the use of standards for distributing information to the traveling public via 511, VMS and private sector applications via the standardized data feed, etc.
- Strategy 3.3.3: Strive for easily transferable reports for all levels of use, including public traveler information, operations support, and executive management reporting.
- Strategy 3.3.4: Publish all technical and operational reports on its website once they are approved by member agencies.

### ***Regional Goal 4: Planning for the Future***

- Strategy 4.1.1\*: Review and update the TRANSCOM portion of the Regional Architecture, Concept of Operations, and System Engineering Analysis Report.
- Strategy 4.1.2\*: Establish a research and development agenda to identify and advance coordination of regional transportation system operations through the Tech & Ops Committee and endorsed by the Board of Trustees. Use as a platform for pursuing projects, pilot programs, and additional funding.
- Strategy 4.1.3: Working with the Tech & Ops Committee, identify, understand, and share data sources and uses about future transportation technology, such as connected, semi-autonomous, and autonomous vehicles.

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\* Existing TRANSCOM Activity, as of July 2015.

- Strategy 4.1.4: Support the development of third-party, regional, multi-agency, multi-modal applications that are consumer friendly.
- Strategy 4.2.1: Seek partnerships with Metropolitan Planning Organizations (MPOs), targeted universities, and others to establish a network of partners to support regional development of predictive modeling and technology.
- Strategy 4.3.1\* : Work with member agencies to determine new and desired technology enhancements for the regional transportation network.
- Strategy 4.3.2: Work to establish TRANSCOM as an essential regional forum to vet emerging technologies and best practices, including information sharing around those technologies.

## **Beyond Three Years**

### ***Regional Goal 1: Regional Coordination***

- Strategy 1.1.3: Develop and refine standard regional traffic management plans to enhance preparedness and responsiveness to major incidents, construction activities, and other network disruptions
- Strategy 1.2.6: Identify opportunities for member agencies to jointly deploy ITS assets, infrastructure, and operating strategies.
- Strategy 1.2.7: Support Transportation Systems Management and Operations (TSMO) strategies for regional operating agencies, counties, and municipalities.
- Strategy 1.4.2: Establish a network of partners to develop a framework for pursuing regional level Integrated Corridor Management (ICM)/Active Transportation Demand Management (ATDM).
- Strategy 1.4.3: Enhance its 24/7 Operations Information Center to support an ICM/ATDM framework and associated strategies.

### ***Regional Goal 2: Sustainability***

- Strategy 2.2.3: Integrate national guidance and tools (such as MAP-21 and SHRP2 (Strategic Highway Research Program 2) products) into TRANSCOM decision-making.
- Strategy 2.6.1: As needed, assess whether employee compensation and benefits are sufficient to attract and retain excellent organizational staffing while continuing to seek efficiencies.

### ***Regional Goal 3: Performance Measurement and Management***

- Strategy 3.4.1: Become a repository of data for member agencies to assess and articulate the impact of transportation decisions on the environment, such as air quality, and the financial costs of congestion.

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\* Existing TRANSCOM activity, as of June 2015.



## **ACHIEVING THE PLAN: PROGRESS REPORTING AND ENSURING RESPONSIVENESS TO MEMBERSHIP**

TRANSCOM fully intends for this strategic plan to be a “living document”, one that is reviewed on both a monthly and annual basis with the Tech & Ops Committee, the Board of Trustees and other TRANSCOM committees and working groups to ensure its implementation.

In July 2015, the membership decided that on-going oversight of the strategic plan will be conducted within its existing agency oversight structure. On an annual basis, TRANSCOM staff will draft an annual update of the Strategic Plan and present it to both the Tech & Ops Committee and Board of Trustees meetings. This annual update will answer the following questions:

- What has been achieved?
- What has not been achieved? Why?
- How will we achieve the remaining goals and objectives given our current environment?

When applicable, TRANSCOM will also provide progress reports on implementation of the Strategic Plan within its monthly reports.

The next strategic planning process and review of this strategic plan document in its entirety (including goals, objectives, and strategies) are scheduled to begin the Fall of 2018, or as determined by the Board of Trustees.



## APPENDICES



## APPENDIX A: STRATEGIC PLANNING PROCESS

The importance of strategic planning is its ability to guide the organization toward an immediate and long-term future that provides the support necessary for both the member agencies and their customers. The strategic plan also presents intermediate steps that guides the organization and the region toward solutions to the most pressing transportation challenges of today and tomorrow.

Throughout its history, TRANSCOM's strategic direction has been a reflection of the regional goals and objectives articulated by its member agencies. The process to create this strategic plan was deliberative about gathering as much information, insight, and decisions as possible from each member agency to ensure a comprehensive and consensus-driven statement of TRANSCOM's future direction.

For over two years, representatives from each of the 16 transportation and public safety agencies from the New Jersey/New York/Connecticut metropolitan region worked together to create the 2016-2018 TRANSCOM Strategic Plan. Facilitated by the USDOT/FHWA Resource Center, the process began with a survey and a series of workshops. Adapting the USDOT/FHWA Resource Center's Capability Maturity Model (CMM) (Appendix D, page 60) to TRANSCOM's specific needs, agencies identified the following foundational elements for TRANSCOM:

- Core Functions
- Communication and Coordination
- Multi-Modal Data and Information
- Advocacy (Culture, Organization, and Staffing)
- Governance and Funding

Next, the USDOT/FHWA Resource Center conducted interviews with each of the agency members and concluded by providing an independent internal assessment of TRANSCOM's current services (Appendix F, page 74) and systems (Appendix F, page 84). A summary of their interview findings, as presented to the membership on March 25, 2015 can be found in Appendix E, page 63.

Reflecting on the internal assessment and workshop findings, each individual agency was charged with articulating its unique vision for the region and its respective goals and objectives. As presented by the USDOT/FHWA Resource Center, goals and objectives are defined as:

- Goals—A desired condition
- Objectives—Outcomes that achieve goals (should be S.M.A.R.T) and support strategies
  - **S**pecific
  - **M**easurable
  - **A**ttainable and Agreeable
  - **R**ealistic
  - **T**ime-bound
  - Documented outcome-based objectives make it easier to defend and clarify strategies.

Working together within breakout groups that were divided by functional lines (DOTs, toll authorities, transit agencies, public safety agencies, and MPOs), each providing their unique perspective. As a coalition, the final regional goals and objectives (page 8) were established. These regional goals and objectives envisioned the future of the region and set the stage for TRANSCOM's strategic direction outlined in this strategic plan.

At the same time, members also articulated that the current services provided by TRANSCOM meet the needs of the region (see Appendix F, page 74 for more detailed descriptions along with supporting data on the effectiveness of these services). In summary, members agreed that TRANSCOM should continue to assume a

leadership role in regional, multi-modal management; TRANSCOM should maintain and operate a 24/7 Operations Information Center (OIC); maintain Regional Construction Coordination and Special Events Coordination; and continue to create and manage regional ITS systems. **Most importantly, members decided that the 2016-2018 Strategic Plan should focus on how TRANSCOM can serve the region and the agencies' defined vision for the future in a greater capacity, building upon its current service offerings.**

In the final workshop, agencies gathered to discuss and decide how TRANSCOM can greater serve the members in their effort to achieve the regional goals and objectives. These strategies and supporting activities were also designated as either short-term (next three years) or the long-term (beyond three years), and have been outlined as such within this plan.

## TRANSCOM 2016-2018 STRATEGIES\*

**Regional Goal 1:****Regional Coordination:**

Coordinate as a region to ensure a seamless, safe, reliable, and efficient daily journey for our region's customers.

**Objective 1.1:**

Improve transportation demand management across the regional transportation network.

**Strategy 1.1.1:**

Coordinate and develop a common operating picture during emergency transportation events such as severe weather and major planned events.

*This common operating picture includes coordination of situational awareness, emergency operating plans, system resumption activities, consistent traveler information, and more connection to Transportation Demand Management (TDM) programs.*

**Supporting Activity:**

During these events, TRANSCOM will strengthen regional communications to include visualization of transportation conditions, weather, meeting attendees, evacuation plans, any associated conflicts, and additional information and tools as required.

**Supporting Activity:**

Further harnessing archived ITS data to enhance transportation management.

**Supporting Activity**

Enhancing TRANSCOM system capabilities to further regional transportation data integration and information dissemination.

**Supporting Activity:**

Strengthening systems to coordinate construction projects with evacuation routes.

**Supporting Activity:**

On an a quarterly basis, TRANSCOM will host forums to conduct regular post-event reviews (incident, construction, and special events) in order to further understand traffic and transit impacts and incorporate results into transportation management accordingly.

**Strategy 1.1.2:**

TRANSCOM will utilize and enhance its central database for planned lane-level closures and transit construction in order to mitigate disruption and conflicts.

**Strategy 1.1.3:**

Develop and refine standard regional traffic management plans to enhance preparedness and responsiveness to major incidents, construction activities, and other network disruptions.

# TRANSCOM 2016-2018 STRATEGIES

## **Regional Goal 1:**

### **Regional Coordination:**

Coordinate as a region to ensure a seamless, safe, reliable, and efficient daily journey for our region's customers.

### **Objective 1.2:**

Maximize the availability of each member agency's data to other regional member agencies, multi-modal partners, and the public.

#### **Strategy 1.2.1**

Continue to enhance its systems as the primary and central source of regional transportation information, particularly network travel times and incident and construction information.

#### **Strategy 1.2.2:**

Promote the use of TRANSCOM systems that quickly generate notifications as needed in order to enhance the efficiency of regional transportation communications and reduce lag time (i.e., the time it takes to pass transportation information to its members and the public).

#### **Strategy 1.2.3:**

Increase accessibility of TRANSCOM's regional transportation information to public safety agencies.

#### **Supporting Activity:**

Conduct outreach to major municipal and county police, offices of emergency management, and fire departments to expand the use of TRANSCOM data for situational awareness.

#### **Strategy 1.2.4:**

Standardize event language to more easily represent and report conditions.

#### **Strategy 1.2.5:**


Support member agencies' social media efforts to relay communication among one another and with multi-modal partners, with a focus on the commercial trucking associations and large companies.

#### **Strategy 1.2.6:**

Identify opportunities for member agencies to jointly deploy ITS assets, infrastructure, and operating strategies.

#### **Strategy 1.2.7:**

Support Transportation Systems Management and Operations (TSMO) strategies for regional operating agencies, counties, and municipalities.

 = Existing TRANSCOM Activity

# TRANSCOM 2016-2018 STRATEGIES

## **Regional Goal 1:**

### **Regional Coordination:**

Coordinate as a region to ensure a seamless, safe, reliable, and efficient daily journey for our region's customers.

### **Objective 1.3:**

Increase member ability to access, sort, and analyze ITS data.

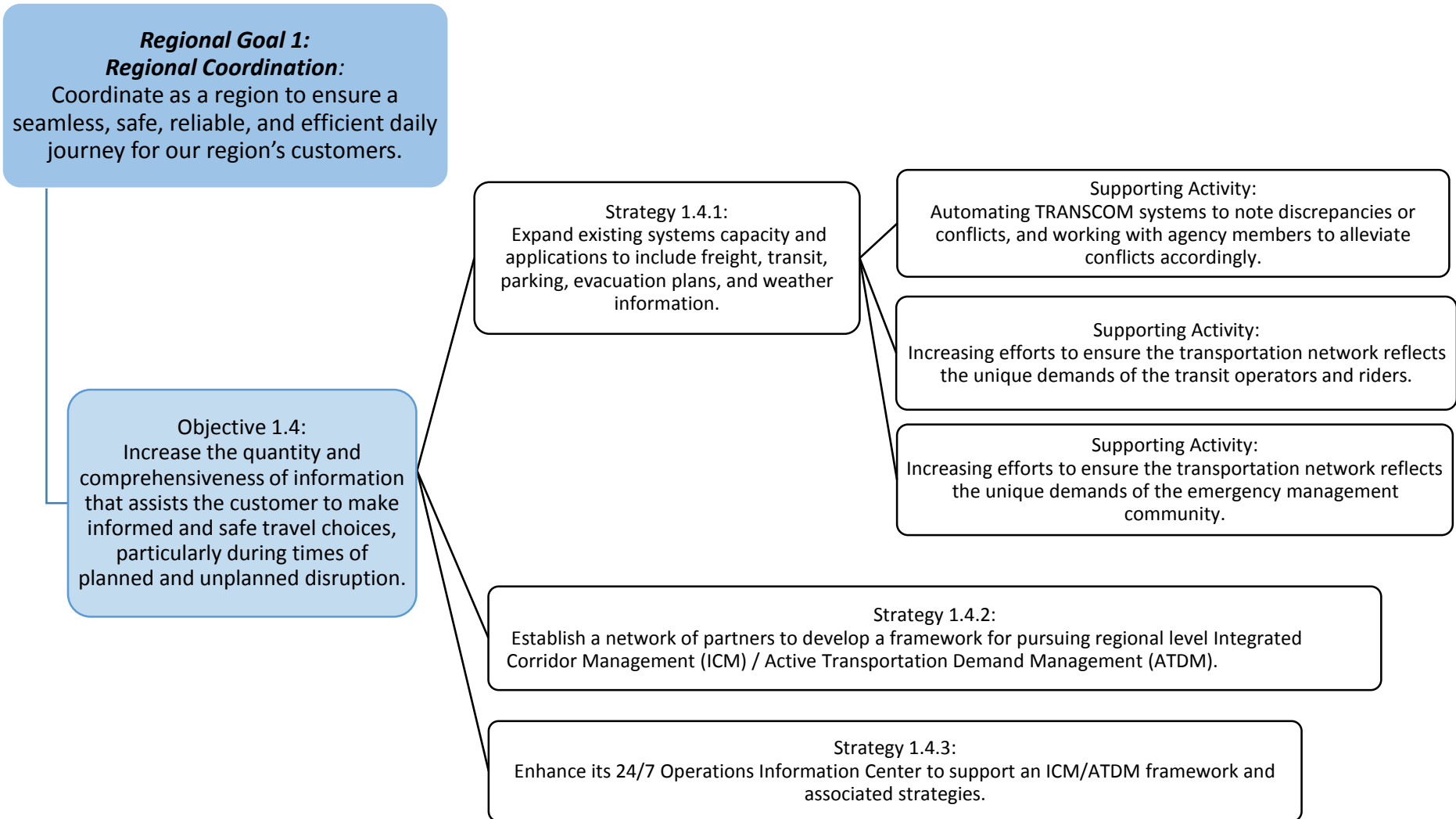
#### **Strategy 1.3.1:**

Develop enhancements to the TRANSCOM OpenReach system requested by member agencies to increase their ability to access, sort and analyze the data.

#### **Strategy 1.3.2**

Develop functional enhancements to the Real-Time Data Fusion/Data Comparison Module requested by member agencies.

# TRANSCOM 2016-2018 STRATEGIES



# TRANSCOM 2016-2018 STRATEGIES

## **Regional Goal 1:**

### **Regional Coordination:**

Coordinate as a region to ensure a seamless, safe, reliable, and efficient daily journey for our region's customers.

### **Objective 1.5:**

Increase coordination as a region during special events and severe weather that have a significant impact on transportation systems throughout the region.

#### **Strategy 1.5.1**

Maintain a database of the locations, dates, times, sponsoring organizations and key agencies affected for special events in the region, on a real-time basis.

*This effort also involves integration with construction coordination, since some planned projects may need to be cancelled or modified to minimize congestion on impacted routes before, during and after an event.*

#### **Strategy 1.5.2**

Provide the most up-to-date regional construction information and coordinates construction planning and expected traffic impacts with member agencies.

#### **Strategy 1.5.3**

Maintain a long-term data base of all construction planned or underway for the region.

*This effort involves knowing where construction is taking place on a real-time basis, so that member agencies can cancel or modify a project if it is on a key diversion route around a major incident.*

# TRANSCOM 2016-2018 STRATEGIES

## **Regional Goal 2: Sustainability:**

Create and advocate for a financially and operationally sustainable coalition that is structured and resourced to facilitate regional goals and system objectives.

### Objective 2.1:

Increase the linkages between operations and the planning process to strengthen operational planning and generate associated resources.

#### Strategy 2.1.1:

Provide the planning community access to TRANSCOM's transportation data to ensure the relevance of operations to the planning process.

### Objective 2.2:

Ensure daily activities, investments in capital projects, and future planning efforts are cost-effective and sustainable, while maximizing the region's return on investment.

#### Strategy 2.2.1:

Review new ITS solutions and operational strategies, presenting it to the Technology and Operations Committee (Tech & Ops) accordingly.

#### Strategy 2.2.2:

The Tech & Ops Committee will evaluate outcomes of its regional transportation systems and capital projects on an annual basis.

#### Strategy 2.2.3:

Integrate national guidance and tools such as MAP-21 and SHRP2 ((Strategic Highway Research Program 2) products) into TRANSCOM decision-making.

# TRANSCOM 2016-2018 STRATEGIES

## **Regional Goal 2: Sustainability:**

Create and advocate for a financially and operationally sustainable coalition that is structured and resourced to facilitate regional goals and system objectives.

### **Objective 2.3:**

Develop a long-term plan for the operation, maintenance, and funding of all TRANSCOM's member supported initiatives and assets.

#### **Strategy 2.3.1**

TRANSCOM provides financial and administrative functions to support regional, multi-modal transportation management functions, including personnel management, employee benefits program administration, and administrative procedures and support for all TRANSCOM staff.

#### **Strategy 2.3.2**

Maintain up-to-date business and strategic plans for TRANSCOM that are based on lessons-learned, opportunities, and challenges.

#### **Strategy 2.3.3**

Scan external funding opportunities for projects and initiatives that are aligned with the TRANSCOM Strategic Plan and are best carried out on a regional level, rather than as a local endeavor.

# TRANSCOM 2016-2018 STRATEGIES

## **Regional Goal 2: Sustainability:**

Create and advocate for a financially and operationally sustainable coalition that is structured and resourced to facilitate regional goals and system objectives.

### **Objective 2.4:**

Increase use of alternative methods of financing transportation investments to supplement existing funding sources.

### **Strategy 2.4.1:**

Seek to increase the use of alternative methods of financing its transportation investments.

#### **Supporting Activity:**

Seeking efficient coordination of joint grants and additional funding opportunities among multiple member agencies and/or with other regional transportation partners.

#### **Supporting Activity:**

Seeking new external partnerships and foundation support with organizations that would benefit from regional systems/projects.

#### **Supporting Activity:**

Revisiting the potential use of funding from the U.S. Department of Homeland Security and other Federal funding sources.

# TRANSCOM 2016-2018 STRATEGIES

## ***Regional Goal 2: Sustainability:***

Create and advocate for a financially and operationally sustainable coalition that is structured and resourced to facilitate regional goals and system objectives.

**Objective 2.5:**  
Maintain and increase membership of the regional coalition.

**Strategy 2.5.1:**  
Continue to coordinate and facilitate communication with and among all agencies, regardless of size and/or financial contribution.

**Strategy 2.5.2:**  
Assess the opportunity of expanding TRANSCOM's geographical and functional boundaries, identifying levels of engagement and presenting options to the Board of Trustees.

**Strategy 2.5.3:**  
Create new administrative procedures and rules of engagement for all members to support TRANSCOM functions.

**Strategy 2.5.4:**  
Seek ways to strengthen member engagement.

 = Existing TRANSCOM Activity

# TRANSCOM 2016-2018 STRATEGIES

## **Regional Goal 2: Sustainability:**

Create and advocate for a financially and operationally sustainable coalition that is structured and resourced to facilitate regional goals and system objectives.

### **Objective 2.6:**

Increase TRANSCOM's ability to attract and retain both excellent staff and member agency representatives.

#### **Strategy 2.6.1:**

As needed, assess whether employee compensation and benefits are sufficient to attract and retain excellent organizational staffing while continuing to seek efficiencies.

#### **Strategy 2.6.2:**

Create a staffing succession plan.

#### **Strategy 2.6.3**

Create an agency representative succession plan with each TRANSCOM Committee to outline how best to attract quality agency representatives.

# TRANSCOM 2016-2018 STRATEGIES

## **Regional Goal 3: Performance Measurement and Management:**

Understand and articulate regional travel patterns, system reliability, and the value of regional transportation system operations, and advocate them accordingly.

### **Objective 3.1:**

Advance activities that promote the relationship between an effective multi-modal transportation system and the region's economic vitality, ensuring that key stakeholders and customers understand the relationship of viable transportation options to both economic sustainability and livability in their communities.

#### **Strategy 3.1.1**

Provide data and assist agencies with their analysis of travel time and delay to assess and articulate the effect of incidents on transportation conditions and the value of coordinated regional management and operational activities.

#### **Supporting Activity:**

Preparing agency and public reports to communicate travel times and delays.

#### **Strategy 3.1.2**

Conduct a regular analysis to measure the effectiveness of regional transportation coordination.

#### **Supporting Activity:**

Assessing whether agency-level responses are consistent with regional responses.

#### **Strategy 3.1.3:**

TRANSCOM will work with member agencies, regional partners (such as MPOS and universities), and other stakeholders to employ regional and corridor performance measures in accordance with national requirements.

#### **Supporting Activity:**

Seeking the creation of regional performance metrics for transportation congestion: extent, duration, cost, and causes.

#### **Supporting Activity**

Seeking the creation of performance measures for travel time reliability (i.e., non-recurring travel delays).

#### **Supporting Activity**

Strengthening and expanding the existing archived analysis tool (SPATEL) in support of established regional and corridor performance measures.

#### **Supporting Activity**

Seeking partnerships with targeted universities to advance SPATEL accessibility through front-end interfaces and data analysis tools.

 = Existing TRANSCOM Activity

# TRANSCOM 2016-2018 STRATEGIES

## ***Regional Goal 3:***

### ***Performance Measurement and Management:***

Understand and articulate regional travel patterns, system reliability, and the value of regional transportation system operations, and advocate them accordingly.

#### **Objective 3.2:**

Improve operational data availability and accessibility for performance management and planning.

##### **Strategy 3.2.1:**

Continue to evaluate the effectiveness of the real time and historical dashboards.

##### **Strategy 3.2.2:**

Obtain and integrate origin/destination data to support planning models.

#### **Objective 3.3:**

Improve coordinated dissemination of regional management reports and summaries.

##### **Strategy 3.3.1**

Develop data output from the TRANSCOM Data Systems and disseminate transportation network conditions in a consumer friendly language.

##### **Strategy 3.3.2**

Support the use of standards for distributing information to the traveling public via 511, VMS and private sector applications via the standardized data feed, etc.

##### **Strategy 3.3.3**

Strive for easily transferable reports for all levels of use, including public traveler information, operations support, and executive management reporting.

##### **Strategy 3.3.4**

Publish all technical and operational reports on its website once they are approved by member agencies.

 = Existing TRANSCOM Activity

# TRANSCOM 2016-2018 STRATEGIES

**Regional Goal 3:  
Performance Measurement  
and Management:**

Understand and articulate regional travel patterns, system reliability, and the value of regional transportation system operations, and advocate them accordingly.

**Objective 3.4:**

Ensure customers see the environmental impact of transportation-related decisions.

**Strategy 3.4.1**

Become a repository of data for member agencies to assess and articulate the impact of transportation decisions on the environment, such as air quality, and the financial costs of congestion.

**Supporting Activity:**

Supporting the establishment of performance measurements for environmental impacts, such as emissions and energy use.

# TRANSCOM 2016-2018 STRATEGIES

## **Regional Goal 4:**

### **Planning for the Future:**

Prepare for the future needs of our region's members and their customers by assessing emerging trends and encouraging innovation to address future transportation improvements.

#### **Objective 4.1:**

Encourage the incubation of new technology, increase research, and develop initiatives to enhance our region's ability to provide multi-agency, multi-modal information to the public that is consumer friendly.

#### **Strategy 4.1.1**

Review and update the TRANSCOM portion of the Regional Architecture, Concept of Operations, and System Engineering Analysis Report.

#### **Strategy 4.1.2**

Establish a research and development agenda to identify and advance coordination of regional transportation system operations through the Tech & Ops Committee and endorsed by the Board of Trustees. Use as a platform for pursuing projects, pilot programs, and additional funding.

#### **Strategy 4.1.3**

Working with the Tech & Ops Committee, identify, understand, and share data sources and uses about future transportation technology, such as connected, semi-autonomous, and autonomous vehicles.

#### **Strategy 4.1.4**

Support the development of third-party, regional, multi-agency, multi-modal applications that are consumer friendly.

# TRANSCOM 2016-2018 STRATEGIES

## **Regional Goal 4:**

### **Planning for the Future:**

Prepare for the future needs of our region's members and their customers by assessing emerging trends and encouraging innovation to address future transportation improvements.

**Objective 4.2:**  
Advance research, development, and implementation of predictive modeling on a multi-agency and regional basis to enhance coordination of routine operations, construction activities, and special operations.

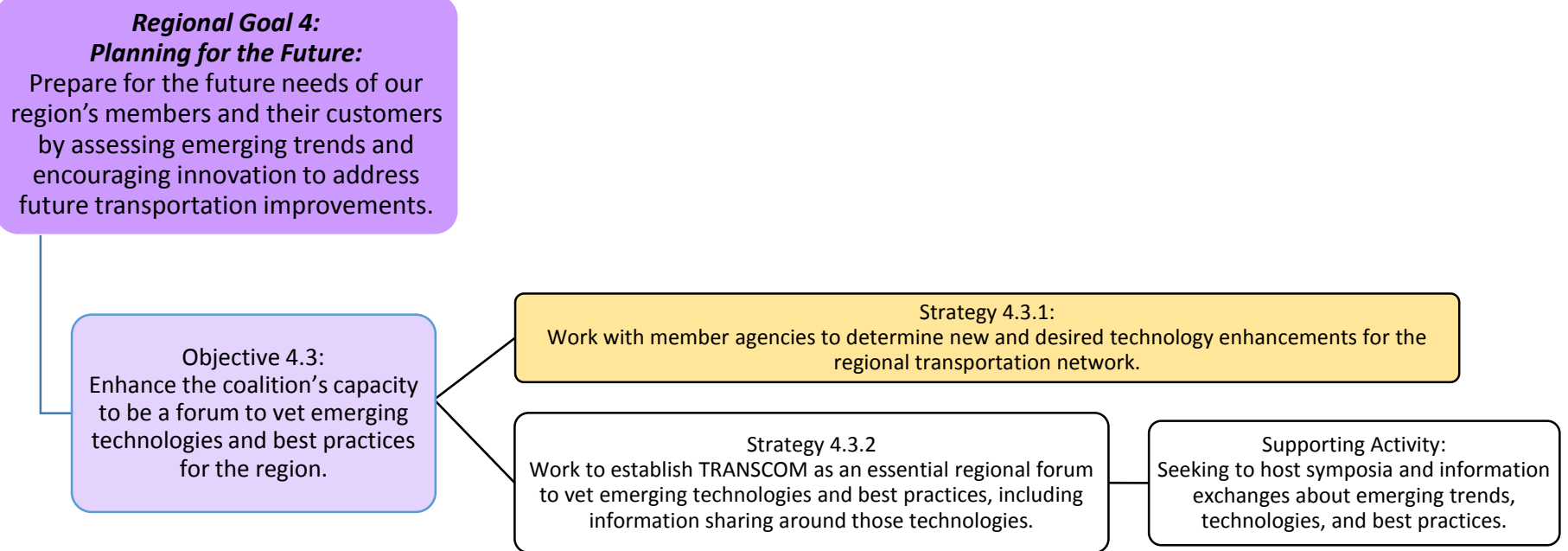
**Strategy 4.2.1**  
Seek partnerships with Metropolitan Planning Organizations (MPOs), targeted universities, and others to establish a network of partners to support regional development of predictive modeling and technology.

**Supporting Activity:**  
Beginning to integrate archived ITS data to assist in the development of predictive modeling and technology.

**Supporting Activity**  
Using TRANSCOM systems to verify the accuracy of predictive modeling tools by comparing predicted data to actual event data.

**Supporting Activity**  
Incorporating predictive travel times in existing systems, making them available to the agencies and the public.

# TRANSCOM 2016-2018 STRATEGIES



## APPENDIX C: USDOT FHWA-RESOURCE CENTER INTERNAL ASSESSMENT

Using USDOT Resource Center's Capability Maturity Model (CMM) the Resource Center Staff conducted interviews with each of the agency members. The result of these interviews was an independent internal assessment of TRANSCOM's current services and systems. A summary of their interview findings, as presented to the membership on March 25, 2015 can be found in Appendix E, page 71.

### USDOT FHWA-Resource Center TRANSCOM Strategic Plan Assessment Jersey City, New Jersey May 20, 2014

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#### Functions: (Package of Service, Projects, Strategies, and Activities)

*Integrated, customer-focused (present and future) services, projects, and activities to achieve TRANSCOM mission, such as: - integrated regional transportation information via a common regional interface; regional transportation operations advocacy; a resource to advance regional ICM / ATDM; construction coordination; integrated regional traveler information; support to member agencies for network operations and traffic management during major incidents; construction, significant events, and severe weather; ITS technology maintenance and upgrades; intermodal connector coordination, traveler information in support of shared services (car and bike), autonomous / connected vehicle technology. The customers of TRANSCOM are its member agencies and other critical transportation stakeholders.*

#### Survey

1.1	Collect, disseminate and confirm <i>real-time incident, construction and special event information</i> 24/7. (Averaging over 200 active events per 8 hour shift, which does not include updates and close actions)
1.2	Provide an ongoing transportation network review of operations at a regional level, which individual agencies and Transportation Management Centers do not always provide.
1.3	Coordinate inter-agency mobilization of regional VMS/HAR resources and 511 floodgate messages, proactively monitoring and modifying their usage based on actual conditions. Input <i>log entries</i> for all requests.
1.4	Provide proactive outreach to agencies for highway and transit facilities which are not instrumented.
1.5	Provide special <i>Regional Conditions reports</i> and <i>Severe Weather Advisory reports</i> (24/7 as needed), along with reports for member agencies for specific incidents, construction and special events.
1.6	Provide on-site support to member agencies during special and major events as-needed.

1.7	Ensure integration of the Construction Coordination process into Operations, integrating construction information and recommending mitigation plans. Monitor actual conditions, citing modification of these plans as needed.
1.8	Participate in and support inter-agency planning meetings for evacuations, diversion routes, etc.
1.9	Provide additional coordination with law enforcement and emergency management agencies (e.g., additional <i>Regional Conditions Reports</i> ) for hurricane and evacuation preparedness.
1.10	Provide 24/7 QA/QC of operations systems and traveler information systems, and provide training support (e.g., XML Data Feed for NJ OpenReach/SWIFT, and NY OpenReach).
1.11	Provide ITS System integration and testing for new deployment, and/or system updates/upgrades on an ongoing basis.
1.12	Monitor and provide QA/QC and first-instance troubleshooting for the ~1,000+ total users of the 4 OpenReach (OR) based systems, ~350 TIMED/TRANSMIT readers (covering 3000+ 1-way miles), and ~2800 cameras, along with the NJ511 phone system.
1.13	Provide 24/7 <i>help desk</i> training and support to member agencies for ITS system troubleshooting.
A.2	Integrate new projects and systems into the <i>operations center</i> .

### Workshop Outputs

Strengths Cited	Weaknesses Cited
<ul style="list-style-type: none"> <li>Coordination of major construction</li> <li>Coordination of major weather events</li> <li>Collection of regional data</li> <li>Open Reach – provides single ATIS (well integrated ATIS with opportunity for expansion)</li> <li>Supplements members with data / video and information on major events; capacity constraints on bridges and operational status are communicated</li> <li>Coordinate Dynamic / Variable Message Sign – to post information beyond scene / incident</li> <li>Some processes are in place</li> <li>One stop shop to verify information / special event or incident that agency may hear about through other sources</li> <li>Majority of agencies rely on the data / information of TRANSCOM through pull (getting) and push (providing) data / information</li> <li>Use of phone and professional connections / relationships</li> <li>Coordinated effort helps a collective understanding sooner</li> </ul>	<ul style="list-style-type: none"> <li>Opportunity for turning data into information exists but not fully there yet (getting close)</li> <li>Some processes are established, others are ad/hoc</li> <li>Evolution of using data for planning – still need to understand how data can be used</li> <li>Uncertain if data is in format to be fully used for planning purposes</li> <li>Level of effort still needed to interpret data into information</li> <li>Potential to use data when applying predictive tools – but may not be there yet for wide scale application</li> <li>Interest in using (historical) data for predictive travel times – turnpike; but not currently available)</li> <li>Availability of parking provides a barrier in the value of information? Choices may not be</li> </ul>

<ul style="list-style-type: none"> <li>• The “System” makes this work and ability to see what others are dealing with</li> <li>• Common platform for Operators</li> <li>• Evolution of using data for planning – topic of interest</li> <li>• MOU is a strength in terms of an operating agreement</li> <li>• Many route choices in the transit network - information is a resource</li> <li>• For Transit, the information is valuable in terms of the status of the roadway network (situational awareness)</li> <li>• TRANSCOM provides an objective view on operations to coordinate, with data support</li> <li>• When TRANSCOM gets involved in gets elevated within member agencies due to multi-jurisdiction impact</li> </ul>	<ul style="list-style-type: none"> <li>• possible if there is no parking – infrastructure issue vs. information issue</li> <li>• Need meaningful information for operators to make decisions and identify choices</li> <li>• “Post event” evaluation of decisions not consistent considered, and it is not data driven</li> <li>• TRANSCOM staff do not have authority to make a decision on how system should be operated (making recommendations and information broker is a good balance) – but this is not necessarily a negative (more of an established requirement to make the existing processes institutionally work)</li> </ul>
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Level	1 – Performed	2 – Managed	3 – Measured	4 – Optimized
Criteria	<p>Regional operations activities among members are driven by events; improvements in regional TRANSCOM IT infrastructure are reactive; operational needs are assessed internally by some member agencies using TRANSCOM data and/or operator experience / expertise; regional operations strategies based on some individual modes and agency responsibilities; agencies use TRANSCOM information and systems to share independent actions and decisions</p>	<p>Routine regional operations activities are discussed and planned among members; improvements in regional TRANSCOM IT infrastructure are planned, funded and deployed; operational needs are regularly assessed by all member agencies using TRANSCOM data and systems; regional operations strategies based on collaborative multi-modal and multi-agency plans; all agencies use TRANSCOM information and systems to share independent actions and decisions, and suggest multi-agency solutions; Regional transportation system activities and strategies for multiple modes established and linked to TRANSCOM regional operations objectives; some system performance outcomes of proposed regional operations strategies and activities are TRANSCOM data; regional operations strategies, including those that support TRANSCOM mission, selected based on estimated regional benefits</p>	<p>TRANSCOM multi-modal regional operations strategies and activities (e.g., that cross jurisdictional boundaries) are integrated into the operations of key collaborating agencies; regional operations roles for TRANSCOM are established by its members. As the basis for planning and supporting ongoing operations and infrastructure improvements, customer agencies regularly use TRANSCOM data and tools to make routine operations decisions and track progress toward achieving regional operations objectives. Systems improvements include performance measurement to target improvement and to ultimately automate performance measurement and reporting; System performance outcomes of proposed regional operations strategies and activities are modeled and predicted; Regional operations strategies, including those that support TRANSCOM mission, selected based on modeled and measured regional benefits; Operational data are converted to usable information in support of</p>	<p>Muti-modal regional operations strategies and activities are optimized to minimize resources based on measured performance outcomes; Operational and performance management activities and member agency participation processes are optimized to efficiently achieve measured outcomes, based on objectives</p>

	customer and regional objectives, and archived to support long-term planning		
<b>Consensus</b>	<b>Some</b>	solid	We don't have performance measures in place
<b>Strategic Directions</b>			
<ul style="list-style-type: none"> <li>• Need data aggregated at some frequency</li> <li>• Need meaningful information for operators to make decisions and identify choices for operations and traveler</li> <li>• Need processes updated to use data to make decisions</li> <li>• Need means to understand the underlying cause and effect observed in data changes (peak period, of peak, etc)</li> <li>• Collaborative effort on data and information development</li> <li>• Look at impacts across region; based on data</li> <li>• Increase support of construction coordination</li> <li>• One organization (TRANSCOM) which has open source data and / or standards on how data is submitted (so the data is trusted)</li> </ul>			

## Communication and Coordination (Collaboration)

***The development and implementation of multi-agency and multi-modal regional operations requires collaborative approaches. The effectiveness of most multi-modal regional operations strategies depend on establishing and improving clear coordination processes to be undertaken among members and by each member agency. Members are using TRANSCOM systems and data consistently to formulate regional operations activities.***

### Survey

2.1	Work with member agencies to avoid unknowingly restricting capacity on parallel or adjacent facilities and routes, serving as proactive liaison among agencies and other entities for coordination of construction.
2.2	Facilitate and serve as a resource for the development of traffic mitigation plans, diversion routes, and required communications to ensure comprehensive corridor management in planning and managing construction projects.
2.3	Create and maintain a <i>long-term data base of agency construction plans</i> .
2.4	Chair, facilitate, or participate in numerous construction task force meetings, proactively forming multi-agency task forces to deal with parts of the region where significant ongoing work is taking place. (Average 1 to 2 per week).
2.5	Produce <i>regional impact reports</i> to identify potential conflicts among projects. For major regional incidents, ensure that construction information is integrated into special <i>Regional Conditions Reports</i> (24/7 as needed).
2.6	Ensure real-time integration of all construction activities with <i>OIC</i> operations. For major projects, on average 3 per week, prepare mitigation plans for the <i>OIC</i> for implementation and coordination. (Average 70 different scheduled construction projects per day are transferred as active events for real-time monitoring)
A.3	Provide outreach to member and non-member agencies to ensure participation in operations programs.

### Workshop Outputs

Strengths Cited	Weaknesses Cited
<ul style="list-style-type: none"> <li>Regional conference calls (weather and special events)</li> <li>Planning for major construction event – documented in process</li> <li>Law enforcement is a recipient of the information for situational awareness</li> <li>TRANSCOM helps members achieve goals and objectives</li> <li>Regional framework to coordinate the “day to day” type of events</li> <li>TRANSCOM is a model to others and has been used to help tell the story of how member agency support operations</li> <li>Coordination is a regular occurrence</li> <li>TRANSCOM participates in MPO efforts</li> <li>TRANSCOM will be very important in addressing performance based planning</li> </ul>	<ul style="list-style-type: none"> <li>Communication of the day to day impact of TRANSCOM benefits to others</li> <li>Member agencies may not elevated day to day benefits of TRANSCOM within their respective organization</li> <li>Limited talking about results of coordinated efforts, and the outcomes of activities</li> <li>Opportunity to identify other disciplines within member agencies to leverage in support of overall regional operations - planning for example</li> <li>The “Brand” of TRANSCOM varies across membership which is ok, but may also be an opportunity</li> <li>Strategic Coordination has opportunity for further focus to align and drive corporate goals</li> <li>Level of coordination is not measured beyond what is observed</li> </ul>

<ul style="list-style-type: none"><li>Level of coordination is measured on a budget perspective</li><li>Annual Meeting captures some of the performance of TRANSCOM</li><li>MPOs are brought into the TRANSCOM circle as non-members</li></ul>		<ul style="list-style-type: none"><li>TRANSCOMs role is capture in the annual meeting. Opportunity to solidify a story - so others can tell that story with consistent messaging.</li><li>Processes are dependent on member agencies to communicate data that is of a “standard quality”</li><li></li></ul>		
Level	1 – Performed	2 – Managed	3 – Measured	4 – Optimized
Member Agencies	Regional operations coordination is performed as desired (ad hoc) without established or consistent processes for these coordination activities; Successful coordination occurs as a result of individual relationships that are re-established following a change in key participants and maintained through the efforts of individuals	TRANSCOM meets routinely to identify operational strategies in response to emerging regional needs and includes the majority of regional stakeholders (e.g., MPO, DOT, transit, ports/terminals (aviation/marine/rail), law enforcement), using established processes for coordination and communication; These processes include formally agreed goals, objectives, and strategies that result in document data-sharing and coordination procedures for TRANSCOM and member agencies in their shared activities with TRANSCOM	TRANSCOM measures the outcomes of coordinated activities and reports these routinely to member agencies; These outcomes include quantifying decision processes, joint TSM&O activities (ranging from construction coordination to incident management), joint and coordinated planning efforts, established agreements, and joint funding as related to regional goals, objectives, and priorities	TRANSCOM coordination of operational activities and shared data are optimized based on measured coordination outcomes, to ensure that limited resources are utilized for the coordination activities that most fully achieve TRANSCOM and member agency objectives
Consensus	Many processes established at tactical level		Annual Meeting	
Strategic Directions				
<ul style="list-style-type: none"><li>Tell the story of normal functions and special event coordination</li><li>Aligning Strategic Goals and Objectives of Members with Goals and Objectives of TRANSCOM. TRANSCOM is the tool (service provider) of a member agency.</li></ul>				

## Multi-modal Data and Information Access (Performance Management)

***System to collect and manage data to measure operational outcomes, along with transportation network performance and reliability. Performance measures aligned with member agency and regional transportation operational objectives.***

### Survey

7.1	<i>OpenReach System</i> – This system is an internet launched expandable data integration and sharing system. It includes all the event data (incidents, construction, and special events, both real time and future) obtained from the member agencies. It also includes the real-time TIMED/TRANSMIT travel time and speed data, as well as, access to transportation camera images. It provides an inventory of VMS and HAR systems with the capability of including the specific message on these ITS devices. This system is connected thru a data interface with the NYS Thruway/NYS DOT CARS system, CONNDOT's Crescent, and PennDOT's RCRS systems to receive incident/construction data.
7.2	<i>TIMED/TRANSMIT</i> – This system provides real-time travel times and speeds using vehicles equipped with E-ZPass tags as anonymous probes. It is being expanded to be able to provide this information from any technology which provides a specific vehicle identifier. Its function is being expanded to also include the calculation of origin/destination data.
7.3	<i>Data Fusion Engine</i> – This system allows the member agencies to incorporate travel time data from many different technologies, each having its own data link set, into one homogeneous link data set. It then provides the most calculated travel time data for each specific road segment, based on member agency specified rules. It also provides the capability to compare the travel time and speed data of the different technologies to evaluate their results, both in real-time and by viewing archival data. It provides this data in both graphical and tabular form and has the capability to be downloaded so that it can be shared with others. This system is connected through a data interface with TRANSMIT/TIMED, HERE/Navteq, Inrix, TrafficCast/BlueToad, NYCDOT/MIM, NYSDOT Region 8/BlueToad, and NYSDOT Region 10/VIDS systems to receive travel time/speed data.
7.4	<i>Data Feeds</i> – These feeds provide the real-time data produced by TRANSCOM's Data Fusion System in a user friendly, industry based output. These feeds can be customized for our member agencies while others are more generic and are provided both to the members and to the public at no charge. Currently, there are over 150 private sector users signed up to receive the event and TRANSMIT data. The following Agencies are using the customized data feed for their Operations: Display Travel Times on VMS (NJDOT, NJ Tpke, NYSDOT Reg 11, MTA Bridges and Tunnels, PA GWB, NJDOT-Pulaski Skyway Reconstruction); Traveler Information Systems (511NJ and 511NY); Travel Time App (MTA Bridges and Tunnel); and Numerous Member Agency Contractors and R&D agencies for Operations, planning and analysis.
7.5	<i>ITS Systems Enhancements</i> – Each year, the member agencies select certain enhancements to the existing systems above to improve or harden the systems. These include such items as life cycle replacement of hardware/software, purchase of private vendor travel time data, enhanced features such as incorporating additional data feeds (e.g. bus and rail travel times), average travel time for a trip (e.g. monthly, Mondays), dynamic trip creation and travel time, and adding a weather and freight restrictions layer. These and other applications may also be needed in anticipation of the introduction of ICM (integrated corridor management) in the region. These enhancements are not included in TRANSCOM's Category A budget and are noted as Tech Investments.

## Workshop Outputs

Strengths Cited		Weaknesses Cited		
<ul style="list-style-type: none"> <li>• Open Reach heavily relied upon to get Transit information</li> <li>• Experience on reporting for special events / weather provides a template to build from - for future reporting of events</li> <li>• Open Reach provides a mechanism for performance reporting</li> <li>• Opportunity to use data for Congestion Management Process</li> <li>• Architectures are being updated</li> <li>• There is analytical capability within TRANSCOM</li> <li>• Strong understanding of operation performance of freeways and arterials</li> </ul>		<ul style="list-style-type: none"> <li>• Members needs information - beyond data</li> <li>• May not need TRANSCOM Data for day to day reporting for Tunnels / Bridges</li> <li>• Need additional information on Transit Operations</li> <li>• Developed ad/hoc reporting for special weather events but could be an established process</li> <li>• Opportunity look at how incidents are entered / reported - so a robust timeline on when signs are activated, wreckers are on scene etc. is captured in Open Reach</li> <li>• Data Quality Control - Equipment could be down or there could be gaps in the dataset</li> <li>• Opportunity to support proven systems and no longer support redundant or unnecessary systems – survey of system needs has not been conducted</li> <li>• Decentralized systems vs. Centralized System and understanding costs and benefits of current architecture of infrastructure vs. ideal architecture of system</li> <li>• Weakness in the dataset may not be clear</li> <li>• Limited data and information on Freight and Transit performance</li> </ul>		
Level	1 – Performed	2 – Managed	3 – Measured	4 – Optimized
Criteria	<p>Transportation network performance assessed ad hoc to support immediate performance reporting needs; Performance measurement activities are reactive</p>	<p>Operational activities are quantified and used directly for after-action debriefings and improvements; Established and followed process for recording activity data, and routinely reported using such tools as dashboards; TRANSCOM is a resource for providing operational activity information to member agencies and outside stakeholders, to demonstrate the activities being undertaken in support of TRANSCOM objectives</p>	<p>Performance outcomes of TRANSCOM and member agency operational activities are measured and reported; Outcome measures identified (networks, modes, impacts) based on goals and operational objectives; TRANSCOM is a resource for general transportation network performance information for use by member agencies and outside stakeholders; Performance measurement resources and activities are measured and reported to member agencies to demonstrate that performance measurement program is achieving its objectives</p>	<p>Performance measurement processes are evaluated to determine their effectiveness in providing outcome measures relevant to operational objectives; Performance measurement processes are optimized to ensure that limited resources are used to most effectively achieve outcome performance measurement objectives</p>

<b>Consensus</b>	Certainly use the data or pulled when needed; but it has not been a function of priority	<b>Focus on the Outcome of a targeted initiative</b>
<b>Strategic Directions</b>		
<ul style="list-style-type: none"> <li>Assessment of existing systems and data to determine which systems and data are important and needed (including centralized vs. decentralized)</li> <li>Enhance process for data quality and information development</li> </ul>		

## Advocacy (Culture and Organization & Staffing)

***Recognized by member agencies and outside stakeholders at the policy/political level as a common voice, advocate, and honest broker for the achievement of regional transportation operational goals and objectives.***

### Survey

8.1	Prepare and maintain all financial records, ledgers and reports, in conformity with generally accepted accounting principles (GAAP).
8.2	Prepare <i>financial statements, reports and supporting documentation</i> as required for financial institutions, governmental agencies, TRANSCOM management and the annual audit.
8.3	Perform additional functions as required for the federal audit: transition to Distributive Accounting; calculation/recalculation of Directs and Indirects; performance of Joint/Shared-Cost Accounting; and compliance with OMB Circular A-122.
8.4	Record all revenues. Review, record, and process for payment all vendor invoices.
8.5	Prepare payroll for processing by the payroll service and verify and record the completed payroll on TRANSCOM's books.
8.6	Prepare <i>cash flow and other financial reports</i> for management and the bank in regard to the <i>line of credit</i> .
8.7	Review, record, and process all billings in accordance with <i>agreements</i> . (includes O&Ms for member and non member agencies, OpenReach/NJSWIFT billings, quarterly billings for specific projects).
8.8	Perform advanced and final <i>billings</i> , prepare and maintain listing of outstanding bills, and ensure billings are in accordance with contract provisions and federal regulations.
8.9	Develop the draft <i>annual budget</i> in accordance with OMB Circular A-122, based on contractual obligations, management input and review by oversight committees, for recommendation for Board action.
8.10	Administer the <i>approved budget</i> , ensuring revenues are properly reflected and expenditures are proper and within budgetary guidelines in compliance with OMB Circular A-122, providing reports (quarterly and as needed) to assist in making operational and financial decisions.
8.11	Process payroll data and timesheets in compliance with OMB Circular A-122.
8.12	Process travel authorizations and expense reports, distribute petty cash, maintain vehicle logs and track usage.
8.13	Manage <i>administrative service and procurement contracts</i> (e.g, office lease, vehicle leases, insurance program policies, telephone service).
8.14	Maintain <i>official files of minutes, corporate documents, contracts and agreements</i> .
8.15	Provide secretarial and clerical support: scheduling meetings, providing meeting materials, handling incoming calls, and processing mail.
8.16	Provide overall personnel management for TRANSCOM including: recruitment, counseling, discipline, the administration of the employee benefits program, employee review program, and liaison with temp and contractor employee agencies.
8.17	Develop and maintain all <i>TRANSCOM's Human Resources administrative procedures</i> to ensure their continued viability.
8.18	Work with labor counsel to ensure all procedures are in compliance with federal and state labor laws and regulations.

8.19	Address employee benefit inquiries, in coordination with benefit providers. Oversee pre-tax transportation program for employees.
8.20	Act as liaison with building management to address all service needs and lease related issues.
8.21	Responsible for establishment, maintenance, and budget adherence for ~80 contracts.
8.22	Review and approve all expenditures to ensure that the charges are appropriate and in accordance with each contract, in compliance with OMB Circular A-122.
8.23	Prepare monthly and/or quarterly <i>billings for all contracts</i> ensuring that the required documents are included. Ensure reconciliation of contract budget data to accounting records. Prepare and maintain status of all contracts and billing.
8.24	Respond to vendor, contractor and member agency contract inquiries.
9.1	Develop the <i>Strategic Plan</i> , and <i>annual Strategic Plan updates</i> , working with management to ensure that the Plan reflects a consensus of the Board, Tech&Ops and Finance committee Chairs, along with the entire membership.
9.2	Track the implementation of the <i>Strategic Plan</i> , identifying changes in the external environment which cause a divergence from plan goals.
9.3	Develop the annual <i>TRANSCOM Business Plan</i> .
9.4	Ensure that the Strategic and Business plans are fully integrated into the annual budget process.
9.5	Ensure official record keeping for the Board and other Committees, through production of agendas and minutes with records of actions.
9.6	Identify future funding opportunities that result from administrative or legislative actions, with particular emphasis on future opportunities in homeland security and emergency management.
9.7	Administer the <i>TRANSCOM Regional Information Policy</i> .
A.1	Train and develop all operations staff.

### Workshop Outputs

Strengths Cited		Weaknesses Cited		
<ul style="list-style-type: none"> <li>Operations staff in agency understand TRANSCOM</li> <li>TRANSCOM provides information which has credibility among operations staff.</li> <li>The role of TRANSCOM as a tool is positive in brining regional credibility</li> <li>TRANSCOM staff has a built in role to address turnover with member agency leaders; to re-establish awareness</li> <li></li> </ul>		<ul style="list-style-type: none"> <li>Other Disciplines do not fully appreciate regional partnerships and role of TRANSCOM to promote regional operations</li> <li>Senior policy makers may not see or appreciate the honest broker role as information broker - that TRANSCOM can provide.</li> <li>Turnover of decision makers requires frequent networking</li> <li>Sustainability of TRANSCOM uncertain - with decision makers universally</li> </ul>		
Level	1 – Performed	2 – Managed	3 – Measured	4 – Optimized
Criteria	Individual technical champions promote TRANSCOM within existing structure and	Member agencies' policy-level management understands TRANSCOM regional operations business case with core capacity needs identified; collaboration with ability	Member agencies' missions, goals, objectives, and internal performance evaluation fully incorporates TRANSCOM regional operations and benefits	TRANSCOM member agencies optimize their own operational activities and TRANSCOM support based on measured achievement of their

	staffing levels - varying among member agencies	to educate decision makers / public takes place routinely and repeatedly; Job specs, certification, and training for member agency positions reflect TRANSCOM interaction	agency objectives	operational
<b>Consensus</b>		<b>some</b>		variable
<b>Strategic Directions</b>				
<ul style="list-style-type: none"> <li>• Communication effort to institutionalize brand of TRANSCOM</li> <li>• Members reinforce an internal institutional understanding of TRANSCOM (and how it aligns with agency success / Goals, Objectives and Initiatives)</li> </ul>				

## Governance & Funding: (Business Process and Systems & Technology)

***Business processes designed or adapted specifically for TRANSCOM, including: planning, budgeting, project programming, investment planning, accounting, procurement, life cycle cost analysis, communications and marketing, systems engineering, and risk management. This includes helping to define the cost-benefit rationale/justification for regional operations.***

### Survey

3.1	Minimize the impact of major special events on regional mobility, maintaining a <i>database of the locations, dates, times, sponsoring organizations and key agencies affected by each event</i> . This function includes major unplanned events.
3.2	<i>Coordinate highway and transit plans and operations</i> for special events to ensure integrated approaches, coordinated communications, and adequate contingencies.
3.3	<i>Facilitate regional planning and discussion among agencies for coordinated standards and responses to severe weather events</i> , such as bridge and road closure standards for high winds, traffic diversion and evacuation procedures for flood-prone areas, etc.
3.4	<i>Integrate special events into the construction coordination process</i> , as an element of construction meetings and as an element of the construction data base.
3.5	Create <i>multi-agency task forces with event sponsors</i> , hosting meetings or attending other meetings off-site, as requested. This also includes planning meetings for evacuations, diversion routes, etc. (Average 2 per month)
3.6	Provide <i>reports for specific events and special Regional Conditions Reports</i> , including <i>Severe Weather Advisory reports</i> (24/7 as needed).
3.7	Ensure <i>integration of each major special event with OIC activities</i> , monitoring conditions and utilizing regional traveler information resources, as needed. (Average 8 different scheduled special events per day are transferred as active events for real-time monitoring – this is predominantly weekend activity)
3.8	Provide reports for specific events and special Regional Conditions Reports, including Severe Weather Advisory reports (24/7 as needed).
3.9	Provide <i>on-site support</i> to member agencies during special events (as-needed).
4.1	Oversee the implementation and operation of <i>TRANSCOM's ITS systems (over 150 servers and 20 NAS drives)</i> to improve the quality, timeliness, and dissemination of transportation information.
4.2	Implement, maintain and ensure <i>data integrity and security for TRANSCOM ITS systems and for internal systems for the OIC and for general staff</i> . This includes approximately 300 server and 360 workstation issues and 40 workstation and 20 server rebuilds a year.
4.3	Implement, operate, maintain, and ensure <i>integrity and security for the TRANSCOM OpenReach (OR) Video System (~2800 cameras, fixing some 200 problems/yr.)</i>
4.4	Provide coverage at TRANSCOM of a minimum of 1 staff member with <i>server expertise</i> for 12 hours on regular business days to oversee the monitoring, troubleshooting, and data archiving functions.
4.5	Monitor, maintain, rebuild, and troubleshoot <i>ITS systems, TRANSCOM internal systems, along with ITS systems located at member agencies</i> , for 12 hours on regular business days. Overnight hours and weekends are covered by on-call staff.
4.6	Maintain an <i>inventory of hardware and of software/licenses</i> (including vendor source code) for all TRANSCOM systems and member agency systems operated and maintained by TRANSCOM.

4.7	Provide modifications to existing software and produce <i>customized software</i> to support Operations and other TRANSCOM staff needs. Provide and maintain <i>application programming (help desk program, TRANSCOM Website, etc.)</i>
4.8	Coordinate O&M activities with TRANSCOM vendors and member agencies for various <i>ITS Systems</i> (OR, Data Fusion, XML Data Feed etc.)
4.9	Ensure ongoing outreach to members for ITS planning, oversight, <i>system integration and testing</i> .
4.10	Provide 24/7 technical support (250 OR User Requests/year) and training support to member agencies for ITS systems (OR, Data Fusion, Data Feeds etc.)
4.11	<i>Archive TRANSCOM internal and multi-agency ITS systems data</i> , and respond to requests for data from member agencies, and other interested stakeholders.
4.12	Establish and oversee a <i>program for business continuity and disaster recovery</i> , to include planning, implementing, and testing of all ITS systems, (OR, Data Fusion, Data Feed etc.)
4.13	Provide for the planning, design, installation, system integration, system implementation and testing of new and enhanced ITS systems.
4.14	Negotiate <i>contracts and procure</i> equipment for systems and supervise the work of consultants and contractors.
5.1	Create and maintain the existing <i>TRANSMIT database and link/segments</i> that support numerous member agencies' 8+ servers and over 2000 miles. Oversee the development, implementation, testing, and coordination of the TRANSMIT software upgrade called TIMED.
5.2	Provide for planning, design, and installation of <i>new travel time readers</i> (5-30 new readers/year).
5.3	Negotiate contracts and supervise consultants/contractors for the installation, operation, maintenance and procurement of equipment for the <i>TIMED/TRANSMIT system</i> . Coordinate with agency contractors that are deploying agency travel time equipment to ensure full integration within the TRANSCOM network.
5.4	Provide <i>user support, along with Helpdesk and training support, to member agencies for TIMED/TRANSMIT/Data Fusion Engine</i> administrative and operational procedures.
5.5	Maintain access and integration to the <i>Data Fusion Engine</i> to ensure data consistency, functionality, and business rules for data selection among sources.
5.6	Produce <i>customized software for the compilation and presentation of TIMED/TRANSMIT data</i> and respond to requests from member agencies and their consultants for historical and archived data.
5.7	Facilitate inter-agency planning, participation and oversight for TIMED/TRANSMIT integration and enhancements.
6.1	Design, implement, operate and maintain the networking required for <i>TRANSCOM's ITS systems, including DFE, OR, and TIMED/TRANSMIT</i> . This information is shared with the member agencies, their 511 systems, and outside organizations through the XML data feed.
6.2	Maintain network equipment and software for all TRANSCOM's internal systems, including those for the TRANSCOM OIC and general staff.
6.3	Maintain coverage at TRANSCOM of a minimum of 1 staff member with networking expertise to oversee the monitoring, maintenance, and troubleshooting of all networking systems, including TRANSCOM's internal systems. Coverage is a minimum of 1 staff member for 12 hours on regular business days -- overnight and weekend coverage by on-call staff.
6.4	Design, install, implement, operate, and maintain <i>17 firewalls, 60 switches, 45 routers, and numerous other network devices</i> . This involves ~ 300 firewall and ~150 other networking issues and changes per year.
6.5	Provide networking support for TRANSCOM and member agencies' related DNS (domain name systems).
6.6	Ensure network continuity and support during communication vendors' maintenance or changeovers, as well as during facility power maintenance.

6.7	Ensure system <i>network integrity and security</i> , through the design, implementation and operation of duplicate networking systems, and disaster recovery (DR) planning.
6.8	Provide all networking and user support required for the integration of all ITS systems at TRANSCOM and at member agencies' facilities, as well as for outside DR locations.
6.9	Provide for planning, design, and installation of new ITS systems and office systems networking and communications needs.
6.10	Provide networking and training for new agency-funded ITS system integration and testing with the DFE and/or OR system.
6.11	Negotiate contracts for networking services and procure networking equipment.

### Workshop Outputs

Strengths Cited		Weaknesses Cited		
<ul style="list-style-type: none"><li>Collective movement in one direction enables advancement of the group</li><li>OpenReach has been a game changer enabling members to take this service / function Statewide.</li><li>All members have benefited from the data</li><li>Management controls established to understand and support the requirements of the associated funding</li></ul>		<ul style="list-style-type: none"><li>Double edge sword for equal weight in the vote</li><li>Struggle for agency to justify amount of funds compared to equal vote (proportional) – reporting may be helpful in making the case for transparency</li><li>Challenge to have a rational approach to cost : benefit – not yet institutionalized</li><li>Need ability to quantify the proposals and benefits associated with the costs for membership</li><li>Data has value but requires a sustained funding so the committed is met</li><li>Time to implement management controls has created uncertainty in cash flow</li></ul>		
Level	1 – Performed	2 – Managed	3 – Measured	4 – Optimized
Criteria	TRANSCOM must customize business processes separately for each member agency, based on ad hoc processes that are unpredictable and subject to change	TRANSCOM is able to conduct business processes consistently and predictably with the member agencies according to established standard processes	TRANSCOM business processes are integrated with and measured to demonstrate that business process objectives are being achieved	TRANSCOM business processes are optimized to minimize required management resources, based on measurements of business process effectiveness with respect to member agency objectives.
Consensus				
Strategic Directions				
<ul style="list-style-type: none"><li>Plan to stabilize funding issue long term – suggested via a multi-year agreement</li><li>Support member agencies internal processed to ensure timely payments</li><li>Qualitatively and quantitatively communicate output and outcomes of TRANSCOM</li><li>Raise understanding and visibility of TRANSCOM Benefits beyond the operating staff</li><li>Quantify the cost on each agency if TRANSCOM functions and services did not exist to support the collective</li><li>Engage the Senior Executives Strategically and institutionalize understanding of TRASNCOM role to agency Goals and Objectives</li><li>Executive Board / CEO communication to support advocacy, funding and transparency</li><li>Detailed reporting of how business processes have been updated and applied, including transparency – include this in the annual report</li><li>Build Brand and Story from what data is easy to gather and compile; work from there to demonstrate transparency; then build or eliminate content to this story</li></ul>				

- Explore other funding programs (i.e., ICM) to support TRANSCOM

**Funding (Resources)**  
**Financial - Human - Infrastructure - Technology**  
 Workshop Outputs

Strengths Cited			Weaknesses Cited	
<ul style="list-style-type: none"><li></li></ul>			<ul style="list-style-type: none"><li>Board Members may agree, but may run into resistance through legal dept.</li></ul>	
Level	1 – Performed	2 – Managed	3 – Measured	4 – Optimized
Criteria	TRANSCOM must seek funding every year from each member agency	TRANSCOM receives funding based on multi-year established funding processes tied to member agency goals and objectives	TRANSCOM funding effectiveness is routinely measured with respect to collective regional goals and objectives	TRANSCOM funding and budgets are optimized to ensure that limited resources are utilized to achieve maximum benefit, as measured against collective regional goals and objectives
Consensus	certainly	striving		
Workshop Actions to Advance to the Next Level				
<ul style="list-style-type: none"><li>Assess concept of a TRANSCOM fee to Incorporate within the Capital Improvements Project List – to align member initiatives to support local and regional operations (i.e., construction coordination; real time regional data support).</li></ul>				



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# TRANSCOM STRATEGIC PLANNING

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*Summary of Facilitated  
Meeting Series*

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*February – July 2014*

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Prepared for:

TRANSCOM Members and Staff

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Prepared by:

USDOT – FHWA Resource Center  
*Operations Technical Service Team*

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July 25, 2014

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The United States Department of Transportation, Federal Highway Administration – Resource Center was invited to facilitate a Strategic Planning effort for TRANSCOM in February 2014. The effort drew upon the Capability Maturity Model (CMM) developed by the Strategic Highway Research Program (SHRP2) Organizing for Reliability Research. Due to the unique characteristics of TRANSCOM and its member, a CMM Workshop was customized to support the unique characteristics of the region.

A number of meetings were conducted with TRANSCOM Staff and FHWA Division offices to organize and execute the effort. This included an internal discussion with TRANSCOM Staff, and three facilitated meetings with the TRANSCOM Members. This summary is provided to support the development of a Strategic Plan and complement the development of a Work Plan & Budget.

Focusing on the themes of the May 20, 2014 Workshop, the identified Strategic Directions are:

<b>THEME</b>	<b>STRATEGIC DIRECTION</b>
Functions	<ul style="list-style-type: none"> <li>• Aggregated data as some frequency</li> <li>• Develop meaningful information for operators to make decisions and identify choices for operations and traveler information</li> <li>• Enhance or establish processes to update data in support of decision making</li> <li>• Understand underlying cause and effect of changes in observed data changes (peak and off peak, recurring and non-recurring)</li> <li>• Enhanced effort on information development from available data</li> <li>• Assess impacts across region based on data</li> <li>• Enhance support of construction coordination</li> <li>• Enhanced data quality assurance and quality control</li> </ul>
Communication and Coordination	<ul style="list-style-type: none"> <li>• Tell the story of TRANSCOM functions (day to day and special event coordination)</li> <li>• Align Strategic Goals and Objectives of TRANSCOM to member agencies</li> </ul>
Multi-Modal Data and Information (Performance Management)	<ul style="list-style-type: none"> <li>• Assess existing systems and data to determine which systems and data are important and needed</li> <li>• Enhance process for data quality and information development</li> </ul>
Advocacy (Culture and Organization / Staffing)	<ul style="list-style-type: none"> <li>• Communication effort to institutional brand of TRANSCOM</li> <li>• Member representatives reinforce internal organizational understanding of TRANSCOM and how it supports member agency success / Goals, Objectives and Initiatives</li> </ul>
Governance and Funding	<ul style="list-style-type: none"> <li>• Stabilize funding issue for the long term – possible multi-year agreement</li> <li>• Support member agency internal processes to ensure timely payments</li> <li>• Qualitatively and quantitatively communicate output and outcomes of TRANSCOM efforts</li> <li>• Enhance understanding of TRANSCOM Benefits (beyond operations staff)</li> <li>• Quantify the cost if TRANSCOM functions and services did not exist to support the collective</li> <li>• Engage member agency Senior Executives to strategically institutionalize understanding of TRANSCOM role to member agency goals and objectives</li> <li>• Board communication to support advocacy, funding and transparency</li> <li>• Detailed reporting of how business processes have been updated and applied to support transparency – including annual reporting</li> <li>• Build brand and the story of TRANSCOM</li> <li>• Assess funding options for TRANSCOM</li> </ul>

USDOT will continue to support the Strategic Planning effort. Ultimately, it depends on what the TRANSCOM membership agrees to. USDOT – FHWA Resource Center will coordinate with the three FHWA Division Offices throughout. Potential support opportunities include:

<b>Potential Support Activity</b>	<b>Proposed Outcome</b>
Training and Technical Assistance on Locally Administered Projects and Services	TRANSCOM and member agencies are able to administer federal aid projects and funds
Systems Engineering Technical Assistance	Processes and projects apply systems engineering concepts to mitigate risks associated with deployment of ITS projects and technology
ITS Architecture Update and Scenario Planning	A Regional ITS Architecture specific to TRANSCOM supports confirmation of data flows and redundancy in functions and services
Planning for Operation Training and Technical Assistance	Techniques to consider and prioritize projects and strategies to support regional operations of integrated systems
Operations Performance Measure Development and Training	Develop and apply performance driven decisions
Assessment of Specific Functions and Operational Programs	Identify opportunities for program and process improvements (Work Zone Management, Planned Special Events, Road Weather Management, Traffic Incident Management, Arterial and Freeway Management etc.)
Peer Exchanges	Share and gain insights from peers on strategic planning, bylaws and governance, budgeting, performance analysis, reporting, etc.

Finally, a Preliminary Outline of a Strategic Plan has been provided as an Appendix to this summary. The entire USDOT – FHWA Resource Center is appreciative for the partnership throughout this process. We look forward to supporting any next steps.



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## Strategic Planning Workshop

Facilitator: United States Department of Transportation  
Date: March 25, 2015

## FHWA INTERVIEWS: PURPOSE

- Identify agency objectives and needs
- Identify agency processes that use TRANSCOM data services
- Identify agency processes that use TRANSCOM regional coordination services
- Identify the service and satisfaction levels sustainable to meet agency needs
- Identify agency/region process gaps
  - Role for TRANSCOM in filling those gaps

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## WHAT INTERVIEWS WERE *NOT*

- Tactical. We were looking for strategic direction, more ***what is to be done*** than *how*.
- Tours. We weren't there to waste your time. For the most part, we talked to those that ***operate and manage*** the system.
- Short-term. We were looking to establish ***direction***, not to address near-term issues.
- Diagnostic. Focused on the ***future***, not the past.
- Budget-process-constrained. Interviews will inform a ***strategic plan*** that may only partially support FY 2016 budget decisions.
- Audits. ***Fact-finding*** only; not a compliance or policy review. – not see findings, only observations

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## What is TRANSCOM?

- Cultivator, with an eye on operations
- The link to provide operations data with the planning community
- The only agency to reach out to the region, especially for weather and emergency events
- Data sharer
- Regional construction coordinator
- Special events coordinator
- Provider of real time information
- System backup

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## What is TRANSCOM?

- Center point of the wheel
- Conduit of information
- Provider of performance data
  - Travel speed
  - Travel time
- It is what the acronym is saying
- “One stop shop, it’s one phone call!”
- Priceless networking opportunity
- Organization that manufactures information products and services:
  - To the public (B2C)
  - To members (B2B)

**TRANSCOM™**

## What is TRANSCOM?



**TRANSCOM™**

# Operational Observations

## 1. Regional Coordination is Built In

- Agencies have incorporated TRANSCOM into their SOP's
  - They would have to reallocate resources to replace TRANSCOM services
  - They would have to coordinate with all other agencies directly
  - No control center agency was willing to cease regional coordination during real-time events
- Before TRANSCOM, regional coordination was exception and ad hoc; now it is routine and fully acculturated (CMM Level **3**)

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## 2. Agencies Daily Depend on TRANSCOM, 24/7

- Backup access for entering events in Open Reach
- Notification of approaching weather
- Assembly of operational agencies (by conference call) on short notice
- Suggested responses to incidents and road or bridge closures
- Disseminating incident information regionally
- Supplying travel time information

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## 3. Agencies Retain Operational Authority

- Suggested messages are vetted for local applicability
- Suggested messages are vetted for agency policy
- Suggested messages are edited for implementation on specific signs
- One agency allocates resources only on direct request from other operational agency
- Some agencies would like more interaction with the requesting agency acting through TRANSCOM

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#### 4. Some Agencies Want Stronger TRANSCOM

- With operational authority
- BUT...only when applied to *other* agencies

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#### 5. Information Dissemination

- All agencies depend on TRANSCOM to deliver information to regional agencies
- All agencies depend on TRANSCOM to deliver information from regional agencies

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## 6. The Port Authority Issue

- Some agencies believe PANYNJ facility operators get special treatment by TRANSCOM
- History cited more often than concrete examples
- (Tappan Zee Bridge vs. GW Bridge was one concrete example.)
- PANYNJ is establishing a central control center that will change their relationship to TRANSCOM

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## 7. Transit

- Enthusiastic participation from rubber-tired transit services in both NY and NJ
- Rail; not so much

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## 8. Local Knowledge

- TRANSCOM's location does not affect what agencies expect or do
- Some eastern agencies suspect TRANSCOM has greater "local knowledge over, under, and west of Hudson River

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## Business Process Observations

## 9. Agencies Struggling for Support

- Their own operation subject to cuts and demands for greater efficiency
- Concerned that TRANSCOM is not sensitive to their demands to improve cost efficiency
- Agencies need to be able to demonstrate to their leadership that TRANSCOM is operating efficiently, and sensitive to budget constraints

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## 10. Sustaining Funding Versus Dues

- State DOT's provide sustaining funding by allocation formula
- All member agencies pay dues by service formula
- State DOT's more likely to question ongoing business decisions
  - TRANSCOM location (from a cost perspective)
  - TRANSCOM overhead cost issues
- State DOT's need a role commensurate with their sustaining funding

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## 11. One Member, One Vote

- All agencies recognized the role of the current governing model in ensuring participation from all regional agencies
- Are all relevant agencies included?

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## 12. Observed Typical Decision Model

- One or more agencies suggest a service or activity
- TRANSCOM staff analyze request
- Recommendation made by staff to Board at Board Meeting
- Recommendation approved with minimal or no oversight analysis as a matter of collegiality

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## 13. Sustainability

- What extent does TRANSCOM service quality depend on the experience and expertise of current staff? (CMM = Level 1)
- What do they need to do to sustain service quality in case of turnover? (CMM = Level 2)

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## APPENDIX F: TRANSCOM CURRENT PROGRAMS AND SERVICES

Throughout its history, TRANSCOM's strategic direction has been a reflection of the regional goals and objectives articulated by its member agencies. As such, members have grown TRANSCOM into a four-unit operation designed to collectively improve the mobility and safety of the traveling public within the New Jersey/New York/Connecticut region.

### OPERATIONS INFORMATION CENTER (OIC)

Located in Jersey City, NJ, TRANSCOM's OIC collects and disseminates real-time incident and construction information, 24- hours-a-day, to over 100 facilities of its member agencies and affiliated agencies. The OIC coordinates and helps to marshal member agencies' traveler information resources (such as, variable message signs (VMS), highway advisory radio (HAR), and 511 systems) for regional incident response.

- Provides 24/7 incident confirmation and notification.
- Coordinates interagency mobilization of regional VMS and HAR resources, including the sharing of equipment.
- Ensures the integration of construction and special-event information.
- Ensures the integration of ITS systems into OIC activities, to enable monitoring and coordination of the central systems from a regional perspective, as well as troubleshooting. ("Monitoring" does not include operation on behalf of an individual agency.)
- Produces special Regional Conditions Reports (Monday - Friday 8 am - 4 pm, during major regional incidents).
- Responds to requests for special formatting and transmittal of special reports (e.g. post-9/11 or post Hurricane Sandy reports).
- Provides on-site support to member agencies during special events (on an as-needed basis); tracks requests and regularly reports to members on request levels.
  - This includes hosting and supporting a special event conference bridge (~300 participants) to facilitate information exchange between agencies.
- Responds to requests for data on VMS activations or data from the OIC database (e.g. consultants for member agencies); tracks requests and regularly reports to members on request levels.
- Responds to requests for construction information or reports (e.g. transportation management associations); tracks requests and regularly reports to members on request levels.
- Conducts external outreach to member agencies and other public and private entities interested in the available transportation data.
- Ensures quality control of TRANSCOM data feeds to the members' traveler information systems, e.g., state 511 systems, and to TRANSCOM's free data feed to the public.
- Monitors central components of all ITS systems at TRANSCOM.
- Ensures enhancement of information within the data feeds to the traveler information systems.
- Provides additional coordination with law enforcement and emergency management agencies:
  - Additional regional condition reports.
  - Support of hurricane and evacuation preparedness exercises as requested.
  - Support and enhancement of other security activities.

#### PRODUCTS:

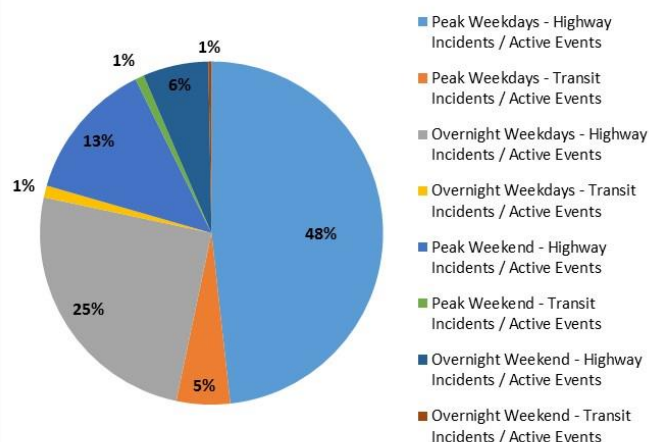
- Provides the ability for the member agencies to share real time incident, construction and special events, as well as, speed and travel time information through ITS systems.
- Provides Regional Conditions Reports during severe incidents and conditions.

- Provides outreach to member and non-member agencies to ensure participation in the notification network.
- Provides real-time traffic information via the XML/JSON data feed to the member agencies' 511 traveler information systems. This includes a listing of all incidents, construction and special events, as well as, speed and travel time information.
- Provides real-time traffic information via the XML/JSON data feed to any public agencies or private companies needing access to this transportation data.
- Prepares and provides Severe Weather Advisory reports.

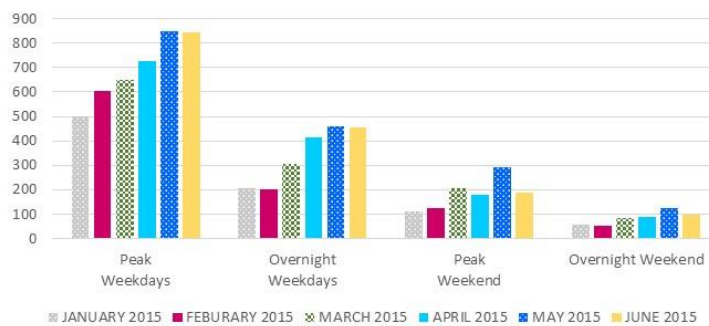
The following demonstrates the number of highway and transit incidents, and the time period when they occurred, for which TRANSCOM provided regional coordination during the January-June 2015.

JANUARY - JUNE 2015																
Regional Coordination by TRANSCOM		Total Incidents					# of Regional Coordination					% of Regional Coordination				
		Peak Weekdays	Overnight Weekdays	Peak Weekend	Overnight Weekend	Total	Peak Weekdays	Overnight Weekdays	Peak Weekend	Overnight Weekend	Total	Peak Weekdays	Overnight Weekdays	Peak Weekend	Overnight Weekend	Total
Highway Incidents / Active Events		90,442	15,052	12,988	7,431	125,913	3,772	1,958	1,035	483	7,248	4.2%	13.0%	8.0%	6.5%	5.8%
Transit Incidents / Active Events		13,056	3,972	3,424	2,441	22,893	395	87	65	23	570	3.0%	2.2%	1.9%	0.9%	2.5%
<b>Total:</b>		<b>103,498</b>	<b>19,024</b>	<b>16,412</b>	<b>9,872</b>	<b>148,806</b>	<b>4,167</b>	<b>2,045</b>	<b>1,100</b>	<b>506</b>	<b>7,818</b>	<b>4.0%</b>	<b>10.7%</b>	<b>6.7%</b>	<b>5.1%</b>	<b>5.3%</b>

### EVENTS REQUIRING REGIONAL COORDINATION BY TRANSCOM JANUARY - JUNE 2015



### TRANSCOM'S REGIONAL COORDINATION BY TIME PERIOD JANUARY - JUNE 2015



## REGIONAL CONSTRUCTION COORDINATION

The Regional Construction Coordination Program helps member agencies to avoid unknowingly restricting capacity on parallel or adjacent facilities and routes. This includes maintaining a long-term database of all construction planned or underway for the region. Additionally, this program involves knowing where construction is taking place on a real-time basis, so that member agencies can cancel or modify a project if it is on a key diversion route around a major incident.

- Creates and maintains a long-term database of agency construction plans.
- Chairs and facilitates regional, multi-agency construction coordination meetings.
- Serves as proactive liaison among member agencies and other entities for coordination of construction.
- Ensures real-time integration of construction activities with Operations Information Center (OIC) activities.

### PRODUCTS:

- Provides the ability for the member agencies to integrate construction information into their Intelligent Transportation Systems (ITS) for sharing real-time incidents, special events, and speed and travel time information.
- Provides real-time construction information via TRANSCOM's free XML/JSON data feed to the member agencies' 511 traveler information systems. (This also includes a listing of all incidents, special events, and speed and travel time data.)
- Produces regional impact reports that identify potential conflicts among construction projects.

The following demonstrates the number of highway and transit scheduled constructions during January – June 2015. The time which these incidents occurred and the level of data inserted by TRANSCOM staff for these events on behalf of member agencies is also provided.

JANUARY - JUNE 2015																
Scheduled Construction Events	Total Incidents					Entered by TRANSCOM					% of TRANSCOM Entered Data					Unique Events
	Peak Weekdays	Overnight Weekdays	Peak Weekend	Overnight Weekend	Total	Peak Weekdays	Overnight Weekdays	Peak Weekend	Overnight Weekend	Total	Peak Weekdays	Overnight Weekdays	Peak Weekend	Overnight Weekend	Total	
Highway Scheduled Construction	13,849	6,192	812	3,427	24,280	1,159	742	6	465	2,372	8.4%	12.0%	0.7%	13.6%	9.8%	14,693
Transit Scheduled Constructions	1,369	1,225	1	51	2,646	1,369	1,225	1	51	2,646	100.0%	100.0%	100.0%	100.0%	100.0%	1,370
<b>Total:</b>	<b>15,218</b>	<b>7,417</b>	<b>813</b>	<b>3,478</b>	<b>26,926</b>	<b>2,528</b>	<b>1,967</b>	<b>7</b>	<b>516</b>	<b>5,018</b>	<b>16.6%</b>	<b>26.5%</b>	<b>0.9%</b>	<b>14.8%</b>	<b>18.6%</b>	<b>16,063</b>

## REGIONAL SPECIAL EVENTS COORDINATION

This program involves minimizing the impact of major special events on regional mobility. These include: sporting events, festivals, concerts and religious ceremonies. This activity includes maintaining a data base of the locations, dates, times, sponsoring organizations and key agencies affected for each event, including on a real-time basis. This effort also involves integration with construction coordination, since some planned projects may need to be cancelled or modified to minimize congestion on impacted routes before, during and after an event.

- Maintains a list of major regional special events.
- Reviews these events during regional construction coordination meetings.
- When necessary, creates multi-agency task forces with the event sponsor(s), including hosting special meetings or attending other meetings off-site.
- Ensures the integration of each major special event with Operations Information Center (OIC) activities, so that the impact of the event can be monitored on a real-time basis, intervening when necessary through the utilization of traveler information resources.

### PRODUCTS:

- Provides the ability for the member agencies to integrate special event information into their Intelligent Transportation Systems (ITS) for sharing real-time incident, construction, and speed and travel time data.
- Provides real-time traffic information via TRANSCOM's free XML/JSON data feed to the member agencies' 511 traveler information systems. (This also includes a listing of all incidents, construction, and speed and travel time information.)
- Produces regional impact reports that identify potential conflicts between planned construction projects and major special events.

The following demonstrates the number of highway and transit scheduled special events during June – July 2015. The time which these incidents occurred and the level of data inserted by TRANSCOM staff for these events on behalf of member agencies is also provided.

JANUARY - JUNE 2015																
Scheduled Special Events	Total Incidents					Entered by TRANSCOM					% of TRANSCOM Entered Data					Unique Events
	Peak Weekdays	Overnight Weekdays	Peak Weekend	Overnight Weekend	Total	Peak Weekdays	Overnight Weekdays	Peak Weekend	Overnight Weekend	Total	Peak Weekdays	Overnight Weekdays	Peak Weekend	Overnight Weekend	Total	
Highway Scheduled Special Events	1,134	837	14	105	2,090	1,033	779	1	61	1,874	91.1%	93.1%	7.1%	58.1%	89.7%	1,148
Transit Scheduled Special Events	606	434	14	153	1,207	606	434	14	153	1,207	100.0%	100.0%	100.0%	100.0%	100.0%	620
<b>Total:</b>	<b>1,740</b>	<b>1,271</b>	<b>28</b>	<b>258</b>	<b>3,297</b>	<b>1,639</b>	<b>1,213</b>	<b>15</b>	<b>214</b>	<b>3,081</b>	<b>94.2%</b>	<b>95.4%</b>	<b>53.6%</b>	<b>82.9%</b>	<b>93.4%</b>	<b>1,768</b>

## SYSTEMS ADMINISTRATION, INFORMATION, AND COMMUNICATION SYSTEMS

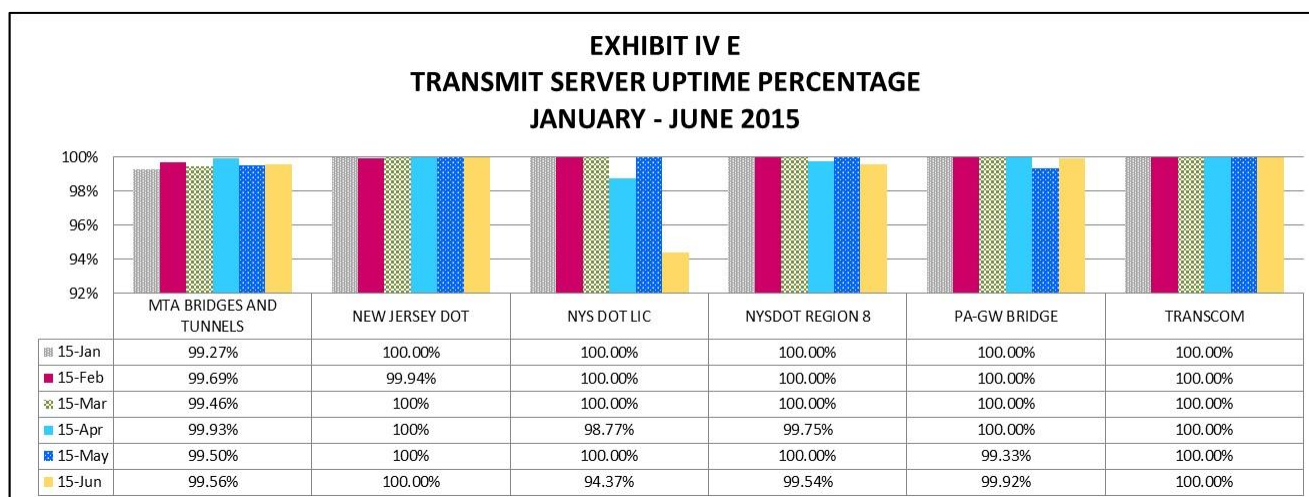
TRANSCOM implements and operates Intelligent Transportation Systems (ITS) to improve the quality, timeliness, and dissemination of transportation information. These systems include: TRANSMIT, a system that uses electronic toll- collection technology to determine travel times and speeds and to detect incidents; the TRANSCOM OpenReach (OR) system which ensures coordination and integration of advanced transportation management and information systems that are being implemented by the 16 member agencies; TRANSCOM Middleware ITS Standard Based; TRANSCOM Data Fusion Engine/SPATEL Tools and XML/JSON feeds from these systems which allows for the sharing of this information, not only with TRANSCOM's members and their 511 traveler information systems, but also to any other public or private organization or individual who wants access to this valuable real-time highway and transit information.

- Maintains system equipment and software.
- Provides 24/7 technical support and disaster recovery planning for all ITS systems.
- Ensures data integrity and security.
- Coordinates all agency participation and oversight of ITS systems.
- Conducts external outreach.

### PRODUCTS:

- Provides for the planning, design, and installation of ITS systems (OpenReach, TRANSMIT, DFE SPATEL, Middleware, Data Exchange Feeds).
- Negotiates contracts for systems with, and supervises the work of, consultants and contractors.
- Procures system equipment and services.
- Provides system user support to member agencies.
- Provides and maintains application programming.
- Designs and maintains the TRANSCOM web site.
- Responds to requests for data from ITS systems (e.g. NYSDOT Region 8 & TRANSMIT modeling effort); tracks requests and regularly reports to members on request levels.

The following demonstrates uptime for each TRANSMIT server for January – June 2015.



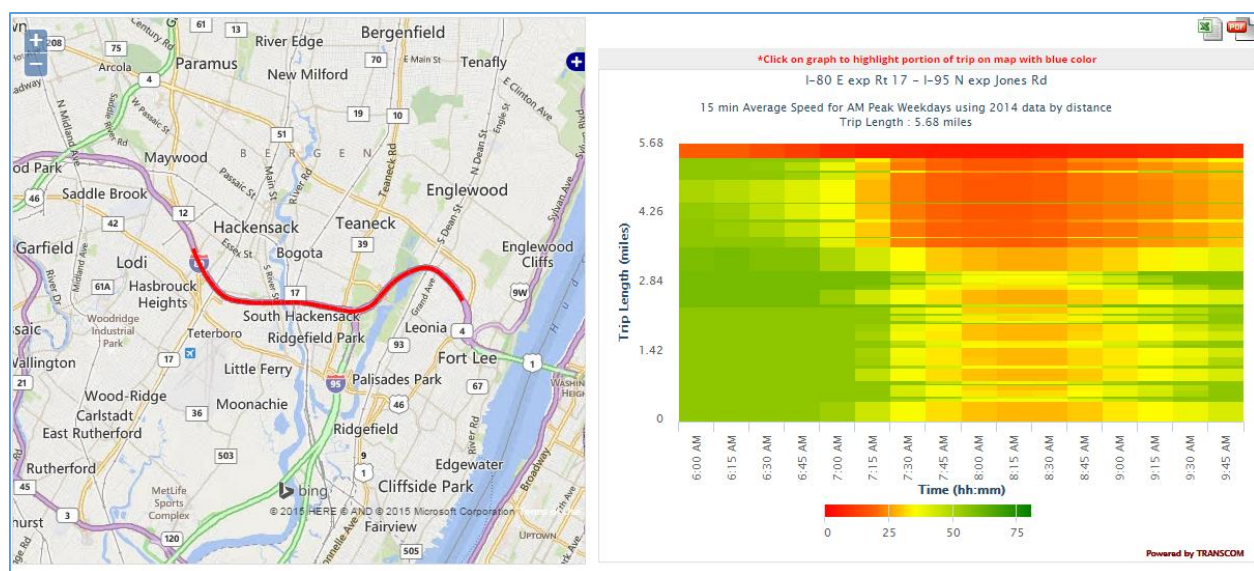
## TRANSCOM DFE/SPATEL Tool

This tool is a comprehensive application that provides historical average performance data for selected trips, as seen below. The various views within the tool provide detail which is useful for the planning process, and show data for AM and PM Weekday Peak Periods.

The Tool has the ability to show graphs depicting historical travel time for a trip. The time of day shows the duration of the peak period being observed, and shows the free flow travel time (travel at the speed limit), the historical average travel time, and the planning time, which is based on the 95th percentile of the average travel time. In order to show the reliability of the data, a reliability graph shows the number of data points at each observed travel time.



The Tool contains a map to show the location of the identified trip, and a set of congestion graphs. The congestion graphs are “heat maps,” one of which shows the average speed at each segment of the trip relative to time, and one that shows the average speed of the full trip relative to time.



## INFORMATION SYSTEMS:

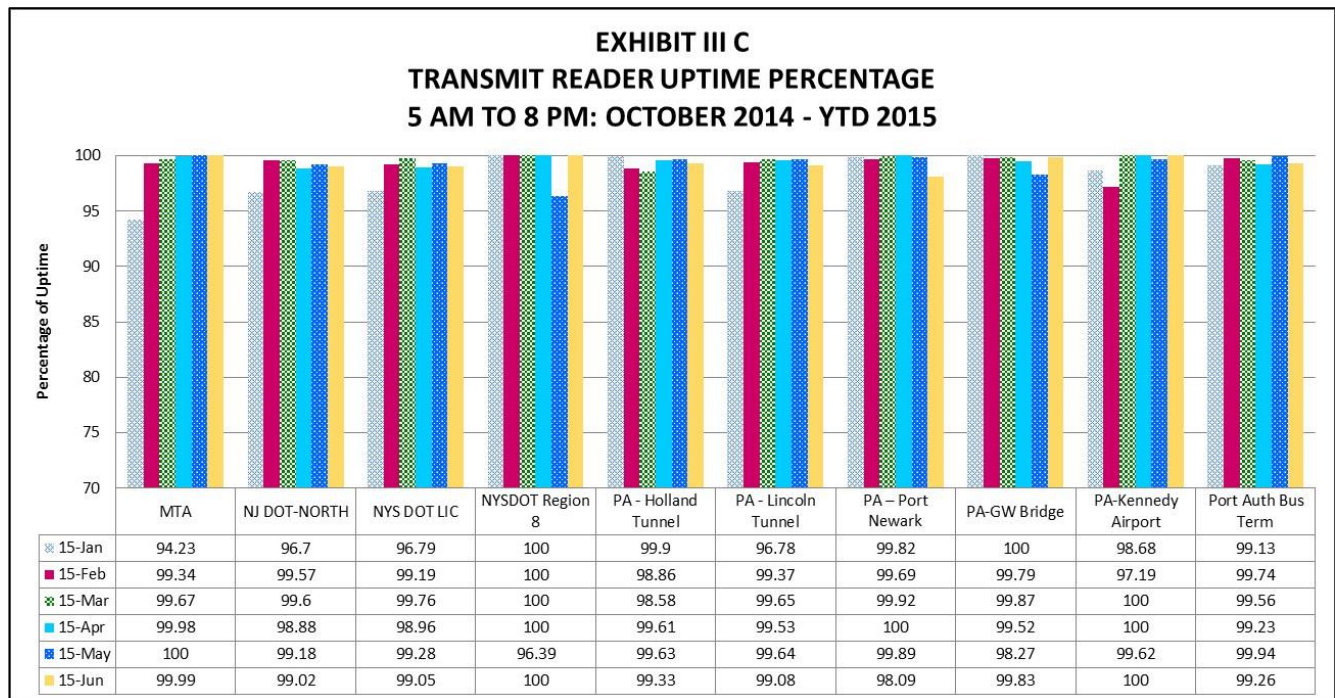
TRANSCOM implements and operates Intelligent Transportation Systems (ITS) to improve the quality, timeliness, and dissemination of transportation information. This includes the planning, development, deployment, operation and maintenance of a system called TRANSMIT. The TRANSMIT system is used by several of TRANSCOM's member agencies. The TRANSMIT system utilizes electronic toll-collection technology to determine travel times and speeds and to detect incidents. TRANSCOM ensures regional coordination and information sharing through the integration of TRANSMIT data into the TRANSCOM OpenReach (OR) system.

- Operates and maintains TRANSMIT equipment and software.
- Coordinates all agency participation and oversight of TRANSMIT.
- Conducts external outreach.

## PRODUCTS:

- Provides for the planning, design, and installation of TRANSMIT.
- Negotiates contracts with, and supervises the work of, consultants and contractors regarding the installation, operation and maintenance of TRANSMIT systems.
- Procures equipment and services for TRANSMIT systems.
- Provides user support to member agencies for TRANSMIT systems.

The following demonstrates reader uptime during peak hours (5 a.m. to 8 p.m.) per agency for January – June 2015. Additional reports generated on a monthly basis include total reader uptime percentage, reader uptime peak vs. off-peak, and total fail reader count peak vs. off-peak.



**COMMUNICATION SYSTEMS:**

TRANSCOM implements and operates ITS systems to improve the quality, timeliness, and dissemination of transportation information. These systems include: The TRANSCOM OpenReach (OR) system which ensures coordination and integration of advanced transportation management and information systems that are being implemented by the 16 member agencies; and the XML/JSON feeds from these systems which allows for the sharing of this information, not only with the members and their 511 traveler information systems, but also to any other public or private organization or individual who wants access to this valuable real-time highway and transit information.

- Maintains network equipment and software.
- Provides 24/7 technical support and disaster recovery planning for all of the networking systems.
- Ensures data integrity and security.
- Provides all networking required for the integration of all ITS systems.

**PRODUCTS:**

- Provides for the planning, design, installation, and maintenance of all networking for TRANSCOM's information and communication systems, including federally-funded ITS systems during the federally-funded period, and including central equipment and software for the federally-funded ITS systems after the federally-funded period.
- Provides networking user support to TRANSCOM staff on network and ITS systems.
- Trains member agencies on use of ITS networking systems.
- Designs, implements, operates and maintains duplicate video network and data feeds for the traveler information systems for disaster recovery.

## TRANSCOM FINANCE AND ADMINISTRATION

The Finance and Administration Department provides accounting services for all of TRANSCOM's programs, oversees the financial management of TRANSCOM's ongoing operations and federal grant program, provides services for the annual audit, develops the annual budget and provides ongoing financial reporting to TRANSCOM's Board of Trustees. Additionally, the Finance and Administration Department provides personnel management, administers the employee benefits program, develops, maintains and implements all administrative procedures and provides clerical support to all TRANSCOM Staff.

### Accounting Services

- Responsible for all accounting services for TRANSCOM:
  - Prepares and maintains all financial records, ledgers and reports.
  - Ensures that all financial records, ledgers, and reports conform to generally accepted accounting principles.
  - Records and deposits all revenue received accurately and on a timely basis.
  - Reviews, records and processes for payment all vendor invoices (approx. 100/month) in accordance with
  - TRANSCOM procedures.

### Billing

- Reviews, records and processes all billings in accordance with agreements.

### Budgeting

- Develops the draft annual budget for recommendation for Board action.
- Administers the approved budget, ensuring that revenues are properly reflected and that expenditures are proper and within budgetary guidelines.

### Administration

- Processes payroll data and timesheets.
- Distributes payroll checks.
- Supervises and tracks vehicle usage.
- Assists in contract preparation, including documentation of changes resulting from legal and agency reviews.
- Manages administrative services and procurement of contracts (such as the building lease, vehicle leases, the insurance program covering the policies, telephone service agreements, the copier lease, and the postage meter agreement).
- Assists in scheduling of TRANSCOM meetings, including notifications and distribution of materials.
- Maintains official files of minutes, corporate documents and agreements.
- Handles incoming calls and process mail.

### Human Resources

- Develops and maintains all TRANSCOM's Human Resources administrative procedures to ensure their continued viability.
- Manages the staff performance review program.
- Addresses employee benefit inquiries, in coordination with benefit providers.
- Works with labor counsel to ensure all TRANSCOM procedures are in compliance with federal and state labor laws and regulations.

## **PRODUCTS:**

### Accounting Services

- Prepares financial statements, reports and supporting documentation as required for financial institutions, governmental agencies, TRANSCOM management and the annual audit.
- Prepares payroll for processing by the payroll service and verifies and records the

completed payroll on TRANSCOM's books.

- Prepares cash flow and other financial reports for management and the bank with regard to the line of credit.

#### Budgeting

- Prepares the annual budget for recommendation for Board action.
- Provides budgetary reports in order to assist the organization in making operational and financial decisions.

#### Administration

- Prepares transcript of minutes of meetings for the Board and key committees.
- Provides secretarial, clerical and administrative support to TRANSCOM's Board committees and staff.

#### Human Resources

- Provides for the overall personnel management for TRANSCOM, including recruitment, counseling, discipline and the administration of the employee benefits program.

## TRANSCOM SYSTEMS

TRANSCOM collects current transportation data from member agency systems and the private sector – a network that encompasses approximately 100 centers throughout the NYC region and beyond. TRANSCOM creates value for the region and its member agencies through processing of regional transportation information collected: TRANSCOM verifies the collected data, and aggregates and fuses the data to create a regional view of near real-time transportation status. TRANSCOM then provides this validated, verified, and processed regional transportation data back to its member agencies.

TRANSCOM's mission is to improve the mobility and safety of the traveling public within the New Jersey/New York/Connecticut region. Improvement in mobility and safety is achieved by TRANSCOM aiding in the regional coordination, development, deployment and implementation of various types of Intelligent Transportation Systems (ITS) with and among its member agencies. These systems include advanced Information and Communication Systems (ICS) that allow for the timely dissemination of critical information, collected by ITS systems, to TRANSCOM's member agencies and to public or private organizations or individuals for a range of applications. Its main areas include the TRANSCOM Operations Information Center (OIC) (page 74), Regional Construction Coordination Program (page 76), and the Regional Special Events Coordination Program (page 77).

TRANSCOM implements and operates Intelligent Transportation Systems (ITS) to improve the quality, timeliness, and dissemination of transportation information. These systems include:

- TRANSMIT: A system that uses electronic toll- collection technology to determine travel times and speeds and to detect incidents;
- TRANSCOM OpenReach (OR): A system which ensures coordination and integration of advanced transportation management and information systems that are being implemented by the 16 member agencies:

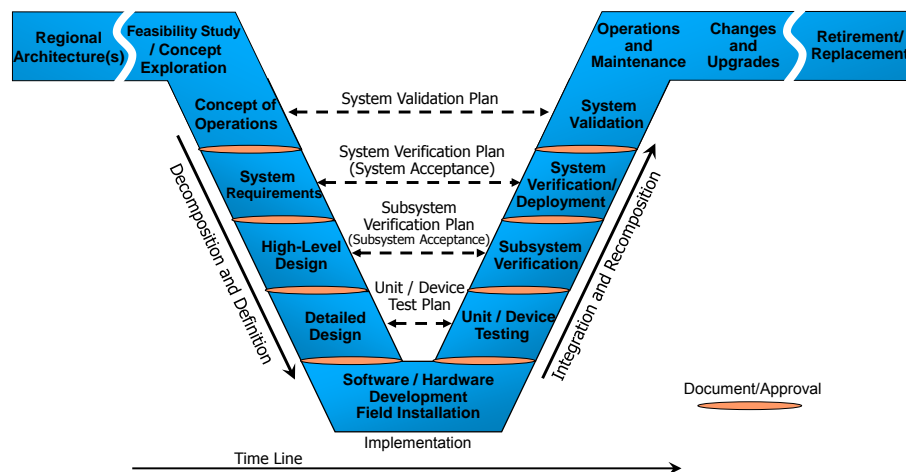
TRANSCOM Member Agency Inputs to OpenReach			
Highway Incident Data		Planned Highway Roadwork	Planned Highway Special Events
Conn DOT	NJ DOT	NJ DOT	NJ Turnpike Authority
NJ Turnpike Authority	NYC DOT	NYSDOT Region 10	NYSDOT Region 8
NYSDOT Region 8	NYPD	NYSDOT Region 11	
NYSDOT Region 10	NYSP	NYSDOT Region 8	
NYSDOT Region 11		NYC DOT	
NY State Thruway Authority			

- The TRANSCOM OIC provides validation and verification of all data before it reaches member agencies through the TRANSCOM OpenReach system.
- The remaining data in TRANSCOM OpenReach is relayed to the TRANSCOM OIC, which then validates and verifies the data and inputs it directly into TRANSCOM OpenReach. This includes not only highway incident, roadwork and event data, but also transit incident, construction, and special event data.
- TRANSCOM Data Fusion Engine: The data fusion engine collects real-time and historical information (e.g., speed and travel time) referenced to a local transportation network (links, nodes), maps the information to a regional reference system (links, nodes), to produce a normalized aggregated regional view of the information.
- TRANSCOM SPATEL (Selected Priorities Applied to Evaluated Links): An archive of historical speed and incident data used as a planning tool, and as a source for federal reporting performance measures in New York and New Jersey.
- TRANSCOM Middleware: Provides an ITS standards-based interface for center-to-center communications. This interface will replace the existing OpenReach-based non-standards based interface, currently in place.

- TRANSCOM Data Exchange: XML/JSON feeds from these systems which allows for the sharing of this information, not only with TRANSCOM's members, and their VMS and 511 traveler information systems, but also to any other public or private organization or individual who wants access to this valuable real-time highway and transit information.

### **Management of TRANSCOM's Systems: Systems Engineering Process (SEP)**

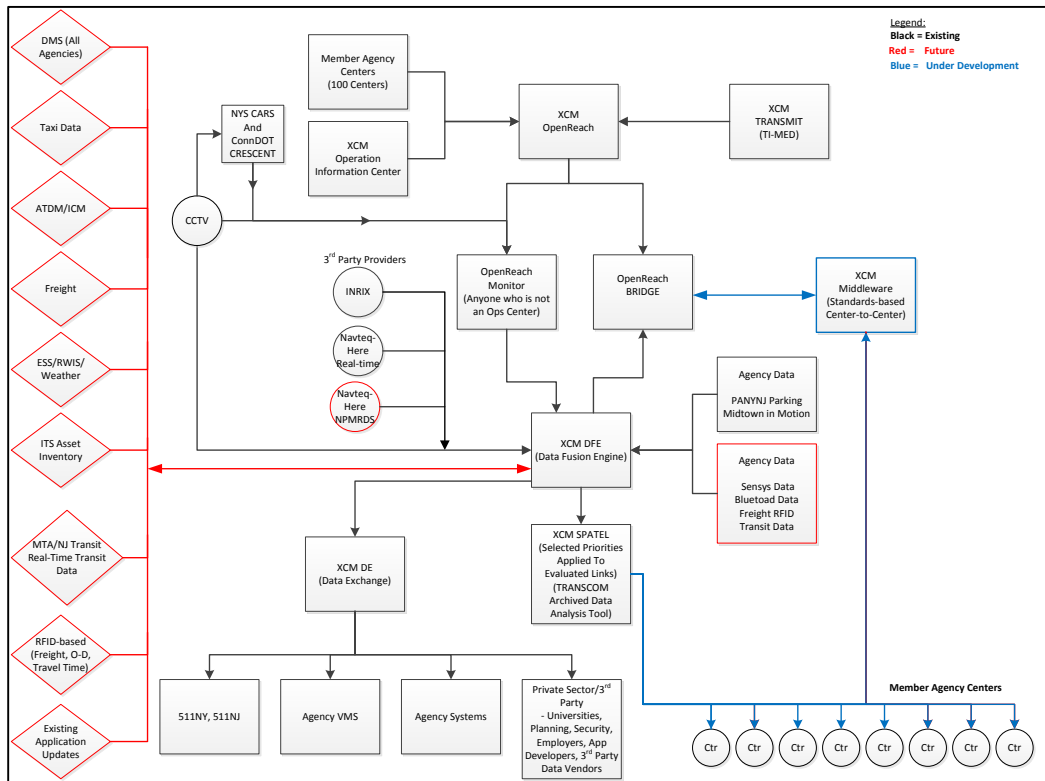
TRANSCOM projects follow the Systems Engineering Process (SEP) for the design, development, and of its systems. The SEP is described in the popular "Vee" diagram showing the life cycle of an ITS system:



The primary goal of the TRANSCOM Systems is to develop a common platform where agency center systems can exchange (publish and receive) transportation information -- incidents, construction, special events, roadway and transit network status, parking occupancy, and message sign data -- with TRANSCOM OpenReach and Data Fusion Systems, using open standards.

The figure below provides an overview of current, planned, and future TRANSCOM system processes. Based upon previous needs defined by TRANSCOM Member Agencies, aligned with the underlying foundation for TRANSCOM to facilitate agency-to-agency information exchange, these needs have evolved into the TRANSCOM systems architecture defined below. As the needs expressed by TRANSCOM's agencies have expanded, the TRANSCOM systems and the resulting architecture has evolved to meet these needs. The future applications presented in the architecture represent requests from TRANSCOM Member Agencies for applications/systems/data services that are of interest to either receive information for an agency-specific purpose or to provide information for distribution to partner member agencies.

Figure 03 - TRANSCOM Systems Architecture: Black = Existing Processes, Blue = Under Development, Red = Future Applications



In accordance with the Systems Engineering Process, all TRANSCOM Systems modifications are tracked and documented in the TRANSCOM Concept of Operations (ConOps) and Systems Engineering Analysis Report (SEAR) that are distributed all TRANSCOM Member Agencies and FHWA offices in New York, New Jersey, and Connecticut.

