DURHAM - CHAPEL HILL - CARRBORO

DCHC

Metropolitan Planning Organization

Planning Tomorrow Today

TRAFFIC INCIDENT MANAGEMENT (TIM) PROGRAM ASSESSMENT REPORT

TIM Strategic Management Plan & Recommended Strategies

Memorandum of Understanding for TIM

TIM Performance Measures

July 2016

TABLE OF CONTENTS

PURPOSE

The purpose of this Final TIM Assessment Report is to set the direction and focus of the DCHC MPO Traffic Incident Management Program, which complements the Durham-Chapel Hill-Carrboro Metropolitan Planning Organization (DCHC MPO) Congestion Mitigation Plan.

INTRODUCTION

Traffic Incident Management (TIM) has become a key term in many agencies that deal with highways over the past few years as transportation funding has continued to be flat or narrowly growing. In North Carolina however, the term TIM is not as familiar as other states. Traffic congestion continues to grow in the DCHC region. This growth is spurred by the influx of new residents and businesses to the region. Because of this growth the Durham/Raleigh region has some of the most congested corridors in the state of North Carolina. Congestion levels, incident durations and negative economic impact will only increase with continued growth, if no additional traffic management solutions are implemented. Traffic Incident Management (TIM) practices and strategies are a key to successful and safe mobility.

VISION STATEMENT

It is the vision of the DCHC TIM program to be the benchmark of excellence in developing, applying and evaluating TIM strategies and their impacts on congestion, mobility and traffic safety in the DCHC region.

MISSION STATEMENT

The Mission of the DCHC TIM Program is to plan, inform, and partner with our member agencies and responder entities to develop a comprehensive approach to save lives, increase mobility and be a resource for program success.

PROGRAM FOCUS AREAS

BUILD ON WHAT EXISTS: *Continuing to build on what exists. The program must be built by harnessing the current successes.*

FORMALIZE LEADERSHIP: *Developing a formalized regional leadership group that can aid with the decision making process.*

EXPAND MULTI-DISCIPLINARY APPROACH: *Improving the relationships that drive a solid program by engaging personnel at every level.*

MEASURE PERFORMANCE: *Tying performance measurement to quality improvement through performance management.*

DOCUMENT PROGRAM: *Updating and improving program support documentation such as a TIM Manual in a format useful to practitioners and program administrators.*

MONITOR CHANGE: *Using the TIM Self-assessment as a barometer of activities, tracking changes, and relating changes to actual conditions.*

LEVERAGE LOCAL INTERESTS: *Establishing formal TIM teams in geographic areas or specific corridors to better understand local issues and allowing the issues to be solved at a local level.*

LINK COMMUNICATORS: *Improving the relationship between dispatch centers, public safety access points and the Traffic Management Center.*

SHARE LESSONS LEARNED: *Maturing the ability for practitioners to share lessons learned and using an interoperable communications system to support activities and outreach.*

LINK TO HIGHWAY SAFETY PLANS: *Linking TIM activities to the North Carolina Strategic Highway Safety Plan.*

PROGRAM OVERVIEW

Background

- The DCHC TIM program must think ahead to consider how the passage of time will impact the program.
    - Responders will face new challenges to remain safe
    - Non-recurring congestion continues to affect the environment and the potential economic capacity of the region
    - A mechanism for transferring institutional knowledge to new personnel is needed
- Strategic plans have been created in other places that bring together operational needs and ITS needs to determine where programs should be in the future.
- The State of North Carolina does not currently have a coordinated, all-inclusive strategic direction for TIM focus areas.

Approach

- Develop a multi-year strategic plan for DCHC to:
    - Develop a total quality management approach to TIM
    - Maximize program fiscal performance
    - Create a linkage among economic needs, TIM needs, and asset management
    - Identify ways to reduce emergency responder risk of injury and death
    - Define strategies to improve system performance

Expected Outcome

- This report documents actions to ensure the success of the program is not jeopardized by personnel transition and a changing response environment.
- Actions and recommendations plan that map strategies to available resources to promote the opportunity for success.

Overview

Successful TIM depends on the near flawless execution of tactics at the scene of a crash. Examples of tactics are:

- Using an airbag to upright a truck by towing and recovery professionals
- Using a fire hose to clear glass off of the roadway
- Using traffic cones to improve scene safety
- Using dynamic message signs to alert motorists and protect responders
- Using CCTV to verify the existence of an incident

Tactics are what improves responder safety and gets roads open fast, but strategies are what allow a program to make *more* responders safe and to get roads open fast*er*.

For any business and/or program, including TIM, it is imperative that the principle of total quality management be included that allows for the examination of the program and implementation of strategies that will improve performance in several key areas: program fiscal performance, asset management, improvement in responder safety by risk reduction, and improvement in system performance.

Total Quality Management[1]

Total Quality Management (TQM) is an approach that organizations use to improve their internal processes and increase customer satisfaction. When it is properly implemented, this style of management can lead to decreased costs related to corrective or preventative maintenance, better overall performance, and an increased number of happy and loyal customers.

However, TQM is not something that happens overnight. There are some underlying philosophies that the organization must integrate at every level. These seven important principles of Total Quality Management should serve as a foundation for all activities.

- Quality can and must be managed
- Processes, not people, are the problem
- Don't treat symptoms, look for the cure
- Every employee is responsible for quality
- Quality must be measurable
- Quality improvements must be continuous
- Quality is a long-term investment

Quality management is not a quick fix. TQM is a long-term investment, and it is designed to help find long-term success. The DCHC MPO can use this philosophy to examine and document the success that the program has achieved to date and use the examination to chart the future.

It is important that this process be used to answer important questions such as:

- How can the program be sustained in an economically constrained environment?
- What are the realistic expectations of program expansion over the next 5 to 10 years?
- How can the momentum that has been developed continue as personnel transition in and out of the program?

[1] http://managementhelp.org/quality/total-quality-management.htm

The total quality management approach is the method or strategy that can be used to answer these questions.

Program Fiscal Performance

It is understood that providing TIM services is a life-saving service and that the cost impact on an agency may not be a determining factor in whether or not to continue the services. However, it is important that the program be implemented in the most cost efficient manner that can balance the safety needs with the overall depth of the program services. It is therefore important that the DCHC TIM program use the strategies of cost management to measure a program's fiscal performance. Cost management will allow the DCHC TIM Program to view the cost-benefit relationship of various activities, setting the stage for more informed decisions.

Cost management generally begins with **an initial plan for costs**, continues through **cost tracking** and **analysis** of the information collected, and includes **evaluations and decisions** based on information from the previous stages.

The four distinct stages described above are depicted in Figure 1. All of the stages are interdependent, and decisions in any stage will affect the system as a whole. The system is a closed loop, so the last stage leads back to the first stage. The four stages are described below.

- **Cost Planning** is simply estimating future costs and budgeting. Budgets are based on knowledge about historic costs, that have been gained in large part from good tracking and analysis. Budgets for new activities or expansions may include detailed analysis of a capital purchase (e.g., equipment, software).
- **Cost Tracking** involves coding discrete activities and their associated costs or cost drivers, such as personnel time sheets, vehicle mileage logs, supplies purchases, and contract payments.
- **Cost Analysis** requires cost *data* processing to create cost *information*—information that will be useful in evaluation, decision-making, and planning. Analysis can produce any of a wide variety of measures across a number of dimensions, including time trends, percentages, and per-unit measures. Examples of static, per unit measures include agency employee hours per incident and labor cost per incident. Examples of temporal analysis measures include trends in labor rates and trends in fuel costs. Examples of percentage measures include labor cost and fuel cost as a percentage of total operating costs.
- **Evaluation and Decision.** Cost information produced in the analysis stage is evaluated to support decision-making for future programming, resource allocations, and asset management; to support cost recovery mechanisms; and to support appeals to higher level decision-makers for continued or enhanced funding. Subsequent chapters address these elements.

Figure 1: Cost Management Fundamentals

A sound cost analysis approach can be a useful tool for performance management, revealing both ways to achieve a more cost effect level of performance as well as opportunities to improve performance (e.g., incident clearance time) without increasing cost.

Asset Management

Most experts agree that intelligent transportation systems (including devices, software and facilities) are an important tool for effective TIM. So from a TIM perspective, understanding what the life expectancy of TIM assets is and where individual components are in the life cycle is important to responder safety and to quick clearance. Additionally, this process also relates to better program fiscal performance since understanding when to replace assets is a tremendous cost controlling tactic.

Assets are defined as quantifiable physical objects, and resources are defined as people and time. The reason for making the distinction for TIM is that TIM assets often fall into the tactical and supporting categories while TIM resources are present in all TIM categories. Asset management is a decision-making framework focused on the purchase, construction, maintenance, replacement, and retirement of fixed assets. Asset management covers an extended time horizon and draws from economics as well as engineering. Asset management incorporates the economic assessment of trade-offs between alternative investment options, both at the project level and at the network or system level, and uses this information to help make cost-effective investment decisions. The American Association of State Highway and Transportation Officials hosts a website on transportation asset management (http://assetmanagement.transportation.org/tam/aashto.nsf/home) and has published a guide to asset management (http://downloads.transportation.org/AMGuide.pdf). The examples in the guide are predominantly oriented toward pavement and bridges, but the guide explicitly includes all transportation assets, including ITS assets.

There is an important correlation to be made for the DCHC Program between the needs of TIM and asset management. This correlation is what will help continue to right-size TIM for DCHC.

Risk Reduction for Emergency Responders

At its core, TIM is a *people* business and to a degree success will always hinge upon the ability of people to work together without restrictions related to political, jurisdictional or functional boundaries. Since TIM is a people business, the most important aspect of TIM is demonstrating a steady pace of reduced risk for the people that implement TIM tactics (emergency responders).

Training

The strategy of training is a core component of reducing risk and at the same time, instructor led and delivered training is one of the most costly that exists. There are other strategies for training that are currently or will soon be developed and distributed, but the consideration for the DCHC MPO and it's member agencies will still be the same:

- Should the delivery of training be varied (instructor-led, web-based, mixed, etc.)?
- How will the content of the message be maintained and updated as necessary?
- How can training be used as a way to develop regional and local champions?
- Can driver education be modified to achieve a cultural shift toward better recognition of responder safety?

Outreach

Although closely linked to training, outreach is worth breaking out into a separate category because it represents a way of keeping trained individuals focused on the goals of TIM. Maintaining focus and reminding personnel of the dangers of complacency is a strategy to reducing the risk of being injured or killed while performing TIM duties. Some strategies include:

- Regular dissemination of a newsletter
- "Quick training" such as when an individual logs on to their computer or punches the time clock they receive one focused and specific training message
- Maintaining coordination through TIM Team participation
- Conducting TIM conferences
- Completing customer satisfaction surveys

Maintaining Agreements

Institutional memorandums of agreement/understanding or joint operating policies are critical for TIM and one strategy to reducing the risk of emergency responders is making sure that these types of agreements are maintained as conditions warrant. Strategies for this include:

- Reviewing agreements on a regular cycle
- Conducting joint agency exercises to test the agreements
- Analyzing current agreements in comparison to agreements from other jurisdictions

Analyzing Tools and Services

Because responder safety continues to be an issue for TIM, innovation is a constant within the industry. It is crucial that technologies be evaluated for the ability to reduce the risk to responders and where appropriate be implemented. Strategies for evaluating and implementing new TIM technologies are very important and should be part of a program vision.

Opportunities

What opportunities do the DCHC's member agencies have that can be easily implemented and observed to improve local incident response? Through our discussion with the agency respondents the region should focus on these four opportunities for improvement:

- **Resources** – Better inform the program's partners about available resources, such as ResponderSafety.com and its training videos. Many great resources already exist.

- **AARs** – The program would benefit from establishing parameters for After Action Reviews (AAR) and holding AARs for incidents. AAR's do not have to be large scale, complex undertakings. This can be a debrief after an intermediate incident or a full scale meeting after major incidents, hosted by a lead response agency or the DCHC MPO. This ties to the need to clarify the escalation of complex incidents.

- **Working Together** – Work to better bring in the "outliers" through the establishment of TIM Teams and sharing existing resources, such as the TIM Network's *Responder* e-newsletter. Also hold joint trainings between responders.

- **Blocking Principles** – These need to be clarified for all responders and communicated, as well as vehicle placement. Observation of local incident scenes on major roadways reveals that there is room for improvement in this area in the DCHC region and the state of North Carolina as a whole. Proper vehicle placement at the scene of an incident enhances scene protection, on-scene responder safety and motorist awareness of an incident.

Strategic Management Plan

The DCHC MPO's Strategic Plan recognizes that there is linkage among Focus Areas, but that they are most closely associated with a single category, as shown here.

In all areas, the foundational focus is to build on program strengths. Four concentration areas are identified here:

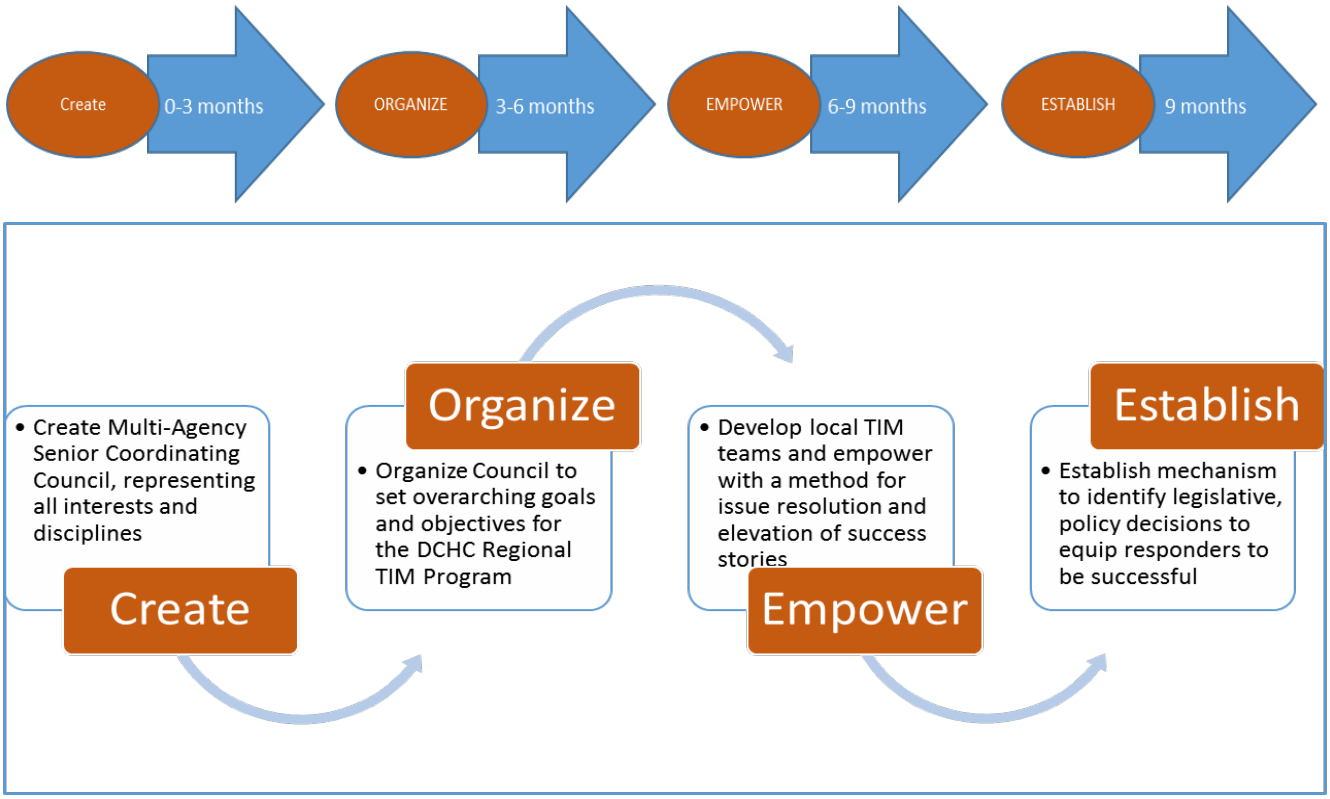
- *Legislative & Leadership*
- *Institutional & Sustainability*
- *Practitioner Capacity Building*
- *Awareness & Education*

There are a variety of concurrent activities that will occur as the DCHC Program takes on action items in a two-year window from kickoff of any new effort.

The first priority is in the Legislative & Leadership category, the formalization of program leadership at a strategic coordination level. Formalized leadership, in the 0 to 9 month time frame, sets the stage for those that could begin six months out, and beyond.

GOAL #1 – TIM PROGRAM DEVELOPMENT – LEGISLATIVE & LEADERSHIP

Formalize Leadership



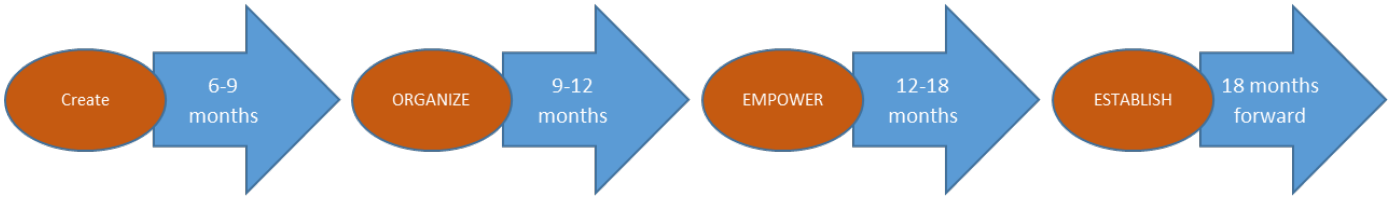
BENEFITS… *The creation of a DCHC MPO Regional Multi-Agency Senior Coordinating Council (CC) will empower practitioners through commitment shown by leadership, and will be a driver of the confidence built inside the program and in representing the program to motorists.*

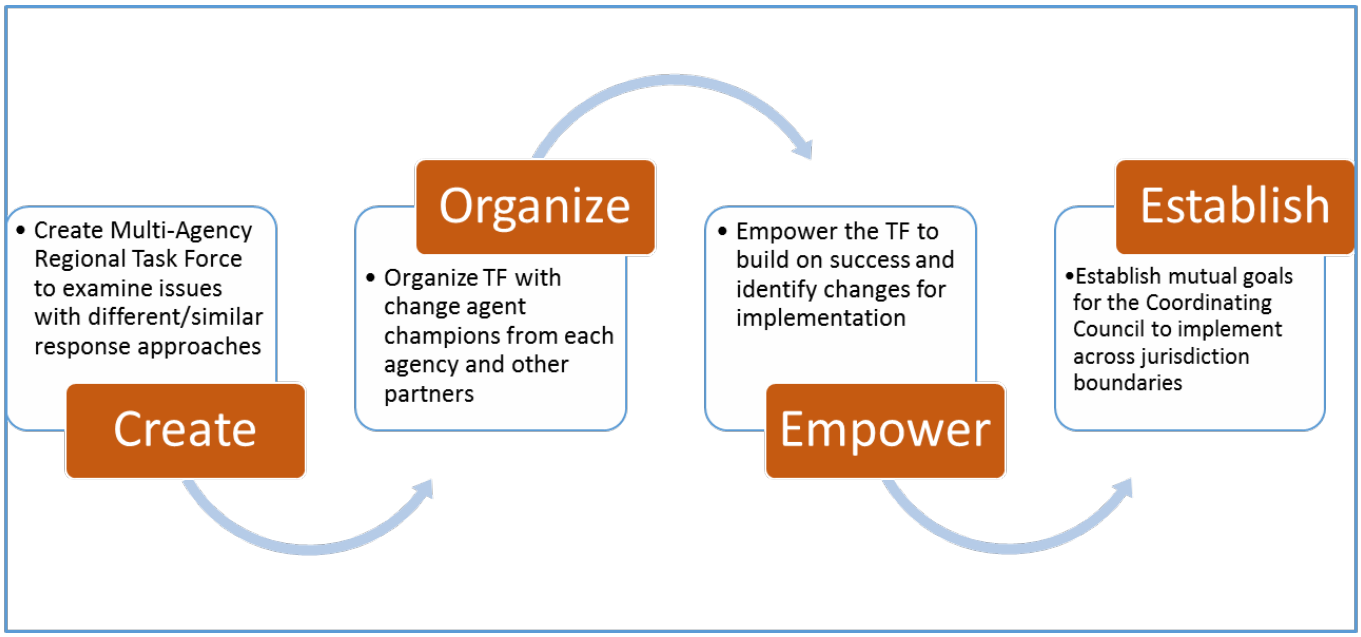
Strategies

- Designate a lead DCHC MPO TIM Coordinator to enhance the congestion mitigation efforts of the MPO.
- Encourage other State MPO's in their efforts to further TIM in the state of North Carolina, ultimately culminating in a "Statewide TIM Committee" that would drive TIM efforts on a statewide basis.
- Begin with the end in mind. Populate CC membership with those who can influence higher level policy and legislation needed to support TIM. Including regional planning organizations.
- Equip leaders with information on successes and opportunities identified in the field and through local teams, so that local efforts are the first priority for direction and program financial support.
- Meet regularly as the CC forms and establishes guidance. Meetings should be opportunities for each member to share ideas for improvement.
- Strongly consider a local legislative staff member on the CC from MPO Jurisdictions.

GOAL #2 – EXPAND MULTI-AGENCY APPROACH – LEGISLATIVE & LEADERSHIP

Expand Multi-Agency Approach





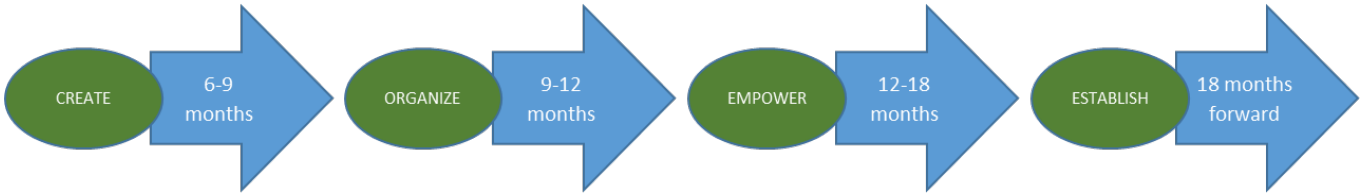
BENEFITS… *Acknowledgement of the different systems, policies, laws, and regulations at state and local levels is a foundational value of the National Incident Management System (NIMS) and should be acknowledged.*

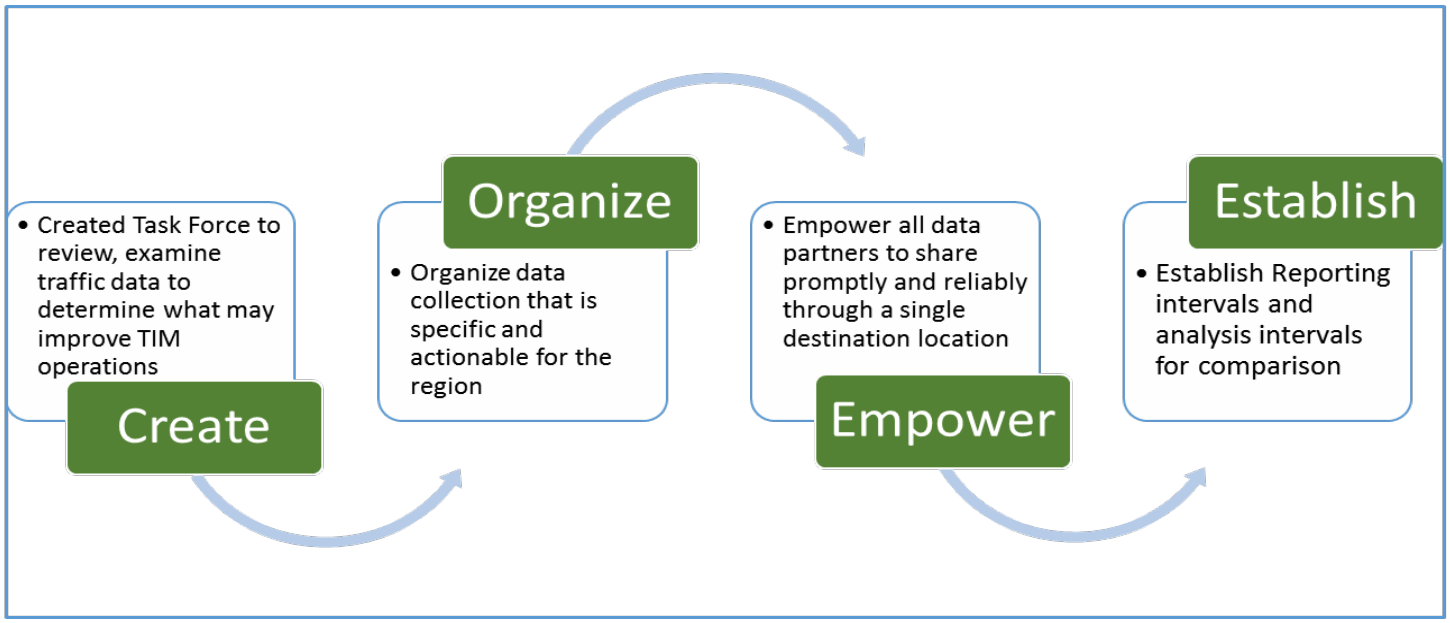
Strategies

- A small task force (3 to 7 members) should be created to examine the issues identified as important to each municipality, and in recognition of differences in laws, regulations, policies.
- A champion from each municipality should be identified, those with passion for improvement in the three National Unified Goal for Traffic Incident Management objectives: responder safety, quick clearance, and prompt and reliable communications. Leverage NIMS/ICS principles for cross-jurisdictional issues.
- Task Force should report to the Coordinating Council and receive guidance from them, reporting to the Council chair.
- FUTURE: Explore long-term legislative and regulatory approaches that might bring the DCHC region closer to alignment with the National Unified Goal.

GOAL #3 – PERFORMANCE MEASUREMENTS – INSTITUTIONAL & SUSTAINABILITY

Performance Measurement





BENEFITS…

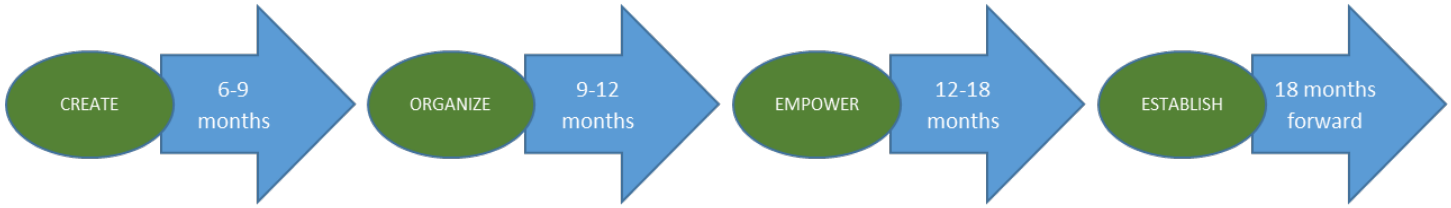
Selection of measurements must be judicious to gain immediate benefit, and prove the ability to promptly and reliably share data that will drive improvement. Initial success breeds confidence.

Strategies

- A small task force (3 to 7 members) should examine existing performance measurement, and determine which measured activities are effectively used assess and improve operations, including: incident awareness, verification, dispatch of resources, scene activities, and recovery for traffic.
- Select changes in measurements or new measurements targeted to improving responder safety and quick clearance, then establish short-term goals for analysis of the data and data utility for improvement.
- Collect and analyze only data that can improve operations or reflect improvement.
- Consider how each measurement of data can be presented more effectively to leadership and to public.

GOAL #4 – DOCUMENT PROGRAM – INSTITUTIONAL & SUSTAINABILITY

Document Program



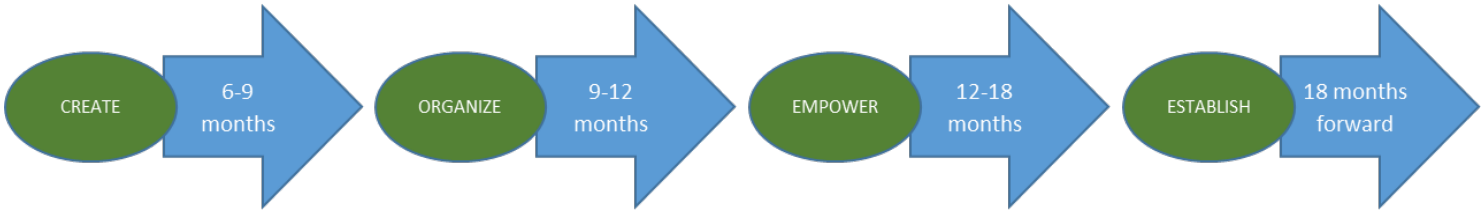
BENEFITS… *An Incident Command System (ICS)-based Incident Management Manual can institutionalize and sustain program goals, objectives, strategies, and tactics for implementation and improvement.*

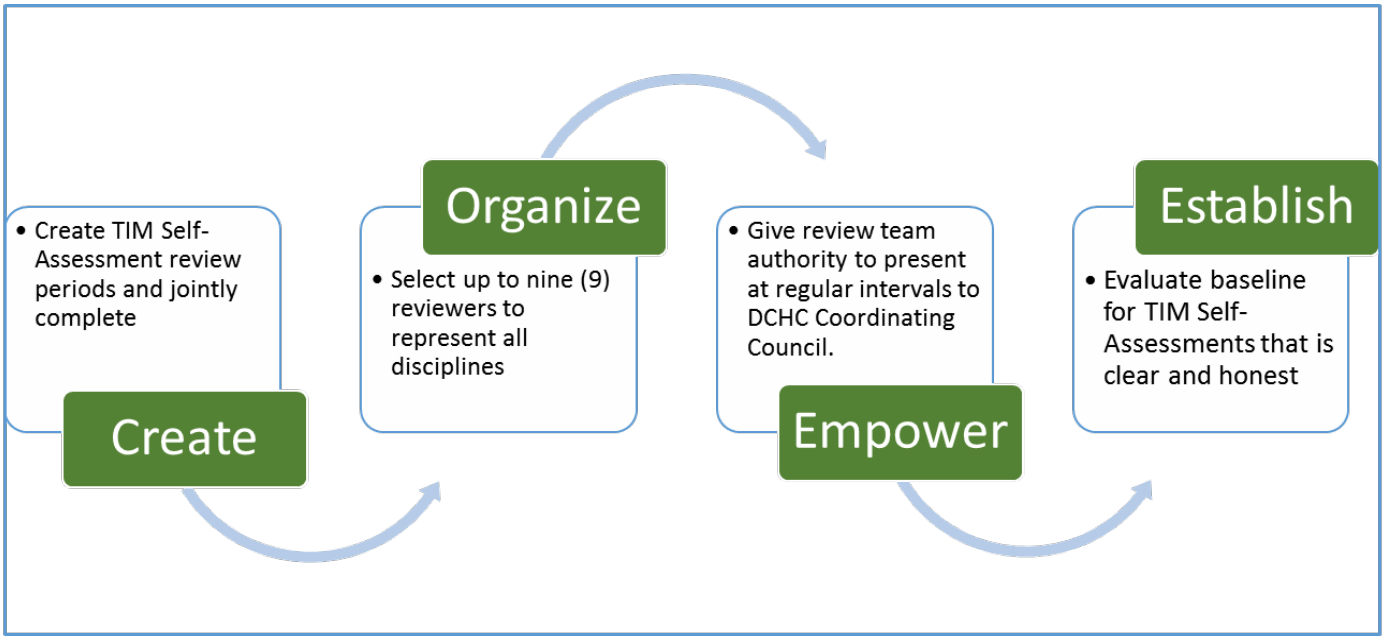
<u>Strategies</u>

- A small team should analyze the existing program guidance documents including corridor plans and procedures for the TMC and any other formalized procedures, and focus on creation of a procedures manual that clearly links all parts of the program.
- The team should be focused on writing clear objectives, strategies, and tactics that can be employed in TIM activities, with a basis in NIMS-Incident Command System.
- The team should address issues associated with incident notification, verification of needs, resource dispatch and implementation of off-scene activities, safe quick clearance, and demobilization/recovery efforts.
- Clear procedures and protocols should result, and standard approaches used on all incidents.

GOAL #5 – MONITOR CHANGE- INSTITUTIONAL & SUSTAINABILITY

Monitor Change





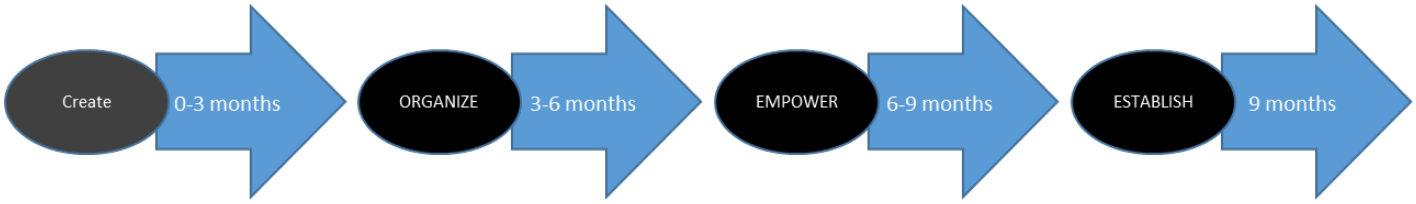
BENEFITS… *The FHWA TIM Self-Assessment is a great starting point, but a more focused effort to track items in the assessment more frequently can more accurately track progress and pinpoint areas for improvement*

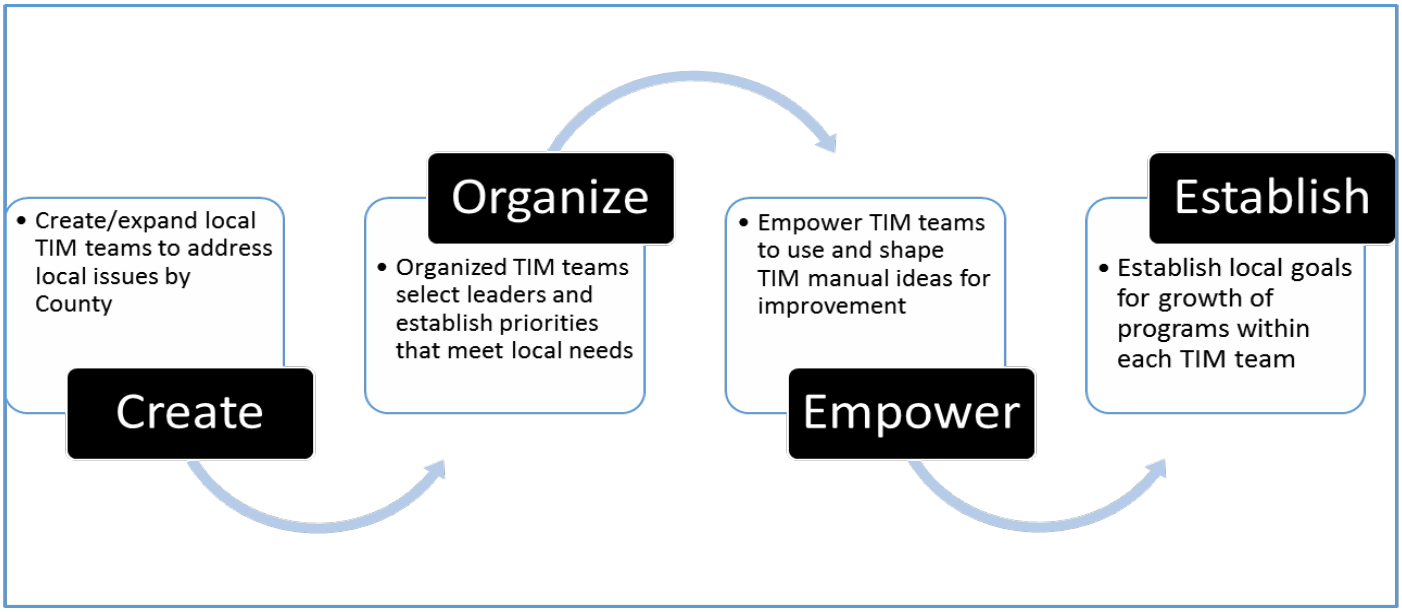
Strategies

- A change management task force (3 to 7 members) should examine past TIM Self-Assessments and determine priorities for tracking of important action items
- Establish regular intervals for reports and allow opportunities for actions to be taken in advance of the annual Self-Assessment
- Re-examine the state of the program based on interval reviews
- Consider peer review analysis of how other metro areas rate their own programs, mindful that self-assessments are not directly comparable

GOAL #6 – EXPAND AND LEVERAGE LOCAL PARTICIPATION – PRACTITIONER CAPACITY BUILDING

Expand and Leverage Local Participation





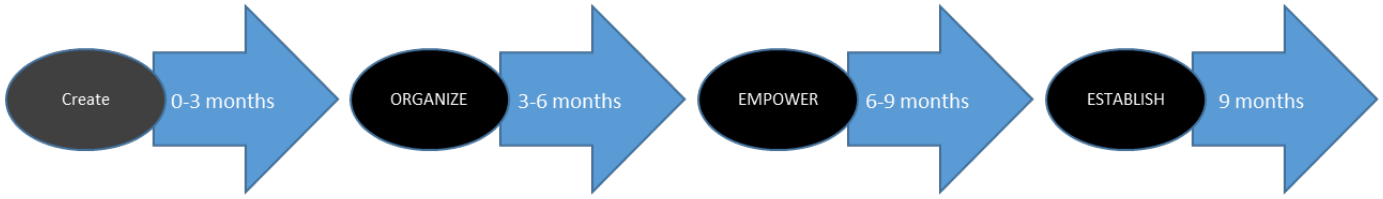
BENEFITS… *All incident management is local, and local issues embraced by those who work together to keep each other safe and roadways open are best discussed and dissected locally. This is where improvement starts.*

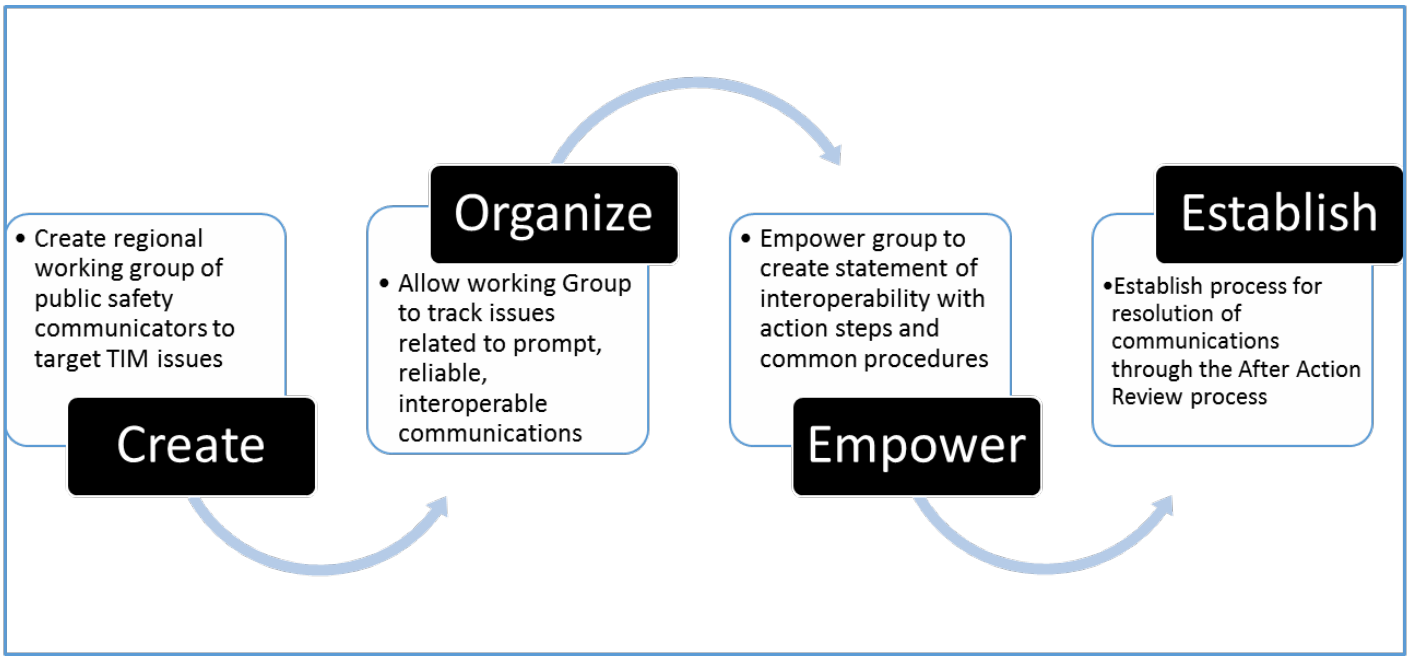
Strategies

- Local TIM Teams unite those in a geographic area and formalize planning, preparedness, response, and recovery activities among those entities and agencies who work together on the roadway
- Elect leaders with passion for improvement, and respect for all personnel
- Train leaders through a local Program Manager of efforts to recognize local needs first, and to represent those needs to the Coordinating Council
- Stress understanding and analysis of past events, awareness of current plans, and improvement of the ICS-IM Manual through continued focus on what works best
- Equip teams to choose their own local goals aligned with the Program

GOAL #7 – LINK COMMUNICATORS – PRACTITIONER CAPACITY BUILDING

Link Communicators





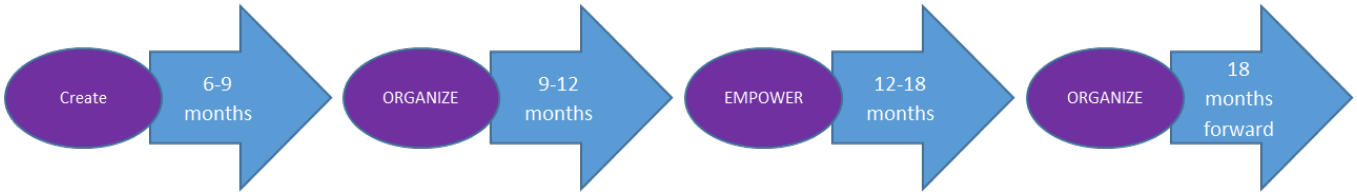
BENEFITS… *The importance of public safety communications cannot be overestimated. The coordinated efforts of police, fire, emergency medical service, towing, municipal and state DOT communicators is vital.*

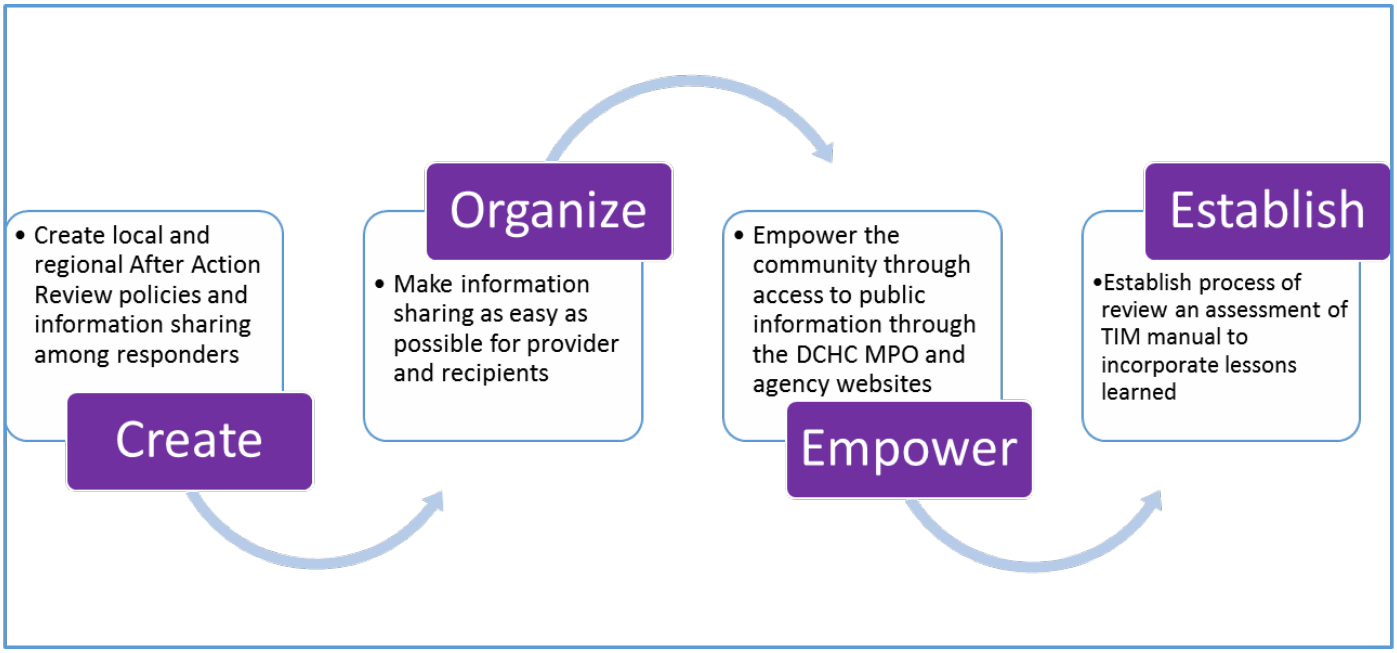
Strategies

- A small working group representing all public safety communications entities at the strategic level should choose dispatchers dedicated to improvement for tasks
- Issues with promptness of information sharing should be examined for potential fixes
- Issues with reliability of information shared should be addressed and the potential for inter-agency agreement on the level of detail needed should be considered
- Empower the group of dispatchers to create a statement of interoperability to effectively share prompt and reliable communications, for action by leadership and the Council
- Create a climate for After Action Reporting to always include communications chains and issues

GOAL #8 – SHARE LESSONS LEARNED – AWARENESS & EDUCATION

Share Lessons Learned





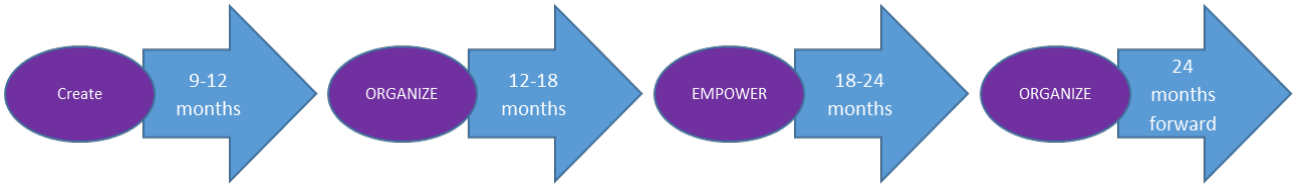
BENEFITS… *After Action Reporting creates changes in attitude and can focus on providing new processes, and new outreach efforts to the public. Lessons Learned are only helpful when shared.*

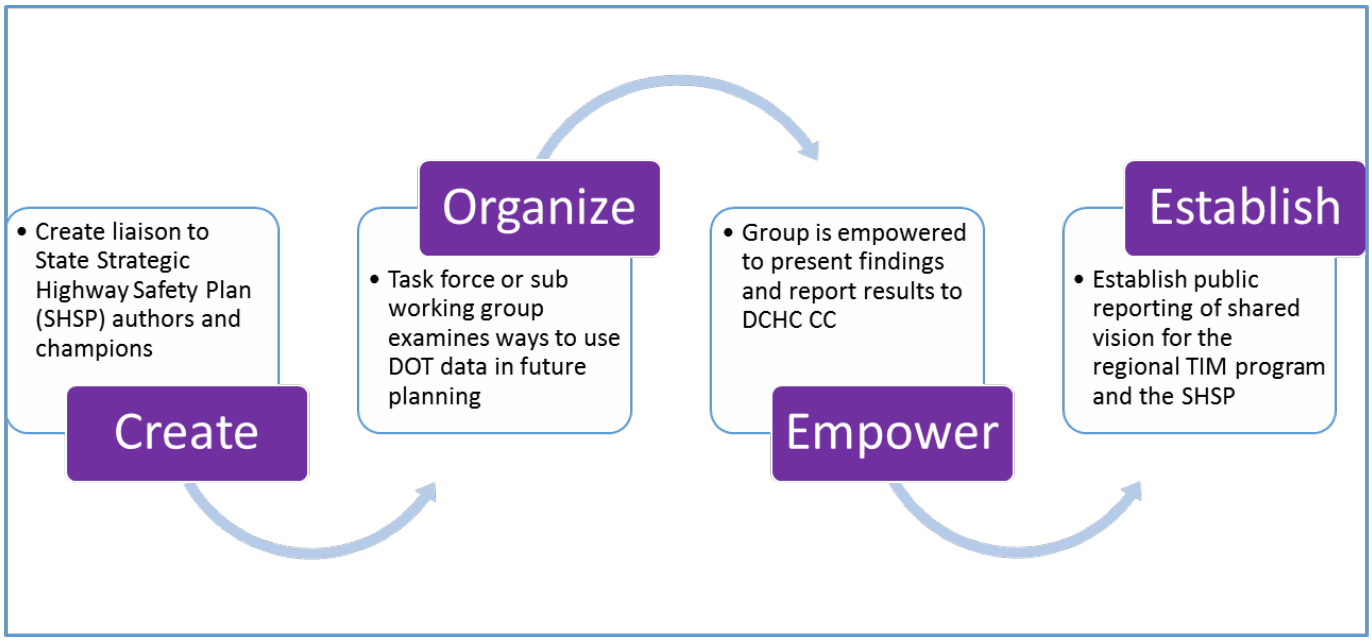
Strategies

- A single After Action Reporting system should be created by the Council, using best practices from those in the DCHC area, and those from across the nation
- Focus on making after action reporting of successes and opportunities as easy as possible for those who will feed the information into the system
- Once vetted, use communications professionals to tell the public openly and honestly what their roles in TIM should be through website and other outreach efforts, such as newsletters.
- Create a website that is relevant and clear to public users, and provide a TIM practitioner section separately to share among responders
- Compare Lessons Learned to ICS-IM Manual for potential changes

GOAL #9 – LINK TO THE NCSHSP - AWARENESS & EDUCATION

Link to the NC Strategic Highway Safety Plan





BENEFITS… *TIM activities can be tied to strategic priorities captured in a State Highway Safety Program (HSP). Traffic Operations benefits from an effective HSP focused on preventing incidents, important to both efforts.*

Strategies

- TIM Program involvement will only grow with active participation in the HSP process
- The 2014 North Carolina HSP has multiple opportunities for incorporation of TIM-related information provided in public education forums
- Liaison with highway safety planners will bear long-term dividends in growth of awareness of the DCHC regional TIM Program goals

BUILD ON WHAT EXISTS

(Existing Program Strengths Must Be Maintained)

Keys to success:

- ***Continue effective training***
- ***Continue to tell the success story***
- ***Continue to reach out to partners***
- ***Continue to show respect for all***
- ***Continue to listen and react***
- ***Continue to grow the program***

DCHC TIM WORKSHOP SUMMARY

On July 12, 2016, the DCHC MPO hosted a half day, TIM workshop in Durham, NC and invited over 45 area first responders to participate. During this workshop an overview of TIM at the regional and national level was presented as well as the DCHC TIM Assessment Baseline Report, Strategic Plan to include the program Vision, Mission, Goals and Objectives. During this workshop a draft Memorandum of understanding (See Below), was presented, discussed and the GF facilitation team received feedback and comments on verbiage and proposed changes to facilitate the successful presentation to Durham, Orange and Chatham County First responders and TIM stakeholders.

Medic Tim Hayes was retained to present his personal story of incident management and the effects of distracted and careless drivers. Lieutenant D. Campbell presented an overview of TIM to include specific efforts in the City of Durham. Captain F. Johnson of the North Carolina State Highway Patrol presented a session on the SHRP2 First Responder program and efforts in North Carolina to expand its presentation to first responders throughout the state.

TIM Memorandum of Understanding

MEMORANDUM OF UNDERSTANDING FOR TRAFFIC INCIDENT MANAGEMENT

This Memorandum of Understanding for Traffic Incident Management (TIM) is made this day **MM/DD/YR** by and among the traffic incident response municipalities of the Durham - Chapel Hill - Carrboro Metropolitan Planning Organization (DCHC MPO), to guide development of Traffic Incident Management (TIM) processes, practices, and improvement in the safety and mobility of all who work or occupy the highway in the region.

This document commits each municipality, organization, agency, or association to communication, cooperation, and collaboration in inclusive development of a common operating picture, consistent with the National Incident Management System (NIMS) concepts of command and management, public information systems, and resource management, specifically those of Incident Command System (ICS) including Unified Command principles.

Signatories of the MOU agree to cooperative advancement of the concepts of the National Unified Goal (NUG) for Traffic Incident Management, which stresses:

1. **Responder Safety**
2. **Safe, Quick Clearance of Roadways**
3. **Prompt, Reliable, Interoperable Communication**

This document maintains and respects the authority, responsibility, rules, and regulations of each signatory. In the spirit of Unified Command, nothing in this TIM program commitment will be seen as a delegation of authority or responsibility to any other partner.

This signed document commits the signing agency to the following:

- *Collaborate regularly with other TIM Stakeholders to share information and develop program goals*
- *Collaboration and development of a Regional Quick Clearance goal*
- *Developing defined incident scene roles and responsibilities based on NIMS and ICS guidance.*
- *Working toward shared policies on local incident scene traffic management.*
- *Consistent and safe on-scene vehicle positioning and use of Personal Protective Equipment (PPE)*
- *Working cooperatively toward establishment of incident communications guidelines.*

This MOU is not intended to be a binding legal document, and no party will have any legal rights of enforcement hereunder. There are no third party beneficiaries to this MOU. Nothing in this MOU shall create or give to third parties any claim or right of action against an undersigned party.

Name of Municipality, Agency, Organization, Association: _____

Authorized Signature: _____ Printed Name_____

Title: _____ Date of Approval _____

TIM Performance Measures

PERFORMANCE MEASURES FOR THE DCHC TIM PROGRAM

While performance measurement is a task best left to local communities, acting in cooperation with others, there are some guiding principles that must be measured in a program that embraces inclusion and builds on success. Among these measurements recommended:

A. ANALYIS BASED ON TIM TIMELINE ACTIVITIES

There is a distinct advantage in measurement of the points along the TIM Timeline, notably the nationally-recognized Roadway Clearance Time (from first detection to roadway open) and Incident Clearance Time (from first detection to last responders leaving roadside).

In order to do this:

1. Measure the detection delay from incident occurrence to first member agency awareness
2. Measure the validation delay from initial report to first understanding of the impact of a highway obstruction
3. Measure the delay from validation to dispatch of responders and/or engagement of ITS devices and other public information delivery methods
4. Measure the delay from dispatch to arrival on scene of the last needed responder
5. Measure the delay from arrival of the first responder to time of lane reopening
6. Measure the delay from arrival of the first responder to the time the last responder leaves the scene

Benefits: This approach will help the TIM program understand on a very granular level the current conditions, and help drive procedures and policies to address each segment individually, and achieve improvement by setting overall long-range goals and short-range targets to reach those goals.

B. ANALYSIS OF PARTICIPATION OF MULTIPLE DISCIPLINES, JURISDICTIONS

The overall success of any TIM program is tied to a collective, collaborative approach that respects and involves every discipline and stakeholder.

Measurements could include:

1. Measure the percentage of responder agencies and business entities that sign the Memorandum of Understanding
2. Measure the percentage of responder agencies and business entities that actively participate in the Coordinating Council, Task Forces, and other sub-committees as needed
3. Measure the level of participation in advance planning of or submission of subject matters for Coordinating Council, Task Forces, and other sub-committees as needed
4. Measure the growth of participation from initial formation of the organization through its years of activity

Benefits: This approach focuses on the inclusion of all response disciplines and jurisdiction representatives and generates trust that no one is left out of the program.