



Setting a Strategic Direction for Agency Traffic Management Systems (TMSs)

TRB Annual Meeting 2023 | Workshop #1005

January 8, 2023 | 9:00am – Noon ET | Room: 207A

The next generation of traffic management systems (TMSs) and their operations centers (TMCs) offer agencies the potential to improve safety and mobility. To achieve this potential, it is important to develop a strategic direction, plan for future improvements, and gather the resources needed to improve current systems while also preparing agencies for the next generation of their TMSs. With limited technical resources available to support agencies, this workshop will strive to share information in support of developing a vision, strategic direction, multi-year plan of improvements, and resources needed to enhance the TMSs management and operation.

Setting a Strategic Direction for TMSs

Setting the strategic direction of a TMS should consider the strategic plans, goals, initiatives, and priorities of the agency (e.g., Transportation System Management and Operations (TSMO) Program, ITS Program) and region (e.g., MPO's Transportation Plan, TSMO Plan). Planning for and developing a strategic plan is a valuable tool for agencies in preparing for the future evolution or next generation of an existing TMS. The resulting multi-year plan may involve documenting the agreed upon strategic direction (e.g., vision, goals, mission), programmatic (e.g., budget, timing of future improvements), tactical (e.g., new or enhances services, concepts for improvement projects), and resources (e.g., staffing, operation, maintenance) to support or prepare the existing system for its next generation.

Planning and Plans to Support TMS Improvements

Pursuing improvements and establishing a multi-year plan that frames the trajectory or evolution of a TMS is challenging. Many agencies do not have multi-year plans, conduct feasibility studies, or prepare plans to guide future improvements to their TMSs. There are a range of different planning activities and issues agencies may consider when exploring improvements to an existing or pursuing the next generation of their system. These issues might include identifying and assessing TMS's current capabilities, performance, asset conditions, function or service improvements (e.g., new or enhanced operational strategies, sharing information), and supporting resources. Plans for future TMS improvements or needed resources also provide information to add to or link with agencies strategic plans, programs (e.g., TSM), or plans (e.g., budgets).

Identifying Needed TMS Improvements and Resources

Agencies have options for improving their existing system or preparing for a next generation their TMSs. These options may involve agencies assessing, evaluating, or considering what may or may not be reasonable, feasible, or in the agency's interest. Planning and assessing these opportunities might involve improving capabilities (e.g., data subsystem, operating software on software subsystem), expanding service areas (e.g., surveillance, monitoring), adding or enhancing functions or services, or refining roles and responsibilities (e.g., remote operation, manage and control another systems, supporting emergency or adverse weather events). The planning and development of plans to improve or replace a TMS may ensure agencies are able to plan, program, and provide the funding needed for improvements and activities (e.g., design, implement, test).

Sponsors: TRB Intelligent Transportation Systems Committee (ACP15); TRB Freeway Operations Committee (ACP20); TRB Traffic Signal Systems Committee (ACP25); TRB Artificial Intelligence & Advanced Computing Applications Committee (AED50); TRB Joint Subcommittee on Active Traffic Management (ACP20-5); AASHTO Committee on TSMO, ITS Work Group; European Association of Operators of Toll Road Infrastructures (ASECAP); International Bridge, Tunnel & Turnpike Association (IBTTA); Traffic Management Center Pooled Fund Study (PFS); and ERTICO Innovation Platform TM 2.0.

TMS ISSUES:

- Setting a strategic direction
- Planning improvements
- Identifying resource needs

OUTCOMES — IDENTIFY:

- Planning methods
- Improvements & available resources
- TMS agency needs concerning strategic direction and improvement programs

Workshop Agenda:

9:00 – 9:05 am | **Welcome:** Introductions, Workshop Purpose, and Desired Outcomes – Jon Obenberger (*FHWA*)

9:05 – 9:55 am | **Session 1 (Podium): Setting a Strategic Direction and Planning for TMS Improvements**

Moderator: Suzette Peplinski, (*Michigan Dept. of Transportation*)

Note-taker: Fanis Papadimitriou (*Attica Tollway Operations Authority*)

Outcome: Appreciation of Session 2's breakout discussion topics; a "sample" list of issues to consider when setting a TMSs strategic direction, planning for future improvements, and identifying resource needs.

Description: The first speaker will provide context for the issues to consider. The other three speakers will clarify the intent of each process and provide information vital to Session 2 discussions.

- Opportunities to Plan for the Next Generation of Agencies TMSs, Dan Lukasik (*Parsons*) [10 min]
- Setting a Strategic Direction for TMSs, Matt Junak (*HNTB*) [10 min]
- Planning and Plans to Support TMS Improvements, Les Jacobson (*WSP*) [10 min]
- Identifying Needed TMS Improvements and Resources, Pete Marshall (*HDR*) [10 min]
- Audience Q&A: Moderator facilitates Q&A regarding issues and challenges [10 min]

9:55 – 11:00 am | **Session 2 (Breakout): Identifying Issues to Consider, Successful Practices, and Resources**

Moderator: Susanna Zammataro (*International Road Federation - Geneva*)

Outcome: Identification of key issues to consider, successful practices, and needed resources for each of the four processes the breakout groups will discuss (to be developed in breakout-group discussions).

Breakout Discussion Format:

- Introduction & Instructions—attendees will be asked to join breakout discussion groups. Each group will review and add to the lists provided for issues to consider, successful practices (e.g., agency name and report), and resources (available or needed) [10 min]
- Breakout Discussion—Small groups deliberate on process of choice (*Setting a Strategic Direction for a TMS, Planning and Plans to Support TMS Improvements, Identifying Needed TMS Improvements & Resources*) [45 min]
- Break—Transition to next session [10 min]

11:00 – 11:40 am | **Session 3 (Podium): Breakout-Session Results**

Moderator: Lisa Burgess (*Kimley-Horn*); **Note-takers:** Phil Masters (*Parsons*), Matt Junak (*HNTB*)

Outcomes: Lists of key issues to consider, successful practices, and resources (existing or needed)—as identified for each of the three topics discussed in the breakout session. These issues will be reflected in the summary of the workshop results and action plan.

Description: The moderator will ask each table to highlight the top three issues to consider, successful practices, and existing or needed resources that their breakout group identified. After all tables report, the moderator will ask for questions, feedback on each process, or additional issues to consider.

11:40 – 11:50 am | **Session 4 (Podium): Action Planning—Identify Topics for Research or Actions for Industry Consideration and Collaboration**

Moderator: Raj Ponnaluri (*Florida DOT*); **Note-takers:** Mark Muriello (*IBTTA*)

11:50 am – Noon | **Session 5 (Podium): Next Steps and Sponsors' Perspectives**

Moderator: Greg Krueger (*TRB ITS Committee, HNTB*)

Speakers: Beverly Kuhn (*TRB Freeway Operations Committee*); Edward Smaglik (*TRB Traffic Signal Systems Committee*); Yinhai Wang (*TRB Artificial Intelligence and Advanced Computing Applications Committee*); Lisa Burgess / Dan Lukasik (*TRB Joint Subcommittee on Active Traffic Management*); Raj Ponnaluri (*AASHTO Committee on TSO, ITS Work Group*); John Bassett / Alex Wassman (*Traffic Management Center Pooled Fund Study*); Malika Seddi (*ASECAP*); Mark Muriello (*IBTTA*); Martin Russ / Johanna Tzanidaki (*ERTICO Innovation Platform TM 2.0*)