Making the Business Case for Traffic Incident Management

Technical Presentation

Sources (clockwise from upper left: Arizona Department of Transportation, Virginia Department of Transportation, Grady Carrick.)
Overview of Presentation

- What is a business case?
- Why develop a business case for traffic incident management (TIM)?
- Four-phase process to develop a TIM business case
- Key activities in each phase
- Additional resources
What is a Business Case?

A well-reasoned argument
designed to convince decision-makers
of the benefits of an investment
while educating them
of the associated changes, costs, and risks
A business case is both a **product** and a **process**

- The **product** articulates and demonstrates the business case through writing, numbers, analyses, graphs, charts, embedded videos, and images.
- The **process** helps to formalize and institutionalize the proposed initiative.
The TIM business case *products* begin with the business case report and should include other communications media, such as briefings or videos, to target key stakeholders.
The TIM business case development process

Develop Vision
- Organizational overview
- Problem or need statement
- Proposed solution & options
- Likely outcomes
- Strategic fit

Prepare for Implementation
- Develop implementation & management plan
- Develop risk management plan
- Develop performance management plan

Evaluate and Select
- Define the resources and criteria
- Estimate TIM benefits
- Estimate TIM costs
- Conduct comparative analysis & select preferred option

Formalize
- Incorporate into planning process
- Establish/maintain relationships
- Engage the community
- Identify funding sources
Why Develop a Business Case for TIM?

• To establish, maintain, and grow a TIM program, the value of TIM must be accurately estimated and effectively communicated

• To transform a TIM program or project from a stand-alone effort to a sustaining core function of an agency
Scoping and Living the Business Case

• Scoping the business case means:
  – Recognizing that the evaluation should align with TIM program costs, as well as the data available
  – Understanding the timeline for investment decision-making
  – Identifying what business case products will be needed

• Living the business case means:
  – Developing, adhering to, and updating the TIM program plan
  – Establishing, documenting, and following processes with an eye to the future right-sizing of the program
DEVELOP VISION

Key elements of the vision:

• Organizational overview
• Problem or need statement
• Drivers for change
• Proposed solution and options
• Desired outcomes
• Strategic fit of the project in the agency
• An organizational overview will include:
  – Organizational structure
  – Business objectives
  – Current activities, services, audiences, and stakeholders
State the Need and Drivers for Change

• Develop a brief, compelling, service-oriented problem or needs statement:
  – Presented in the context of the current environment
  – No more than 1-2 sentences

• Identify what has triggered the investment proposal
Propose Solution and Likely Outcomes

• Introduce the proposed solution and options considered
• Articulate the investment boundaries for each option
• Present the likely business outcomes as expected benefits (e.g. mobility, safety)
This phase includes the following steps:

- Develop evaluation criteria
- Estimate benefits and costs
- Conduct comparative analysis
- Recommend one preferred alternative
Develop Evaluation Criteria

• Ensure that the alternatives have a common basis for analysis (e.g., lifecycle vs. single-year)

• Define a common framework for comparison that includes cost, schedule, risk, and expertise for each alternative

• Finalize a consistent set of evaluation criteria:
  – Criteria should be strategically and contextually relevant to both the organization and relevant stakeholders
TIM benefits fall into five categories: mobility, safety, efficiency, environmental, and traveler satisfaction.

The quantification of TIM benefits (expected or observed) is a key activity in developing the business case:

- Select estimation methods and tools based on the scope of the proposed investment, data availability, time and expertise.

The monetization of TIM benefits is also a key component of the business case.
Cost estimation is typically agency specific.

Common cost delineation includes two areas:
- Capital investment costs
- Recurring operations and maintenance (O&M) costs

Tracking O&M costs can be complex, because resources are often shared between program areas.

Always present cost estimates of options in the same constant base year.
Conduct Comparative Analysis

• The benefit-cost ratio (BCR) is the most essential step to the comparative analysis
• Because some benefits are difficult to quantify, also develop and include a summary of all benefits
• Demonstrate the analytics and strategic basis for selecting the preferred option
• Further clarify the recommended preferred option, including an approach to implementation
Key activities in this phase include:

• Incorporate TIM into the planning process
• Establish and maintain relationships with partners
• Involve and engage the community
• Work to improve the organization’s overall TIM processes and capabilities
• Identify funding sources
TIM in the Planning Process

• Develop a focused TIM strategic plan
• Add TIM as an emphasis area or key strategy in planning documents such as:
  – Strategic Highway Safety Plan (SHSP)
  – Statewide Transportation Improvement Program (STIP)
  – Long range plan (LRP)
• Include TIM as a point of discussion when planning construction and maintenance projects
Strengthen Stakeholder Relationships

• TIM partnerships and relationships demonstrate commitment and program strength to decision-makers

• Formalized TIM partnerships foster efficient data sharing, benefiting the overall TIM program

• Public involvement and engagement promotes broader acceptance of and support for TIM initiatives
Funding Sources

• Federal-aid programs, such as the National Highway System (NHS) and Congestion Mitigation and Air Quality (CMAQ) Programs, are an important TIM funding source

• New potential funding sources may be identified under the MAP-21 Fixing America’s Surface Transportation (FAST) Act

• **Grants**, as well as local and State funding, are also used for TIM programs and strategies:
  – Grants.gov is the main source of Federal grant information
The TIM Capability Maturity Framework (CMF) complements and intersects the business case:

- Advancing through the CMF readies a TIM program to articulate a strong business case
- In developing the TIM business case, agencies give attention to key concepts within the CMF

Expected benefits of using the CMF tool for TIM include:
- Jumpstarting the program-level improvement process
- Providing justification for program support and direction
- Improving consistency and collaboration among agencies and between jurisdictions
- Continuing program improvement
This phase includes the following steps:

- Develop an implementation plan
- Develop a risk management plan
- Develop a performance management plan
Best practices in program management recommend the development of a number of “plans” to ensure a successful and efficient implementation. Three such plans include:

- **Implementation Management Plan** – illustrates in detail the critical steps in starting and developing the project
- **Risk Management Plan** – identifies risks, estimates impacts, and defines responses to issues if they arise
- **Performance Management Plan** – addresses how success will be measured and demonstrates transparency and accountability
Final Report

The final report

*Making the Business Case for Traffic Incident Management*

will be posted on the FHWA Office of Operations Web page:

[www.ops.fhwa.dot.gov](http://www.ops.fhwa.dot.gov)
Available Resources

• NCHRP 07-20: Guidance for Implementation of Traffic Incident Management Performance Measurement

• Online Traffic Incident Management Performance Measurement (TIM PM) tool: http://nchrptimpm.timnetwork.org/

• FHWA Process for Establishing, Implementing, and Institutionalizing a Traffic Incident Management Performance Measures Program

• NCHRP 03-108: Guidance on Quantifying Benefits of TIM Strategies

• Analysis, Modeling, and Simulation for Traffic Incident Management Applications

• Traffic Incident Management Benefit-Cost (TIM-BC) Tool: https://www.fhwa.dot.gov/software/research/operations/timbc/
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