Authors: Gerald Ullman, Ph.D., P.E., Melisa Finley, Brooke Durkop, Poonam Wiles, P.E., and Jim Carvell, P.E.

Incident and Traveler Information Sharing In Texas

PROJECT SUMMARY REPORT

Through this project, Texas Transportation Institute (TTI) researchers have developed recommendations and guidelines regarding incident and traveler information exchange practices among the Texas Department of Transportation (TxDOT) traffic management centers and local agencies. These recommendations should help guide those districts just establishing traffic management systems in practices and technologies found to be effective by existing traffic management centers. Researchers have also developed recommendations regarding the possible implementation of the proposed national traveler information number (511) in Texas.

What We Did . . .

TTI researchers interviewed TxDOT staff in four traffic management centers (TMCs)
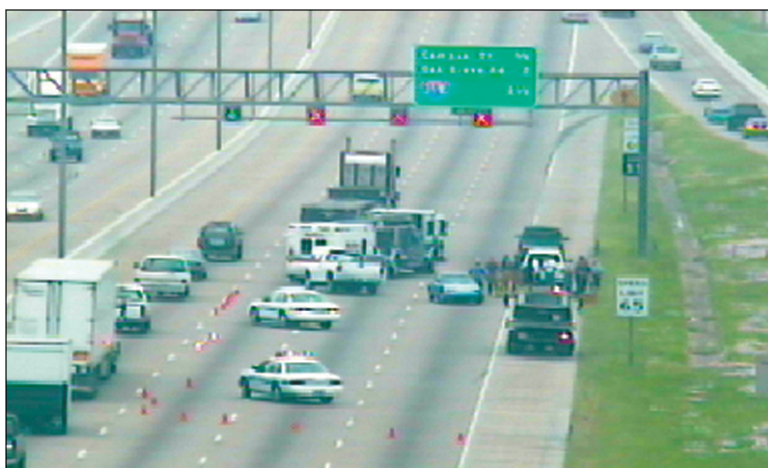
Effective information sharing improves incident management.

statewide: Fort Worth, Dallas, Houston, and San Antonio. The interviews and other documentation from each center were used to determine current and planned processes for exchanging incident and traveler information collected by TxDOT with other agencies and with the traveling public. Researchers then surveyed a sample group of local public agencies and traffic-reporting services in each district to determine what information being made available by TxDOT was actually being used by those other entities.

Researchers also explored how that information affected the operating decisions of those agencies.

Finally, researchers evaluated the feasibility of implementing a three-digit (511) traveler information number within Texas. Researchers reviewed implementation efforts in other states, contacted key telephone company representatives and associations to identify major issues, and analyzed possible implementation approaches for a 511 number for TxDOT.

What We Found . . .

Currently, each of the four TxDOT districts examined in this project shares video (real-time continuous and/or snapshots), speed information, incident information, and scheduled lane/road closure information with other public and private entities in the same region. One of the more important findings from the research is that various agencies sometimes use the same terminology differently in describing aspects of an incident. This has created confusion between agencies on past occasions. For example, TxDOT operators would describe an incident as "major" if it blocked one or more travel lanes, whereas an emergency responder defines an incident as "major" only if an ambulance is required (regardless of whether or not travel lanes are blocked).

Another important finding was that the benefits of information exchange extend beyond improved traffic management coordination and cooperation among agencies during incidents. Examples of some direct and indirect perceived benefits of information sharing are illustrated in Figure 1. Several agencies contacted during this project did mention how they are able to better guide their own personnel traveling within the region on agency activities to avoid areas of congestion and thus complete their activities more quickly and efficiently.

With respect to the potential implementation of the 511 national traveler information number, many issues have yet to be resolved. These issues include the type, format, and consistency of information to be provided; appropriate mechanisms for funding 511 operations; and technical requirements to be imposed upon the telecommunication carriers to support 511 operations. However, several state departments of transportation are moving forward with deployment (albeit cautiously) by simply switching existing road condition numbers to

> **Remember this...**
> …TxDOT freeway incident information is very important in helping to determine when and where it is necessary to reroute buses to reduce delays….
> *Houston METRO transit dispatch*

> **Remember this...**
> …TxDOT lane closure information is used two to five times per week to assess and possibly change traffic signal timings on roadways around construction projects…
> *various Dallas-area city traffic departments*

> **Remember this...**
> …we use TxDOT lane closure, incident, and congestion information from the internet to help guide our personnel as they move about the region working on various county projects…
> *Bexar County*

> **Remember this...**
> …TxDOT video images are very useful in helping to assess incident severities and to determine what responses we need to initiate…
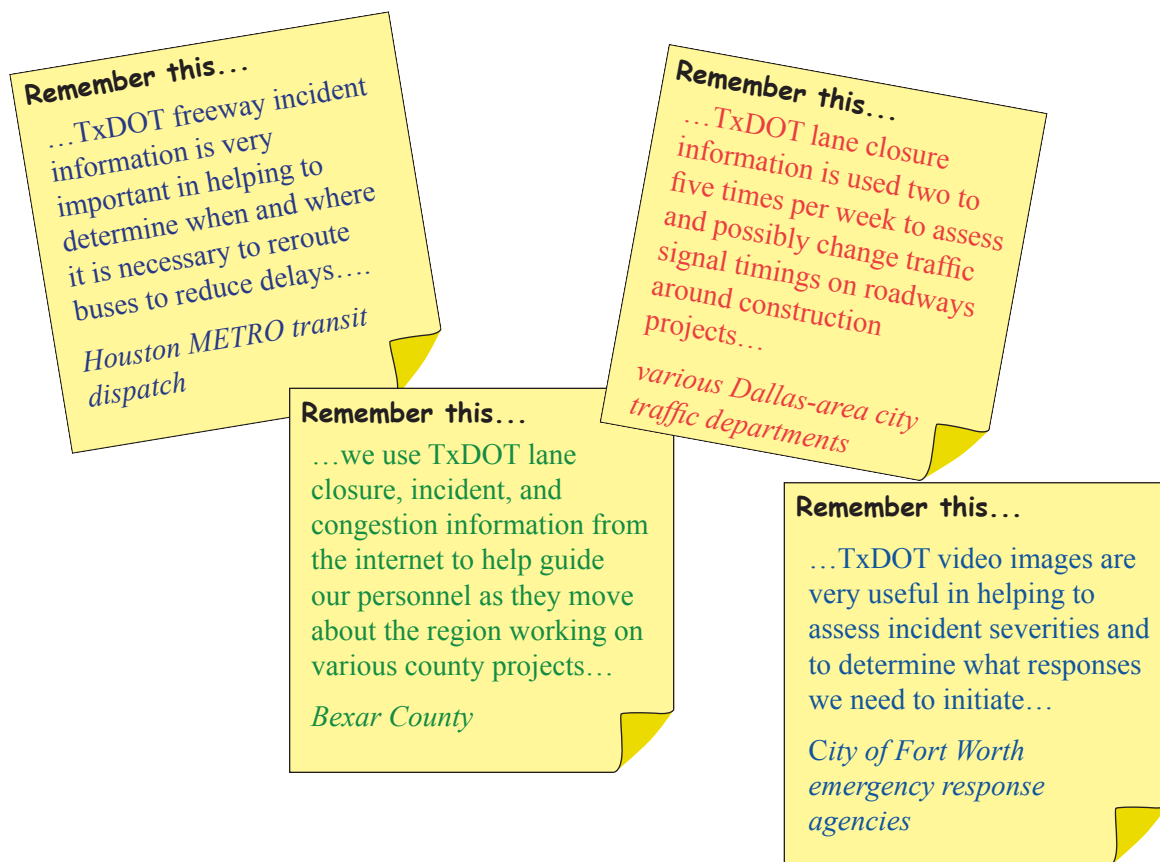> *City of Fort Worth emergency response agencies*

Figure 1. Examples of Information-Sharing Benefits to Other Agencies.

the 511 number. This will allow these agencies to support initial deployment of the 511 service and then to expand or modify service as better guidance becomes available.

The Researchers Recommend...

Incident and Traveler Information Exchange

The results of this research yielded the following specific recommendations regarding incident and traveler information exchange between TxDOT district TMCs and other entities in a region:

- Focus on the types of information to be disseminated, not on the method by which the information will be provided.

- Establish consistent meanings of key terms to be used when exchanging incident and traveler information among the various public and private agencies.

- Focus on staged implementation of information sharing activities as capabilities develop within each agency.

- Recognize that information sharing can have both direct and indirect benefits to all agencies in the region, and use that knowledge to further local agency buy-in and support of information sharing activities.

- Address how information is going to be shared with the private sector (e.g., media sources and other information service providers) early in the development of a TMC. Will companies be allowed to co-locate in the TMC? Will they be provided direct access to all video cameras, or only those selected by TMC operator supervisors?

511 Traveler Information Number Implementation

With respect to the feasibility of implementing the 511 traveler information number in Texas, the researchers recommend the following:

- TxDOT should consider converting its existing road condition telephone number to the 511 number.

- TxDOT should become actively involved in the national working group that is developing guidelines regarding the content, consistency, and funding for a 511 system.

- The individual TxDOT districts should serve as the facilitator and coordinator of future regional 511 systems in their respective major metropolitan areas. Development should occur:

  - as the data collection and fusion infrastructure in those regions develop, *AND*

  - as other public and private-sector entities in the region express a willingness to assist in funding, developing, and maintaining such a system.

These regional 511 systems would then be overlaid on portions of the statewide system as appropriate.

TxDOT Implementation Status
December 2003

This research project yielded recommendations on how TxDOT can improve and facilitate information exchange with other agencies in a region to better support incident management and traveler information activities. These recommendations are based in large part on lessons learned from the legacy traffic management systems in TxDOT, and therefore should be valuable to the other districts who are currently developing traffic management centers and systems of their own. Meanwhile, the TxDOT Traffic Operations Division is taking the lead in development of a statewide implementation framework for the 511 traveler information telephone number in Texas.

For more information, please contact Mr. Wade Odell, P.E., RTI Research Engineer, at (512) 465-7403 or e-mail wodell@dot.state.tx.us.

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