

## APPENDIX A: CORE DATA ELEMENTS FOR THE MODEL SYSTEM

State Code:

Date of information to be entered (year only):

### Sovereign Immunity

Indicate the status of sovereign immunity for highway tort actions (claims/lawsuits) in your state:

- Full or absolute immunity
- Limited immunity only
- No immunity protection

What types of award limits, immunities, or restrictions on liability exist in your state?

Please select all that apply:

- Limit or cap on dollar amount of damage award
  - If yes:
    - Ceiling per injured person
    - Ceiling per occurrence or incident
- Joint and several liability
- Design Immunity
- Other (non-design) discretionary immunity
- Economic or budgetary defense
- Collateral source of payments
- Non-economic damage awards permitted
- Punitive damage awards permitted
- Contributory negligence standard
- Comparative negligence standard
- Legislative approval required on each litigation settlement

In what year did your state first loose or modify sovereign immunity for highway torts?  
Yr

**Please cite the applicable constitution, statutes, or case that currently governs sovereign immunity for highway torts in your state: (250 characters or less)**

Text Information will go here!!!

### **Claims/Lawsuit Procedures**

**Does a “tort claims act” or other legislative scheme for litigating tort actions against the state exist in your state, please provide a brief description**

Y/N

Date that act or scheme was put into effect

Please provide brief explanation:

(Text information goes here)

**What type of tribunal is used for deciding highway tort litigation brought against your state?**

- Claims Board or Claims Commission
- State Court of Claims or similar Special Court
- State Legislature
- Trial Courts of General Jurisdiction

**If your state uses Trial Courts of General Jurisdiction, select the following that apply:**

- Jury trials permitted
- Plaintiff is permitted to establish venue in own county (parish) regardless of where accident occurred
- Plaintiff is limited to establish venue in county where state defendant agency maintains its headquarters regardless of where accident occurred.

**State requires special legislation to pay each tort award**

## **Claim & Lawsuit Statistics**

**Enter the number and dollar amount of highway tort claims (pre-litigation) for each of the following categories, for general liability only:**

New claims filed (new injured party or incident)  
Claims disposed without an award  
Claims disposed by settlement  
Claims disposed by judgment

**Enter the number and dollar amount of highway tort lawsuits, for each of the following categories, for general liability only:**

New litigation filings (exclude appeals)  
Lawsuits disposed by settlement  
Lawsuits disposed of with a court judgment  
Lawsuit disposed of without an award

**Enter the number and dollar amount for each of the following categories of pending tort actions, general liability only:**

Highway tort *claims*  
Highway tort *lawsuits*

## **Attorney Statistics**

**Enter full time equivalent number and total salaries of types of counsel used to defend highway tort litigation (include salary additive for fringe benefits for in-house staff):**

Salaried highway agency staff attorneys  
Attorney General's Office Attorneys  
Private Counsel  
Other

**Did your state experience an increase in the number of the following attorney types hired in relation to the loss of sovereign immunity?**

- Staff Counsel
- Assistant Attorney General
- Private Counsel

### **Injury Statistics**

**If your state classifies tort actions by type of physical injury, please enter the number of highway tort claims or lawsuits in each of the following categories (please use the most serious type of injury for each claim or lawsuit)**

Injury Type:

Amputation  
Blindness  
Broken Back  
Burn  
Deafness  
Declaratory relief  
Emotional distress  
Fatality  
Head/Brain Damage  
Hemiplegia  
Indemnity  
Internal Injuries  
Laceration  
Loss of Consortium  
Paraplegia  
Property Damage  
Punitive Damages  
Quadriplegia  
Soft Tissue Damage  
Undetermined  
Worker's Comp paid  
Wrongful Death

## **Employee Liability Statistics**

**Please provide number and amounts where appropriate**

Total highway tort actions filed against agency's employees in an individual or personal capacity

Total Number

Total Dollar Amount

State has a statutory duty to defend and indemnify state employees in highway tort actions

If there is a cap limit, please provide:

State provides employee tort insurance protection?

If there is a cap limit, please provide:

State provides for judgments against employees acting in the line of duty?

If there is a cap limit, please provide:

## **Contractor Indemnification Statistics**

Does your state require that contractors furnish liability insurance to pay damages to highway users?

Does your state require its contractors to defend, indemnify and hold harmless your state agency and/or its employees from highway tort actions filed by highway users in your state?

Does your state require that the agency and/or its employees be named as an additional insured in any contractor liability insurance that is required?

Does your state require that the agency and/or its employees be insured by an owners' and contractors' protective liability insurance policy (OCP), or a similar type of insurance policy, purchased by the contractor?

**Insurance Statistics**

State maintain liability insurance on highway tort actions?

Select the type, policy limits, and yearly premium of liability insurance available for highway tort actions in your state:

- Blanket tort policy
- Coverage for automobile liability
- Coverage for construction equipment operation
- Coverage for maintenance equipment operation

The agency's liability is limited to no greater than the policy limits for:

(select all that apply)

Blanket tort policy

Auto policy

Construction/maintenance equipment policy

Aircraft policy

Agency carries excess coverage or catastrophic coverage?

If yes, provide dollar amount of coverage:

State's liability insurance limited to covering agency's motor vehicle fleet

State maintains a self-insurance program for general liability

If yes, why (please provide brief explanation under 250 characters)

(Enter text information here)

State maintains a self-insurance program for highway tort actions:

Specify program or liability that is self-insured (under 250 characters)

(Enter text information here)

**General Risk Management Training and Resource Statistics**

State provides employee training in risk management or highway tort claim liability (Y/N)

Training Provided (check all that apply):

- In-house training
- Independent consultant
- Other

Level of employee trained (check all that apply)?

- Executive management
- Middle management
- Highway design staff
- Attorneys
- Field supervisors
- Field maintenance employees
- Highway maintenance and operations staff
- Highway construction and materials staff
- Highway safety and traffic engineering staff
- Others

Topics covered in the training (check all that apply)?

- Introduction or scope of problem
- Proper highway maintenance
- Accident reduction
- Proper signing
- Documentation at accident site
- High risk areas
- Expert witnesses
- Legal procedures

Please, provide your state's contact person for risk management or tort liability training activities or programs:

Name

--

Title

Address

Telephone #

Fax #

Please, provide information about risk management and tort liability training materials and/or trainers that you are aware, what issues were addressed, and its effectiveness in meeting need (poor, satisfactory, good, excellent).

Title of Training

Trainer

Issue that training addresses

Rating

### **Expert Witnesses Testimony and Discovery Information**

Is your state recording this information for expert witnesses in digital form:

*Name*

*Address*

*Telephone #*

*Area of Expertise*

*Testified for: Plaintiff or Defense*

*Record tag# (associated with documents to be searched)*

Is Court testimony and/or case research information being stored on digital media.



## Highway Deficiency Data Elements and Structure

### Level I: System

*Road*

*Bridge*

*Tunnel*

*Construction Zone*

### Level II: Function

*Design/Planning*

*Maintenance/Operations*

*Construction/Build*

### Level III: Component

*Traffic control device*

*Pavement*

*Shoulder*

*Drainage*

*Barriers*

*Fixed Objects*

*Snow/Ice Control*

*Roadway Surface*

*Roadway geometry*

*Sight distance*

*Lighting*

*Sidewalks*

*Bike lanes*

## **APPENDIX B: SAMPLE GROUPINGS FOR STATE SOLICITATION PROCESS**

### **Group 1: California (preferred)/Washington (first alternate)**

Multi-site connection with restricted access to a highly secure system  
Commercial data collection software  
High level use of technology - Current network and desktop operating system

### **Group 2: Florida (preferred)/South Carolina (first alternate)**

Multi-site connection with direct access to a medium secure system  
Industry standard data collection software (compatible)  
Medium to high level use of technology (network and PC operating system)

### **Group 3: Montana (preferred)/Wyoming (first alternative)**

Single and multi-site connection with direct access to a medium secure system  
Industry standard data collection software (non-compatible)  
Medium to high level use of technology

### **Group 4: Nebraska (preferred)/Illinois (first alternate)/Iowa (second alternative)**

Single-site connection with direct access to legacy-type computerized information system  
Industry or custom data collection software  
Medium level use of technology

### **Group 5: West Virginia (preferred)/Arkansas (first alternate)**

Single-site connection with direct access  
Conventional data collection system (paper)  
Low level use of technology

# APPENDIX C: STATE SURVEY LETTERS AND INTERVIEW RESULTS

## Invitation Letter

PennState



The Pennsylvania Transportation Institute

The Pennsylvania State University  
201 Research Office Building  
University Park, PA 16802-4710

July 28, 2000

To:

Dear \_\_\_\_\_,

Re: Invitation to participate in the National Cooperative Highway Research Program Pilot Project for a National Data-Management System for Highway Tort Claims

Dear \_\_\_\_\_,

The purpose of this letter is to request the participation of the state of \_\_\_\_\_ in Phase II of a pilot project being conducted by the Pennsylvania Transportation Institute of Penn State University for the National Cooperative Highway Research Program (NCHRP). The purpose of the pilot project is to assess the feasibility of a National Tort Data-Management System for highway-related tort claims. The central component of Phase II is a simulation of a full-scale data-management system. The goal of developing the system is to provide state departments of transportation with access to general tort claim information of a regional or national interest, receive periodic reports of national tort claim information, and make specific queries for information pertaining to defined criteria. In essence, the system is an electronic version of a tort data survey and report produced by the American Association of State Highway and Transportation Officials (AASHTO) from the mid-1970s through the early 1990s.

There are many issues to be considered in retrieving and organizing tort-related data and there are many concerns that individual states have for participating in such a project. Foremost among the latter are protecting the confidentiality and integrity of existing state tort database records and minimizing additional burdens on state legal and tort claims personnel. With regard to confidentiality and integrity, the prototype national database has been designed to use only summary information from each state, not individual tort claim records. The challenge for the pilot project is to devise automated means of converting existing state tort information into a standard summary format for input to the national database.

Meeting this challenge requires working with your department personnel in implementing the process of data retrieval and network interface. It will be necessary for the project research staff to meet with state department personnel responsible for the administration of tort data, knowledgeable of the information flow for record keeping and tracking of tort claims, and knowledgeable of the database structure and network system. The assistance of these key personnel will help us to identify and retrieve the data from your tort information system that will make it possible to create a meaningful and accurate collection of summary information.

If you agree to participate as a pilot state, the next step is to for me to schedule an on-site visit to your facilities to meet with the appropriate staff. The purpose of this meeting will be to discuss the details of the project, review your tort information system, set data integrity and security parameters, and determine the best methods of data retrieval.

I would appreciate if you would let me know by \_\_\_\_\_, if your state is willing to be a participant in the pilot project. In the interim, if you have any questions, please contact me at 814-863-1896 or glg@psu.edu. If I am not in, Mr. Michael Kerchensky at 814-863-1086 or mek14@psu.edu will also be pleased to answer questions. Our contract manager at NCHRP is now Mr. Harvey Berlin at 202-334-2441 or hberlin@nas.edu and he too is available to discuss any concerns that you have about the project.

I thank you for your consideration of participation in this initiative and look forward to the opportunity to work with you in the future.

## **AGENDA LETTER**

**To:**

**From:** Michael E. Kerchensky  
Technical Project Manager  
Pennsylvania Transportation Institute

**Date:**

Dear \_\_\_\_\_,

Subject: Agreement to on-site visit and participation in the NCHRP 11-7 pilot project for a National Data-Management System for Highway Tort Claims.

I would like to thank you for your willingness to participate in the project and accommodate our schedule for the on-site visit. Included in this memo are a tentative agenda and schedule, plus a list of department personnel that we would like to meet with during the visit.

The state of \_\_\_\_\_ agreed to participate in PHASE II of a pilot project being conducted by the Pennsylvania Transportation Institute of Penn State University for the National Cooperative Highway Research Program under the Transportation Research Board. The purpose of the pilot project is to assess the feasibility of a National Tort Data-Management System for Highway Tort Claims. The central component of this Phase II proposed work plan is a simulation of a full-scale data-management system. The goal of developing the system is to provide state departments of transportation with the ability to contribute valuable data to the system, access general tort claim information, receive periodic reports of national tort claim information, and make specific queries for information pertaining to defined criteria.

You have agreed to a tentative on-site visit by the project team for the dates of \_\_\_\_\_, 2000. The team would like to meet with those persons responsible for the collection and administration of highway tort information, which includes but not limited to risk management and insurance data, traffic operations and accident data, and tort claims data in paper or electronic form. In addition, we would need to meet with the information technology person responsible for the administration of your database and network systems.

As I recall, you identified the personnel that would be able to assist us identify the source, location, and access to the information we are seeking. This document should aid you in identifying any other personnel that you might consider helpful in accomplishing our task. The general purpose of this visit is to review the details and purpose of the project, review your information systems, strategize the best methods for data access and retrieval, and explore the potential framework that you would like the information to be returned to you from the data management system. The following outline is a general guide to what we would like to accomplish during the visit.

On-site Visit Agenda:

Morning agenda:

- Discuss the goals and objectives of the pilot project
- Discuss states concerns of participating in the pilot project
- Discuss the required data and information to be retrieved
- Discuss methods of data extraction and system interface
- Discuss the incorporation of text based documents form court files
- Discuss security and protection of information
- Present the basic data components of the central tort database
- Present concepts for access to the tort database by state departments

Afternoon agenda:

- Interview risk management personnel
- Interview legal division personnel
- Interview traffic operations personnel
- Interview information technology personnel
- Interview person(s) knowledgeable of information flow and tracking

Project team reviews the legal division information system

- Identify required data fields/information
- Identify desired data fields/information
- Identify method of data retrieval/collection

- Identify method of data/information transport to database developer

Project team reviews the risk management information system

- Identify required data fields/information
- Identify desired data fields/information
- Identify method of data retrieval/collection
- Identify method of data/information transport to database developer

Project team reviews the traffic operations information system

- Identify required data fields/information
- Identify desired data fields/information
- Identify method of data retrieval/collection
- Identify method of data/information transport to database developer

If needed:

- Follow-up with individual personnel
- Follow-up with information technology personnel
- Explore any items that were not part of original agenda

In order for us to meet our planned schedule for the project, I would very much like to solidify the on-site visit that was tentatively scheduled for \_\_\_\_\_, 2000. If at all possible, I would like to confirm these dates by \_\_\_\_\_, 2000. Your efforts in this matter are greatly appreciated.

If you have any questions about participating in the project prior to the site visit, please feel free to call me at 814-863-1086 or mail me at [mek14@psu.edu](mailto:mek14@psu.edu). Thank You.

Sincerely,  
Michael E. Kerchensky  
Pennsylvania Transportation Institute  
Penn State University  
Technical Project Manager  
NCHRP 11-7

## **California DOT Tort Information System Profile:**

Attendees: Brelend Gowan, Chief Deputy Counsel; Richard Wehe, Risk Management and Tort Liability; Marty Cromwell, Business Manager and database manager for legal division; Loren Fanucchi, Database manager for Board of Control; Goeffrey Young, Network Administrator

### **System Environment:**

Information Network = L.In.C.S (Legal Information Network Claims System)  
All legal staff and claims processing can access information from multiple sites over intranet

Topology = MAC OS 9, Power Mac computers, Novel network

Database = File Maker Pro 3 (server) and File Maker Pro 5 (client)

Legal Div. and BoC data on one server

TASAS (VSAM file system) two databases of custom on Mainframe (Sunmicro System)

Expert Witness information

### **Reviewed current status of pilot project goals and objectives with CalTRANS staff**

#### **Data categories and extended data objectives:**

- 12 base data categories (75 + data elements), data legend, and metafile
- TASAS – California accident data from highway patrol
- Claims record fields that can be utilized to expand search functions for statistical and trend analysis
- Census and Demographic support information
- Expert Witness testimony and discovery information (limited)
- Other court document information (limited)
- California global information with limited access to specific data of CalTRANS only (National database recommendation)
- Reviewed their system updates from Phase I information
  - Updated: Filemaker Pro server and client
  - Adding Firewall and VPN (?)
- Discussed Technical Support Group Engineering – Transfer of information from
- Engineers to Legal Division for planning, design, analysis, and witness preparation (Richard Parenti)
- Discussed exposure issues of data export and methods of data dissemination in a protected manner with aggregate totals (Richard Wehe)

## **Available tort claim information and related transportation information:**

[Acquired access to all data elements in the tort claims database pending the removal of all identifiers that could permit any user to determine the individual claim or claimant.]

**Board of Control** (Loren Fanucchi under General Services)– Initial filing of all tort claims. Processes filings under \$25,000 using a non-governmental review board made up of two transportation officials, one attorney, and one civilian gubernatorial appointee.

Claim– received and sent to district office for investigation, discovery information is sent back to board of control.

FILED - Claim Types: 02 = Property, 2A = Personal Injury, 2B = Temporary Roadway Hazard (i.e. Construction Zones or Road Blockage), and LateApp = Late file

SETTLED – cases remain on file for one year

DENIED – defendants have 6 mths – 1yr to file a law suit to CalTRANS legal division

**L.In.C.S.** Legal Information and Contact System (Brelend Gowan under CalTRANS Legal Division) - Primary database containing tort claim and attorney information. Cases are assigned to attorneys from Chief Counsel

- Cases over \$25,000
- Archive data for 5 – 6 years.
- Data fields completed sporadically before 1999
- Approximately 6 weeks for attorneys to enter initial data
- Cases tracked by Special Designation # (tag for all related information to case)
- Cases dealt with individually, no current trend analysis on data

Expert Witness – Contains name, field of expertise, and contact information for experts used by CalTRANS. All experts are maintained under a master contract and linked to cases by special designation #.

- Attorneys are scanning expert witness testimony
- Courts are keeping witness testimony on e-form



**T.A.S.A.S** – (Kim Nystrum, Janice Benton, Ed Fitzgerald - technician) Traffic Operations - Contains accident and highway information created from C.Hi.P. databases

- Coded information on accident statistics: location, injured parties, type of vehicle, type of roadway, environmental condition, type of collision, and other details
- 25 years old (Oracle conversion in progress?)
- Data exported in ASCII format
- Red Flag repeat conditions and locations
- Coordinate FTP download schedule with PTI for ongoing data updates

**Time schedule for data updates and site export:** (Marty Cromwell)

- New case data takes approx. 6 weeks to be initiated
- Easy export from File Maker Pro (Tab Delimited)
- Export dependent on data input and update intervals by CalTRANS legal staff
- Data export - Initial (1yr. Archive), then monthly or bi-monthly export
- Static – Initial collection by survey (annual update)
- Dynamic – Ongoing collection from site DB (updated monthly)

**Method of data export appears to be Tab Delimited text file to:**

- Host server = firewall to internet, timed modem download via FTP
- Email transport
- Media (disk) Transport

**Data security and protection during transfer:**

MRCsq. (Luther McNeal) - demonstrate how selected fields can be exported from database.

Removal of trace code or record reference to original claims record

- No Name or personal identification information
- Remove Special Designation # and replace with other code
- Utilize aggregate totals of Prayer, Reserve, and Settlement
- Separate Route, County, and Milepost

L.In.C.S. database elements were reviewed and all determined to be included in pilot project with all case identifiers removed. The following was accomplished during the site visit

- Sample copy of database with data deleted given for review
- Dissect database for all fields and identifiers
- L. McNeal reviewed data elements field by field
- L. McNeal completed verification of security information with R. Wehe

Met with staff attorney to discuss TASAS database structure and ability to export data for inclusion into the model system to support tort information.

Explored data utilization beyond basic 12 categories for trend analysis and risk management support = purpose for collecting all data available in system or on record

**Legal Environment for defense:**

Common Statistics from survey portion of information

99% of all cases are jury trials by preference

Plaintiff Attorneys must prove that there was a:

- 1.) Dangerous Condition
- 2.) CalTRANS had notice of, or in some manner created the condition
- 3.) Prove that condition caused the injury
- 4.) Accident itself reasonably foreseeable
- 5.) Prove damages

If state can prove they acted reasonably to prevent the condition = good chance to be held not liable.

Met with Kim Nystrum, Janice Benton, and Ed Fitzgerald (TASAS technician) to discuss export of accident information for incorporation into the Central DB as support information to contributing factors in accident claim.

Data is in a legacy system that can export data in ASCII text format via FTP transfer.

Follow up will be to setup FTP function on TDB server for transfer

**West Virginia DOT Tort Information System Profile:**

Attendees:

Administrative

Charles R. Lewis; Traffic Engineer, Division of Highways

Jeff J. Miller, Legal Division, Division of Highways

Robert Paul, Legal Division, Division of Highways

Robert A. Fisher; Claim Manager, Board of Risk and Ins. Mgmt  
Charles Mazingo; Claim Manager, Board of Risk and Ins. Mgmt

Technical

Michelle and Joann; Information Sciences and Communication for Highway Division  
Carlin McKendrick; Database Administrator for Engineering  
Tim Martin; DB admin for Roadway Inventory DB  
Robert Roberts; IS&C technician for WV, contact for export and transmission process from state system

Database/Information Systems:

Legal Division:	Paper Records only
Traffic Operations:	Accident Database Roadway Inventory Financial System (attorney's fees) Authorization System (case related cost)
Board of Risk and Insurance Mgmt	AIG, Inc. Private proprietary system and individual contract attorney files.

Information Sharing:

Legal division shares information on a case-by-case basis. No standard or organized information collection process to track significant and precedent setting cases, archive cases, connect case information with other information systems. There is no internal case ID that serves as a common tracking number between departments. (Archive data is primarily memory of senior staff)

Traffic Operations maintains data tracking for accident information, property inventory, project scheduling and monitoring, etc. Provide limited internal instruction and education for risk management.

Board of Risk and Insurance Management functions as watch dog for expenditures due to loss and liability. Provide minimal to no internal risk management services and education to Division of Highways. Reports that they have No Power to implement policy-changing initiatives within the state system, since policy changes only appear to be altered through legislation resulting from extreme cost lawsuits.

Data Access/Retrieval: (High Difficulty)

**Legal Division** (paper systems)

No common summary or tracking sheets that organize case files.  
Attorney tracks case information that is non-legal document by their own method.

Cost of scanning to high, though WV is looking for source to scan archived files. NO way of getting archive data and future collection of data will have to serve an internal benefit for the attorney's to use it.

**Traffic Operations** (DB2 database on State Mainframe System)

Currently custom extraction programs used to query and download information from the program. Can be saved to disk, tape, and FTP file by an IS&C staff person.

**Board of Risk and Insurance Management** (Proprietary System)

What we know = the database that AIG, Inc. uses is dumped into the state DB2 format database, since they do monthly audits of the cases and expenditures. The board of risk receives the case and enters information for approximately 6 data fields, then passes the case information on to AIG, who in turn returns the full data records of the case after trial. (will need to contact AIG, Inc. via Board of Risk and Ins. Mgmt in the next couple of weeks)

Information Flow: Paper Filing of a Loss Claim:

Loss claims begin with:

Claim files via "process serve" or mail to circuit court or court of claims are given to Bob Paul (circuit Court) or Drew (court of claims) who then decides whether there is:

Insurance: Filed in circuit court = case is transferred to AIG  
Jury trial and insurance cap is 1,000,000 (moral obligation to pay)

No insurance: Court of claims = case is defended by legal division  
Trial before Panel of three judges with no Cap on settlement, however guidelines for liability are more stringent

Claims Investigator investigates all cases filed in court of claims. The Police (ACCIDENT) report is obtained, witness are interviewed, and expert witnesses are retained >  
Cases are either Dismissed, Tried, or Settled

Expressed needs and desires from a National Database\*:

*\*Expert Witness Testimony Summaries* = Highlights of testimony as related to case

*\*Trend information from national perspective* = compare West Virginia to other states in regards to contributing factors, injury, and award.

*\*Risk Management* = There is no formal risk management operation for DOT, so any information would be valuable to them.

Internal needs:

*District Issues* = internal information source that could provide proactive maintenance or construction projects. Currently motivated by law suits

*Information on Precedent setting cases* = Currently this information is provided by private companies at a premium. Information is difficult to gather in electronic form = cost of man hours to search and scan

Follow-up needed for site visit:

- Letter to AIG via Board of Risk for access to information in their database (LJM - content information, MEK – cover letter from PSU)
- Talk to GLG about TRB policy and trade agreement with private companies (AIG)?
- Contact Rob Roberts and other tech staff of IS&C – WV about data export from mainframe (get Ph # from Ray)

**Florida DOT Tort Information System Profile (10/25/01)**

Attendees: Pam Leslie, Chief Counsel, and Steven Ferst, Chief Civil Litigation Counsel, Office of the General Counsel; Trilly Lester, Bureau Chief, Office of Insurance and Risk Management; Joyce Edwards, Local Area Network Administrator, Office of the General Counsel; and Eric Larson, P.E., Traffic Management Systems Engineer

**State System Environment:**

Information Network = Legal has 60 user private network that is part of the FLA intranet. Insurance and Risk Management network is not connected to intranet due to sensitivity of information on their system. Traffic operations maintains two separate databases: Accident stats and Maintenance Issues

Topology = Novell and NT 4 network with mainframe AS/400 and Client/Server environment. Direct connection can be utilized with legal office on NT server RAS connection, email transfer, or FTP site

Database = Legal > Time Matters; Risk Management > Corporate Systems on AS/400 mainframe; Traffic Operations (Highway Safety and DMV)> Mainframe database that records law enforcement accident reports

**Data categories and extended data objectives:**

- 12 base data categories (75 + data elements), data legend, and metafile = Legal keeps minimal independent records, but I&R Mgmt. keeps complete database on all claims filed with FLA DOT.
- Legal records cases assigned to them by I&R Mgmt and cases that are appealed under Claims Bill Act (cases that are seeking over the \$200,000 cap limit, requires legislative sponsor = low volume of cases. States can appeal claims filed under this act.)
- Discussed issues of risk = High (i.e. Florida Sunshine Act is a very liberal application on public data)
- Expert Witness testimony and discovery information (contact court system for record availability)
- Other court document information (connected to specific case through Time Matters)
- Insurance and Risk Management has more administrative control over case records. Closed cases are a matter of public record, but Open cases are highly confidential > require only basic information for tracking purposes = alleged casual factors (deficiency), alleged injury, damages sought, current status of case, etc. (No identifiers)

**Available tort claim information and related transportation information:**

[Acquired access to all data elements in the tort claims database pending the removal of all identifiers that could permit any user to determine the individual claim or claimant.]

*Claim* – filed with both general counsel and I&RM. Claim is investigated by Annette (Office of legal counsel) and then results of investigation are sent to I&RM for assignment to internal general counsel or contracted attorney. Records are maintained by I&RM.

*Filing Process*- Claim filed, DOT/I&RM have six months to settle or contend claim following investigation by Annette Rogers (DOT Legal) {may be a research application for database}, if deny case goes to jury trial, where legal gathers more information in discovery {key entry for database information}, result is dismiss or award (up to \$200,000), with potential for appeal to Claims Bill Act

## LEGAL DEPARTMENT

**Time Matters System** Legal Information and Contact System (Office of General Counsel) - Database containing tort claim and attorney information. Cases are assigned to attorneys from I&RM

### **Legal and I&RM keep records of case through trial**

- Archive data for 5 – 6 years.
- Cases tracked by Special Designation # (tag for all related information to case)
- Cases dealt with individually, no current trend analysis on data
- Cases documents and related notes are connected by links to directories

**Expert Witness** – Legal keeps an internal list of expert witnesses, but is very guarded about exposing this list.

- *Would like a list of experts being used by plaintiff attorney*
- *Courts are keeping witness testimony on e-form*

## INSURANCE AND RISK MANAGEMENT

Trilly Lester (bureau chief), R.J. Castellanos (Director), and Burn Moore (tech support and DB developer)

**Corporate Systems** – Database program that resides on a mainframe platform. A comprehensive record of all information related to the filed claim. Highly secure and it is a master file

### **Time schedule for data updates and site export:**

Main active case file is maintained by Board of Insurance and Risk Management since they have administrative authority and maintain the security of file.

DOT legal assistant does preliminary investigation of claim and forwards information to IR&M who decide if case should be handled through DOT legal or external defense attorneys. Once case is closed, it becomes public information.

### **Method of data export appears to be Tab Delimited text file to:**

- Host server = firewall to internet, timed modem download via FTP
- Email transport
- Media (disk) Transport

## **Data security and protection during transfer:**

MRCsq. (Luther McNeal) - demonstrates how selected fields can be exported from database.

Removal of trace code or record reference to original claims record

- No Name or personal identification information
- Remove Special Designation # and replace with other code
- Utilize aggregate totals of Prayer, Reserve, and Settlement
- Separate Route, County, and Milepost

Corporate System database elements reviewed and all determined to be included in pilot project with all case identifiers removed:

- Sample copy of database with identifying data deleted will be provided by Burn Moore
- L. McNeal will review data elements field by field
- L. McNeal completed verification of security information with Burn Moore

Explored data utilization beyond basic 12 categories for trend analysis and risk management support = purpose for collecting all data available in system or on record.

## **Insurance and Risk Management**

*\*\*\*Insurance and Risk Management felt it would be useful to have accident information to compare legal allegations with the actual accident report. Would like to Bench Mark with other states. Florida I&RM may be able to categorize deficiency codes to Level III. Would like to compare FLA to states with similar Sovereign Immunity Standards (i.e. liability coverage, caps, etc.). Would like training contacts for Risk Management information. Claim Bill attempts and successes*

## **Legal Environment for defense:**

Florida has a Claim Bill Act that provides for potential award higher than the \$200,000 cap. This requires a legislative sponsor and new legislature must be written in order for the award to be paid. This process only occurs after jury trial and an appeal has been filed. Low frequency and plaintiff and attorney must have the funds for long case process. Statute of limitations on the amount a plaintiff attorney can charge client.

*\*\*\*\*Florida would be interested in finding out if other states have similar situation and whether they were ordered to institute act or voluntary. Also very interested in Expert Witness information, but unwilling to provide same information from their state????*



## TRAFFIC OPERATIONS

### **Department of Motor Vehicle and Highway Safety (Millie Seay)**

Provides statistical analysis of accident information. They are currently creating a standard, less subjective, accident report form for police officers that will utilize some portable pc device = laptop, palm pilot, mini-pc (Like UPS tracking). Their data would be more of a resource pool for legal and risk management.

Fatal Accidents = (Maintain narrative sections of the accident report that describes the cause of the accident, testimony, eyewitness reports, etc.) = need to tag identifier with filed claim. Currently, can only attach this information after claim has been closed.

### **Department of Safety and Traffic Engineering Office (Pat Brady, Eric Larson, and David Anderson)**

Pat Brady Dept. of Safety utilizes the same data that Millie Seay's office uses.

Highway Safety Improvements > Response Team to crash data

Currently "governors highway safety team" is looking at standardizing accident data code for recording accident reports completed by law enforcement officers. M.U.C.C. via the Dept. of Transportation (ANSI D16 Standard)

Mainframe sequential file, but going to relational database pending funding (StiP)

(Eric and Dave) Traffic Engineering Office has 7 districts, each with a Traffic Ops Manager that oversees construction and improvements of highways, meets design requirements as set forth by state policy and federal guidelines. Responsible for policy and procedure setting on design/construction for each of the district offices to follow.

#### **\*\*\*\*Needs:**

*Ability to prioritize improvements (i.e. type of design and improvement needed)*

*Reporting process needs to be more objective and qualitative?*

*Data from other states on truck lanes and aged driver conditions*

#### **\*\*\*\*\*Databases:**

*Truck Lane Information*

*Aged Driver Information*

## **Missouri DOT – Risk Management Department (1/16/01)**

Highway Tort claims fall under “general liability” through the chief counsel and are managed by the risk management dept.

Interview Attendees: Duane Amos – Director, Gerry Foster – Assistant Director

### **Base Information:**

10 districts in state for highway maintenance authority

3 Million loss per year due to damage to state property with no party to pay. Police records have enabled them recover approximately 1million in expenditures (increase pressure to recover more \$) Risk Management is investigating a method of tapping into Traffic Ops database

### **Sovereign Immunity History:**

1987 – lost full sovereign immunity

Claims caps of 100,000 per person and 800,000 per incident – 1million aggregate.

Claims liability has risen since loss of sovereign immunity

1990’s - Claims caps of 300,000 per person and 2,000,000 per incident – tied to inflationary index per year

1987 – State became self-insured with Fleet Vehicle and Workers Comp, since private insurance environment was not amenable to outsourcing. State hired Duane Amos to direct internal Risk Management department.

1990 – Risk Management department began using Dorn Risk Master software to handle claims and suite cases for the state.

### **Legal Division and Risk Management**

The legal division for the Missouri Department of Transportation does not administer any of the tort claims information from within their department. They rely upon the department of Risk Management and a software program from Dorn Systems called Risk Master. The department of risk management administers the tort claims file for internal and external legal counsel. All master copies are kept in this database. Internal legal counsel has network access through the state LAN and external legal counsel provides paper documents to the department at regular intervals. Legal offices have the permission to create and print reports, add expenses and legal fees, and process invoices, but cannot change any information.

The database is a proprietary system that is contracted to the state with standard output by a mechanism called Report Master. Any additional programming and support is on a fee basis through Dorn. The export functions are flexible, however a field search is by no means intuitive. This makes identifying the content of data fields related to tort claims information a hit or miss proposition, which adds time to the initial data collection process.

#### Claims and suite process:

Suites filed with Chief Counsel office through the district were the incident occurred. Chief counsel assigns the case to in-house attorney or out-sourced legal representation, however chief counsel directs the case and settlement approval after reviewing with RM.

(Case entered into Risk Master through risk management department)

Claims filed with directly chief counsel follow same process as suites, however settlement authority lies with Risk Management department.

#### Expert Witness Information:

Being kept in legal case files by chief counsel (paper), may be recorded by court recorder  
Creating a training course to educate personnel on testimony and court questioning

### **Traffic Operations Department**

The traffic operations personnel were not aware of our project and information interests. The initial interview included a thorough explanation of the pilot project and our intent for the data. The traffic ops staff agreed to look into the ability to export specific data from their system and the media for transport.

### **Washington State DOT Interviews**

Luther J. McNeal, MRC Squared from February 5 – 7, 2001, conducted the Washington Survey.

Electronic information systems supporting the Department of Transportation in the State of Washington are currently undergoing transition. The most significant of these is the Information Systems Division of the Attorney General's Office. They are migrating from a fairly sophisticated commercially published software package to an internally developed software package that will meet their information needs with greater efficiency, precision, and user friendliness.

Information systems that interface with the Attorney Generals' Office are making adaptive upgrades, though not to the same extent. Since information systems in the State of Washington are in their third or fourth generation of development, all of the information required for this project is available in an electronic file. However, accessibility to information for the purposes of this project is a matter of departmental policy. Therefore, information like the liability "reserve" amounts was available though not accessible.

### **Legal Data Issues and Meeting Schedule**

Monday 2/5/01 9:00 a.m. to 10:00 a.m. – *Introductory Meeting: Office of the Attorney General for the State of Washington*

Luther McNeal discussed project issues with Bill Henselman (DOT Risk Mgmt. Office), Michael Kirkpatrick (Dept. General Administration, Risk Mgmt. Office), and Daniel Davis (DOT Transportation Data Office) in a meeting hosted by Mike Tardiff of the Attorney General's Office. Mike Tardiff introduced the attendees, purpose of the project, and pertinent information disclosure issues. Luther addressed specific issues concerning the project survey, electronic information acquisition, and sources of specific information. The meeting concluded with the establishment of an interview schedule with each of the attendees and their respective information services personnel.

Wednesday 2/7/01 8:00 a.m. to 9:30 a.m. – *Interview with Larry Hoage, Database Administrator: Office of the Attorney General*

Larry outlined the function of the Information Services Office of the Attorney Generals Office and the nature of the work that they are doing right now. He was also able to discuss in detail the content of information in the system. Larry and Luther were able to determine a list of characteristics for the information Luther needed. Larry provided a record layout and an electronic file on diskette the following afternoon.

### **Risk Management Data Issues and Meeting Schedule**

Monday 2/5/01 10:30 a.m. to 11:30 a.m. – *Interview with Bill Henselman, Risk Mgr.: Washington State DOT, Office of Risk Management*

Bill Henselman outlined the history, structure, purpose, and daily operation of the risk management office for the state and the department of transportation counterpart. He indicated that Mike Kirkpatrick's office maintains the risk management files concerning tort liability for the entire state. Further Mike would be familiar with content and data extraction methods.

Tuesday 2/6/01 9:00 a.m. to 10:00 a.m. – *Interview with Mike Kirkpatrick, Tort Claims Administrator: Department of Administration, Division of Risk Management*

Mike Kirkpatrick and Luther J. McNeal discussed the information needs of the project in detail. Luther requested a record layout. Since none was available, they review the data file from a CRT terminal and established a list of fields to extract from the file.

### **Traffic Operations Data Issues and Meeting Schedule**

Monday 2/5/01 10:00 a.m. to 10:30 a.m. – *Interview with Daniel Davis, Accident Analysis Supervisor: Washington State Department of Transportation, Planning and Programming Service Center*

Daniel Davis was able to outline the structure and content of the files his office managed. He indicated that his office was also transitioning to new software, new scope of information services, and interfaces with other information services in the state. Daniel and Luther agreed on a list of specific data fields that Daniel's office would prepare for Luther's review on the following day.

Tuesday 2/6/01 3:00 p.m. to 3:30 p.m. – *Interview with Daniel Davis, Accident Analysis Supervisor: Washington State Department of Transportation, Planning and Programming Service Center*

Reviewed information prepared by Daniel's team. The team provided an electronic file and record layout of traffic accident information.

### **Engineering and Planning Offices Data Issues and Meeting Schedule**

Tuesday 2/6/01 3:30 p.m. to 5:00 p.m. – *Telephone interview with John Milton, Senior Engineer: Washington State Department of Transportation, Highway Engineering*

John provided Luther with a detailed understanding of the evolution of highway safety policy for the state. He like Bill Henselman referred Luther to Pat Morin for a detailed explanation of the decision making process for project prioritization and planning.

Wednesday 2/7/01 9:45 a.m. to 1:00 p.m. – *Interview with Pat Morin, Planning Mgr.: Washington State Department of Transportation, Priority Planning Department*

Pat Morin's discussion of the priority planning process for Washington was extremely help to this researcher in understanding existing influences constraints on the decision making process for this state and others. The discussion will greatly impact the development of screen sets for the final project.

# **APPENDIX D: MRC SQUARED DELIVERABLE REPORT ON DATA ANALYSIS AND DATABASE DESIGN**

## **PTI/NCHRP Final Report: Database Development**

### **Project Description and Purpose**

The overall purpose of the project was to determine the feasibility of creating an electronic application capable of collecting, processing, and reporting information covered in the AASHTO study. In the first phase of the project, preliminary information was gathered to determine if sufficient information technology infrastructure existed to make the prospect plausible. The Phase I research indicated the existence of state agency databases and electronic files having pertinent content. The researchers concluded that the existence of those files warranted an attempt to create a functional database application.

MRC Squared was contracted to develop the database application according to the project plan that was developed based upon the findings of the Phase I research. The Phase I research indicated or inferred that: (1) some states were using database applications in legal and risk management agencies; (2) other states relied on paper-based systems; and (3) agencies with electronic information systems relied on automated processes to develop information such as required to complete the AASHTO study. The task of MRC Squared was to:

1. Define data elements.
  - Develop a master list of data elements according to documentation provided by PTI.
  - Compile a metafile of standard terms and definitions.
  - Provide a conceptual design of the master database structure.
  - Obtain from PTI a record layout of the data to be supplied from each of the states.
  - Normalize and standardize the data sets from all of the states and the master data element list.
2. Design the data environment and support network connectivity.
  - Research and identify core data structures and format.
  - Identify and recommend suitable methods of data transfer.
3. Design central database application and client screen sets.
  - Develop core database application.
  - Develop user screen sets.
  - Develop report structures.
4. Participate in testing procedures.
5. Participate in system installation final implementation.
6. Participate in performance monitoring.

## **Implementation Approach**

Overview: The mission was to develop a database system that provides useful content, quick data retrieval, intuitive navigation, and a user-friendly reporting presentation. The development of such a system depended on good design. The overall design of this database application had to accommodate three important functions: data collection and normalization, processing, and presentation. Good design can be achieved if the following is known: (1) the performance and storage capacity of hardware and software, (2) database performance objectives, (3) the content and format of desired output, and (4) the content and format of input.

The development team acquired equipment of sufficient capacity and utilized the IT network infrastructure at Penn State to complete the hardware requirement. Microsoft Studio 6 development software was used to generate the databases. That was later supplemented with web development software from Allaire when the developer experienced difficulty generating web components with the Microsoft product. The initial output schema (and master list of data content) was derived from survey questions developed by the principal investigator. The acquisition of input data, the final component required to begin database system design, would be achieved by making contact with state resources and extracting needed data. On-site interviews were conducted with state representatives of legal, risk management, engineering, and highway agencies to identify appropriate resources and facilitate data acquisition.

**Data Collection and Normalization:** The development team anticipated differences in the content and format of data from state to state. The team collected record layouts of the database structures and data samples from each state. The developer then matched state data elements to those of the master list. Data transfer was accomplished by Internet transmission or download to a portable (removable) storage medium such as floppy diskette or zip drive. The developer then wrote a program to convert the data to a compatible format. Utilization of data normalization techniques would have been necessary for accident files, legal files, and risk management files. The process was initiated for accident and highway files but was later discontinued to redirect the focus of data content to address legal and risk management statistics.

**Processing:** After the data were collected and normalized, they were sorted and transferred to a central repository. A single program processed the data and generated all of the reports that are available on the web. A user-friendly SQL could not be developed in time for the pilot; neither was there time for the development of an extensive glossary to define and qualify data elements. The database system contains more than 400 searchable elements.

**Presentation:** The original presentation schema was abandoned once the insufficiency of data from legal and risk management agencies was known. Researchers eventually decided to use a combination of real and fictitious data in a simulation to demonstrate the functionality of sample applications. A key feature of the web page is the format of the tables. Side-by-side comparisons of state characteristics are accomplished quickly in a familiar format for most users. Refer to web sites presenting data of similar content and scope for comparison.

## Data Collection

**Data Elements:** PTI identified 106 data elements, excluding highway and injury characteristics, as the target content of the database. The 106 data elements were captured in a 52-question survey targeting 67 policy characteristics and 39 legal and claim-related statistics. Interviews with functional and technical managers revealed that the management of requisite state data files was highly decentralized. A variety of state agencies maintain essential data components with little or no overlap in content. This fact made it impossible to link data from one agency's file to that of another. All of the database applications used by state agencies had the capability to export data in a universally compatible format. There was not found among the pilot states a single agency that managed a majority share of the necessary data. The dispersal of data files and the omission of overlapping data content (in the form of key fields, reference fields, and docket numbers) were obstacles that required more time on site to overcome than was budgeted.

**Table D.1 Distribution of Target Content**

Subject Category	Total Responses	Short Answer	Statistics	Response derived from accessible legal / claim files
Sovereign Immunity	9	9		0
Claims Procedures	7	7		0
Claim Statistics	24		24	4
Attorney Statistics	11		11	0
Employment Liability	4		4	NA
Contractor Indemnification	4	4		NA
Insurance	14	14		NA
Training Policy	25	25		NA
Risk Management	2	2		NA
Expert Witness	6	6		0
<b>Totals</b>	<b>106</b>	<b>67</b>	<b>39</b>	
Highway Characteristics	320		320	
Injury Characteristics	22		22	

A separate database file and application would be needed to process highway and injury characteristics. This information was known to be available from state agencies in database structures. What was not known was the scope and format of those files. Engineering and technical data (accident files, highway maintenance files, highway characteristics files) maintained by all of the states was comprehensive. Highway, accident, and maintenance databases often required a half ream of paper to display a full record layout (including a description of values). The size and complexity of databases would prove to require much more time to process than the budget allowed.



**Table D.2**

	California		West Virginia		Florida		Missouri		Washington	
Dept. Resource	Fields	Values	Fields	Values	Fields	Values	Fields	Values	Fields	Values
<b>Legal</b>										
Department File	81	173			25	39			40	160
Claims File										
<b>Risk Management</b>										
Department File					21	140	21	N/A	23	70
Insurance Co.			191	400						
<b>Engineering</b>										
Department File										
Highway	114	510					100+	500	100+	500
<b>Traffic Operations</b>										
Department File	330	1,320								
State Info Services	56	280			114	392			90	720
Accident File			170	200						
<b>Total</b>	<b>581</b>	<b>2,283</b>	<b>361</b>	<b>600</b>	<b>160</b>	<b>571</b>	<b>121+</b>	<b>500+</b>	<b>153</b>	<b>1,450</b>
<b>Aggregate</b>	<b>1,255</b>	<b>4,904</b>								

Survey questions about policy issues required multiple-choice or short-answer responses. Statistics required the compilation of values from legal files and claim files. The content of database files in the legal and risk management agencies visited were function specific. They did not maintain information from which the target data could be derived. It was obvious that managers could not have relied on those files exclusively to generate the statistical data requested in the AASHTO study.

**Onsite Interviews:** Representatives from legal agencies supporting state departments of transportation were asked to participate in onsite interviews with the project team concerning the existence, maintenance, and content of pertinent electronic files. IT professionals and functional managers were also in attendance. All three groups made every effort to be helpful. One result of the explosive proliferation of information technologies has been the development of a knowledge and communication gap between functional managers and IT technicians. Each understands his or her area of expertise with little or no common overlap. Such was the case in the agencies visited. Technicians typically didn't fully understand the business process and functional personnel had only a cursory knowledge of the technical processes. This circumstance manifested in technicians having complete access to data but no knowledge of their content. Functional managers were aware of the existence and content of data, but had

no specific knowledge as to how the data were generated, maintained, structured, or stored.

**Table D.3**

<b>#</b>	<b>Information</b>	<b>Expected Resource</b>	<b>Referred Resource</b>	<b>Alternative Resources</b>
1	Sovereign Immunity Issues	Legal Agency		None
2	Claims Procedures	Risk Mgmt.		None
3	Lawsuit Procedures	Legal Agency		None
4	Contractor Indemnification	Legal Agency, Risk Mgmt.		None
5	Insurance Policies & Issues	Legal Agency, Risk Mgmt.		None
6	Training	Legal Agency, Risk Mgmt.		None
7	Risk Mgmt. Structure	Risk Mgmt.		None
8	Claims Statistics	Risk Mgmt.	Limited Content:	None
9	Lawsuit Statistics	Legal Agency	Limited Content: Legal Agency	None
10	Attorney Statistics	Legal Agency	Limited Content: Legal Agency	None
11	Injury Characteristics	Legal Agency	Limited Content: Legal Agency	State Police Accident Report, DMV
12	Highway Characteristics	Legal Agency	Limited Content: Legal Agency	Hgwy Engineering, BTS
13	Accident Statistics	Legal Agency	Limited Content: Legal Agency	State Police Accident Report, DMV
14	Driver Statistics	Legal Agency	Limited Content: Legal Agency	State Police Accident Report, DMV
15	Vehicle Statistics	Legal Agency	Limited Content: Legal Agency	State Police Accident Report, DMV
16	Highway Statistics	Legal Agency	Highway Engineering	State Police Accident Report, DMV
17	Employee Statistics	Risk Mgmt.	Risk Mgmt.	None

**Data Availability and Content:** The expected result of the interviews was the identification of data resources with content related to the subject data, the acquisition and record layouts that defined the structure and format of the data, and the acquisition of the data sample. With the exception of Florida and California, the file of **legal** agencies did not maintain accident, injury, highway or judicial *statistics* as a part of their case file. These agencies generally managed case information in word processing documents rather than databases. These data were the essential component of the project. This project's essential legal statistics could be obtained by having a clerk track the few relevant case statistics on a one-page document for submission to the project team each month. Claim statistics were available from **risk management** in all states except West Virginia. **However, the data maintained by these agencies was function-specific and would not support the calculated information** required to complete the AASHTO study. It should be noted that in each instance where a database was utilized, a mechanism existed to export data in a compatible format, or the data structure was maintained in a universally compatible format.

**Table D.4**

	California	West Virginia	Florida	Missouri	Washington
<b>Legal Department Information</b>					
Existence of "case status" database or flat file	Yes	No	Yes	Yes	Yes
Existence of electronic resources from which a "case status" might be derived		Yes. Currently maintained on the states' behalf by the AIG insurance company	Yes	Yes	Yes
Existence of "case status" paper data sheet	Yes. derived from database	No	Yes. derived from database	No	Yes
Availability of file record layout	Yes		Yes	No	Yes
Database structure supports target content	Yes		No	No	No
Database is populated	No		Yes	No	Yes
Sample copy of electronic data in-hand	Yes		Yes	Yes	Yes
Paper representation of electronic data in-hand	Yes		Yes	Yes	Yes
Methodology for a single transfer of data (short-term scenario)	Yes		Yes	Yes	Yes
Methodology for periodic transfer of data (long-term scenario)	TBD		TBD	No	No
Expert witness compilation	Available through another resource		Yes	Yes	No

Accident, driver, injury, and highway statistics were made available from a variety of transportation agencies. However, none of them maintained a reference field that linked accident records with legal records or risk management records, or highway event (highway maintenance) records, or any combination of the four. **Through the course of the investigation, it was discovered that linked information was available through the departments of motor vehicles (DMV) or the states' electronic information offices.** Access to relevant files in these resources would have required prior knowledge of their existence. Unfortunately, such information was not available prior to the scheduling of interviews. The interview team did collect record layouts of existing data files when available and personally inspected data files of target agencies to verify the applicability of data content for this project. **None of the states would have been able to complete the AASHTO survey by exclusive use of the data files that were made accessible to the interview team.**

**Table D.5**

	California	West Virginia	Florida	Missouri	Washington
<b>Traffic and Highway Information</b>					
Existence of <b>central traffic events database</b> or flat file	Yes	Yes	Yes	Yes	Yes
Accessibility of file	Accessible	TBD	Accessible	Derivative accessible	Yes
Availability of file record layout	In-hand	TBD	In-hand	Yes	Yes
Sample copy of record layout in-hand	Yes	No	Yes	No	Yes
Sample copy of electronic data in-hand	Yes	No	Yes	No	Yes
Paper representation of electronic data in-hand	Yes	Yes	Yes	No	Yes
Methodology for a single transfer of data (short-term scenario)	Yes	No	Yes	Yes	Yes
Methodology for periodic transfer of data (long-term scenario)	TBD	No	TBD	No	Yes
Existence of <b>central highway environment database</b> or flat file	Yes	Yes	Yes	Yes	Yes
Accessibility of file	Accessible	Accessible	Accessible	Not available	Yes
Availability of file record layout	Available	Available	Available	Not available	Yes
Sample copy of record layout in-hand	Yes	Yes	Yes	No	Yes
Sample copy of electronic data in-hand	No	Yes	No	No	Yes
Paper representation of electronic data in-hand	Yes	Yes	Yes	No	Yes
Methodology for a single transfer of data (short term scenario)	Yes	Yes	Yes	No	Yes
Methodology for periodic transfer of data (long term scenario)	No	No	Yes	No	No

**Research to Identify Alternative Data Sources:** Since the data content from legal and risk management agencies proved insufficient to meet reporting requirements set by the principal researcher, a new development schema was required to make use of pertinent data from alternative resources. The developer spent significant time researching alternative legal and claim statistic data resources in an attempt to identify relevant statistics that may have been gathered for another purpose. It was during this process that the researchers became aware of federal and state authorities that maintained the target data. Access to these files would require additional on-site interviews with state electronic information officers and agencies’ directors to explain the research objectives and obtain permission to access record layouts and data. The project budget would not support the additional interviews. While unsuccessful with legal and claim statistics, the developer identified several state and federal resources that provided accident statistics and highway statistics. It should be noted that in each instance where a database was utilized by an agency, a mechanism existed to export data in a compatible format, or the data structure was maintained in a compatible format.

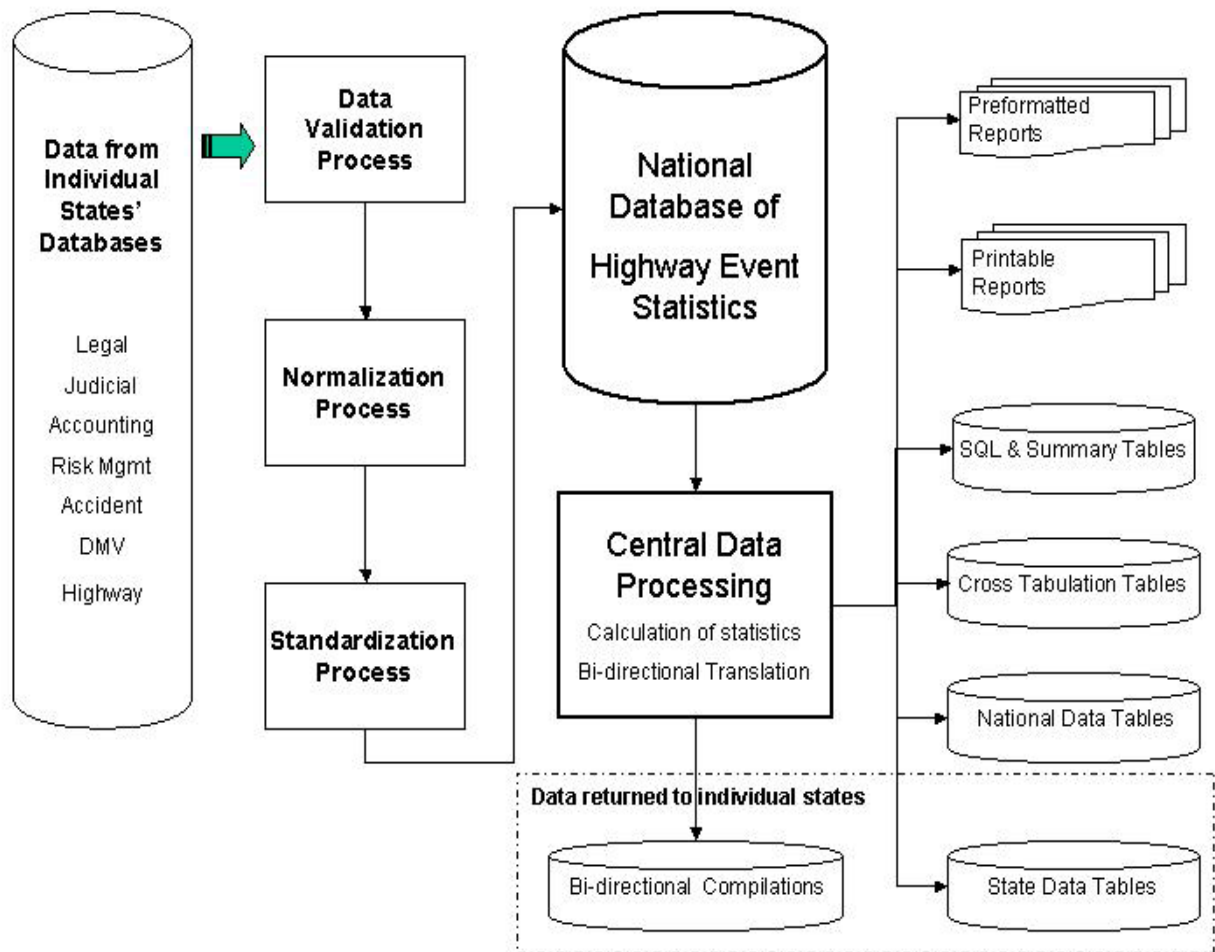
Table D.6

	California	West Virginia	Florida	Missouri	Washington
<b>Claim/ Financial/ Adm. Information</b>					
Electronic file of case expense data	Legal Dept. – Some, but not enough for analysis. Account Dept. - will provide more complete data.	All such information is recorded and maintained by <b>AIG</b> on behalf of the state's risk management department.	Yes. Maintained by risk management.	Yes	Some
Existence of reserve and liability calculations in file data	Yes	Probably	Yes	Yes	Yes
Existence of settlement values in file data	Yes	Probably	Yes	Yes	Yes
Existence of resolution or judgment in file data	Yes	Probably	Yes	Yes	Yes
Existence of paper data file	Yes. Derived from database.	No. If it exists it is not readily accessible.		No	Yes
Availability of file record layout	Yes	Probably	Yes	No	No
Sample copy of record layout in-hand	Yes	No	Yes	No	No
Sample copy of electronic data in-hand	Yes	No	Yes	Yes	No
Paper representation of electronic data in-hand	Yes	No	Yes	No	No
Methodology for a single transfer of data (short-term scenario)	Yes	No	Yes	Yes	No
Methodology for periodic transfer of data (long-term scenario)	TBD	No	TBD	No	No

## Processing

**Development Process:** The researcher/database developer developed the database system from information gained in the interview process and supplemented by alternate state and federal transportation information services. This conserved time that would usually be spent normalizing accident and highway data from each state. Since insufficient legal and risk management statistics were available in a format quickly adaptable for database use, highway and accident statistics grew to become the prominent content of the database. The database program includes a program that generates a central database, topic-specific data tables, and tables that provide the content for preformatted reports. The database can be set to update information instantly or at a predetermined time of the day or week. The following diagram displays the planned data environment scheme of information flow from the states to a central database. The scheme was not fully realized in this project.

Figure D.1



## Presentation

**Web Site:** Once the central database system was developed, attention focused on the development of a web site. Usability objectives for the web site required extensive redesign of standard database development techniques to simplify the visual presentation and access data quickly. The web site includes an entry form for participants to update state information, preformatted reports organized by topic, and a chat room forum.

## Conclusions

**The data required to complete the AASHTO study do exist in electronic format.**

- State agencies maintain detailed and consolidated electronic files that support **accident, injury, highway, and engineering** issues and **statistics** addressed in the AASHTO study. Securing permission to access these files is a comparatively simple and straightforward process. The consolidated file structure is suitable for immediate analysis.

- **Claim and lawsuit data** also exist in electronic files. However, the files lack scope and detail. They are typically distributed among several legal, administrative, accounting, and judicial state agencies and outsourced service providers. Permission to access all of the necessary files will require penetration of executive and technical layers of several state agencies.

**The broad dispersal of claim and lawsuit data will require an analyst to review, assess, and extract state resources to generate a consolidated data file.**

- The major obstacle to collecting appropriate data is obtaining permission to review record layouts and access pertinent data files from all the agencies managing pertinent data.
- A second obstacle of importance is the existence of key fields or identifiers in that agency's data structure. These identifiers enable the association of related statistics to a single record. If the identifiers exist, then extraction and consolidation can be a simple process. However, if they do not exist, analytical techniques would be required to sort data and match them to the appropriate record.

**Converting the data into useful information will require analysts to normalize values, standardize terms, and design data systems that accommodate bi-directional translation.**

- The analyst must understand all of the terms and values associated with the collected data from each agency before the normalization and standardization process begins.
- After normalization the analyst must develop a dynamic standard data structure based on "least common data values" (analogous to "least common factor" or "prime factors" in mathematics).
- The analyst must develop a translation process to convert data from their original form to the standard and back again.

**The collection process will require constant updating to accommodate changes to information management practices among state agencies.**

**A bi-directional translation process will promote greater participation among states.**

- Bi-directional translation of the data will enable states to make greater use of the content of each data table.
- Such a feature would eliminate the learning curve for analysts in each agency.

### **Short-Term Solutions**

In the short term, legal and risk management agencies could provide the case statistics addressed in the survey by having an office clerk complete a simple form (Figure D.2) once each month. The form would require no more than 2 person-hours each month. This would allow **all states** to participate in the AASHTO survey. States operating electronic information systems and paper-based systems would have an **easy** and **uniform** method of providing legal and case management statistics. This form could be provided on a web page that clerks with Internet access could complete monthly. All other data could be accessed from electronic files maintained by the state electronic information services or the department of motor vehicles.

## Recommendations

Sufficient data resources exist to obtain the information specified in the AASHTO study and more. The initial target content of the project may focus on risk management. However, the data content required to answer the AASHTO study could support decision-making in a number of other functional areas. The utility of those data could be far reaching, since other joint federal and state transportation-related organizations could benefit from that same information. Additional funding partners could develop, especially if a national accident database were established. Federal agencies would find components of the data useful. The following is a complete list of recommendations.

- Proceed with the national project.
  - Refine the existing data model (content and presentation objectives).
  - All states can use the form to complete legal and case management statistics.

Figure D.2

Departmental Information			Exported data									
Internal Case No.	Accident File Ref.	Police Report Ref.	External Case Num	File Date	Injury	Deficiency	No. of Claimants	Withdrawal Date	Settlement Date	Settlement	Judgement	Award
			1									
			2									
			3									
			4									
			5									
			6									
			7									
			8									
			9									
			10									

- AASHTO members should only need to update a short form on the web site annually.
  - Seek the assistance of state Chief Information Officer.
    - Obtain permission to access data resources, record layouts, and data.
    - Stress the need for statistics rather than personal data.
    - Stress the avoidance of personal identification data.
    - Obtain identification of data resources and managing technicians.
  - Establish an FTP site to collect data.
  - Conduct on-site interviews.
    - Obtain and review record layout for each potential data source.
    - Establish record content list with each data resource.
    - Establish a transfer method.
    - Establish a monthly transfer date.
  - Develop the database system with a dynamic data standard (the programming entity should be prepared to accommodate the metamorphosis of data structures from state information systems in transition).
  - Develop an automated data collection and reporting process.
    - Establish an interactive web site.
    - Provide a secure FTP area.



- Provide direct access to copies of database files in their entirety.
- Provide for preformatted downloading of reports.
- Provide SQL area.
- Provide chat room access.
- Development of an expert data resource should be the goal of the project.
- Provide a research function to expand relevance of content data.
- Utilize contractors with integrated skills (business model and programming skills).
- Seek funding partners after initial site and application are complete.