



Oregon State
University



Portland
State
UNIVERSITY

SAFETY INVESTIGATION MANUAL

CHAPTER 3: OVERVIEW OF DATA TYPES AND SOURCES

Online Training

Presented by:

Dr. David Hurwitz, Professor
Oregon State University

Data Types and Sources

- Several types of data required for safety investigations
 - In-Office and Field Data
- Several sources and tools available
- 5 basic elements of information:
 - Highway name, number, and milepost
 - Functional class and rural, urban or suburban character
 - Current traffic volume characteristics
 - Crash data
 - Roadway Geometry and Design

Functional Class

- Rural or Urban designation
 - Interstate
 - Other Freeway & Expressway
 - Other Principal Arterial
 - Minor Arterial
 - Major Collector
 - Minor Collector
 - Local
- List of all Oregon highway functional class available
 - *Functional Classification and National Highway System Status of Oregon Highways*

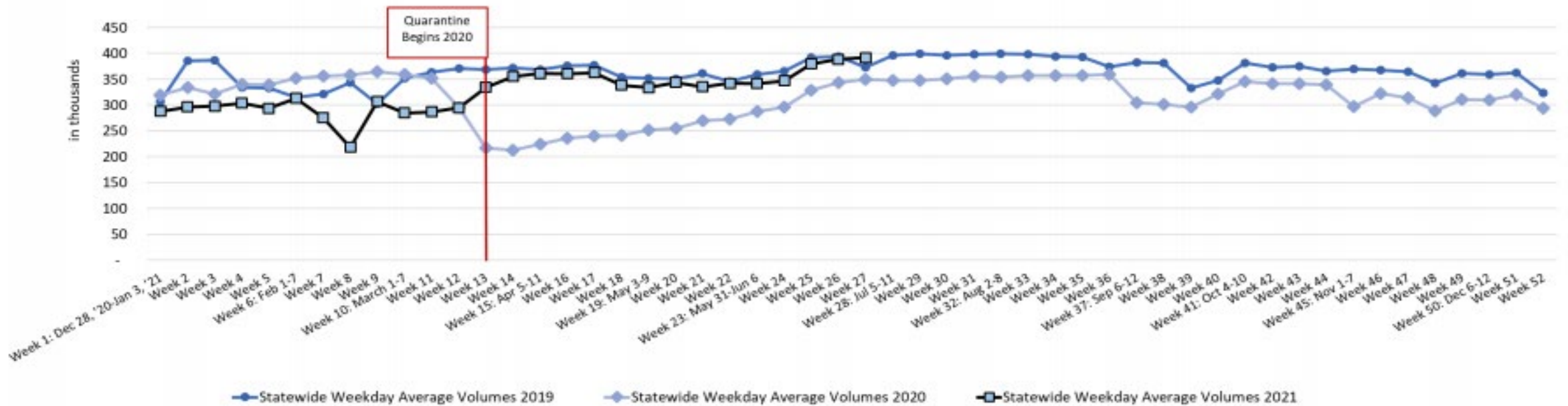


Oregon interstate and local road examples

Traffic Volumes

- Key input for safety investigation process
- Collected by the Transportation Systems Monitoring (TSM) Unit
 - Traffic counts available on ODOT's Traffic Counting webpage.
- Minor approach volumes often required
 - If unavailable, develop best estimates
 - Consult TPAU for possible methodologies

A. Statewide Weekday Average Traffic Volumes 2019-2021



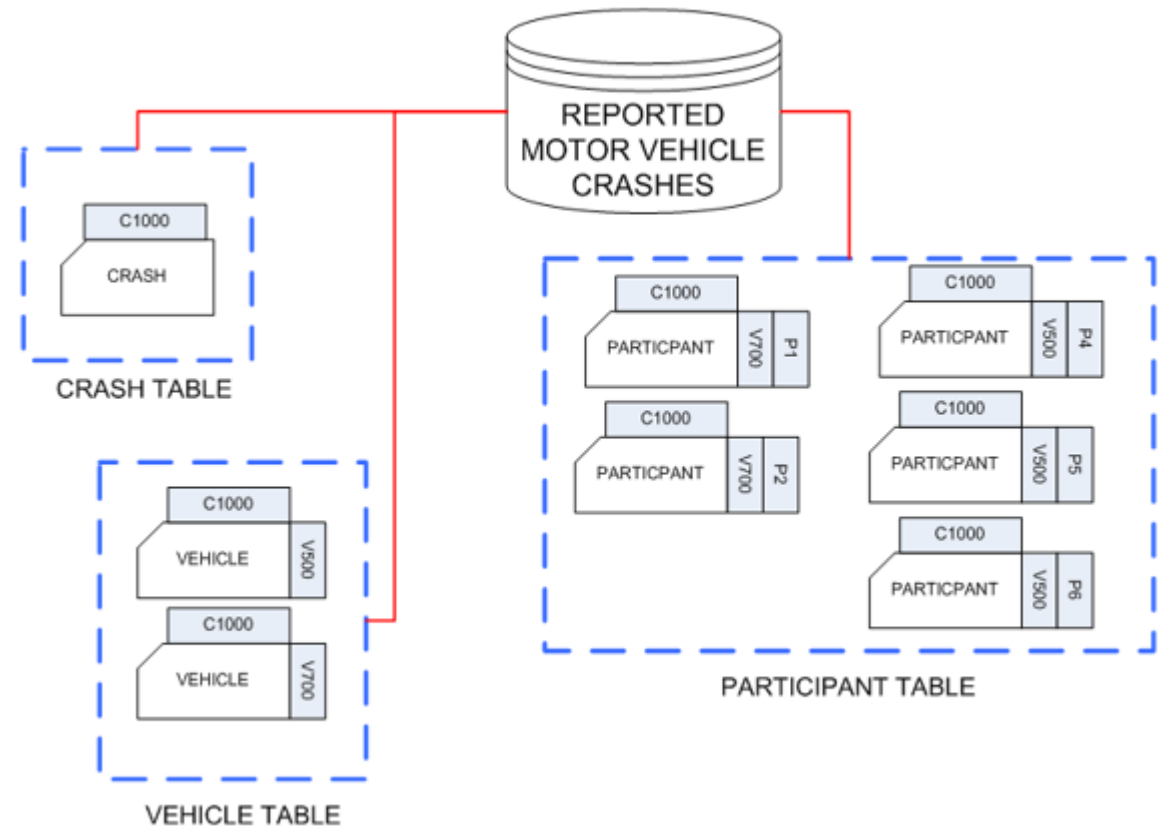
Statewide Weekday Average Volumes 2019

Statewide Weekday Average Volumes 2020

Statewide Weekday Average Volumes 2021

Crash Data

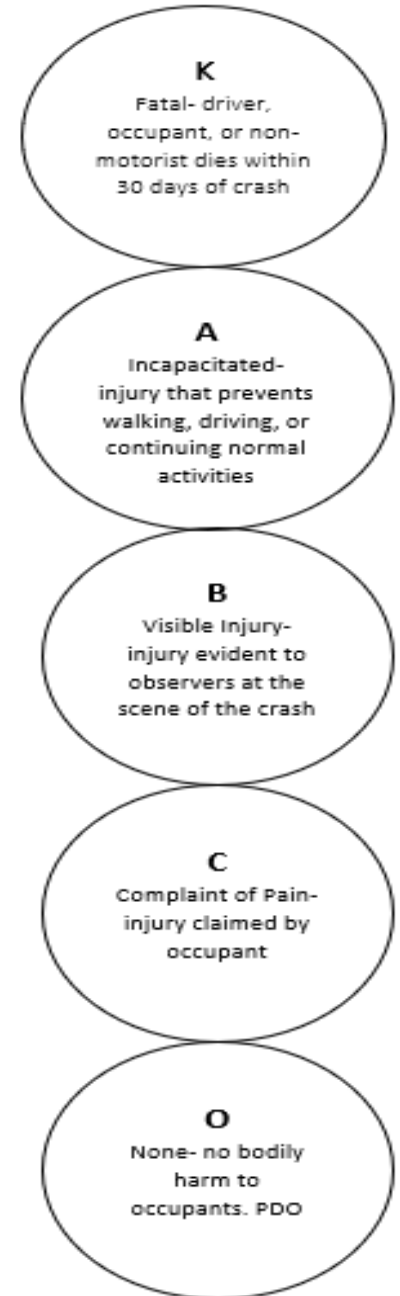
- Crash data collected by ODOT's Crash Analysis and Reporting (CAR) unit
 - Crash Data System and Crash Coding Manual are key tools
 - Vehicle, driver, passenger information
 - Crash summary, severity, location, date, time, weather, etc.
 - Available by year, location, vehicle direction, characteristics, or comprehensive reports



Crash database schematic

Crash Data

- Crashes coded first by injury severity
 - Five-point KABCO scale
- GIS tools available for visualization
 - Oregon Traffic Data Explorer
- Safety Priority Index System (SPIS)
 - Methodology for screening highway network for identify investigation sites
 - Scored on 3 years of data and considers crash frequency, rate, and severity



Roadway Geometry and Design

- Highway Inventory Reports
 - Lane Report
 - Vertical Grade Report
 - Horizontal Curve Report
- TransGIS
- Digital Video Log
- Google Maps
- As-Built Plans



[Click on Image \(292010\) to Expand](#)

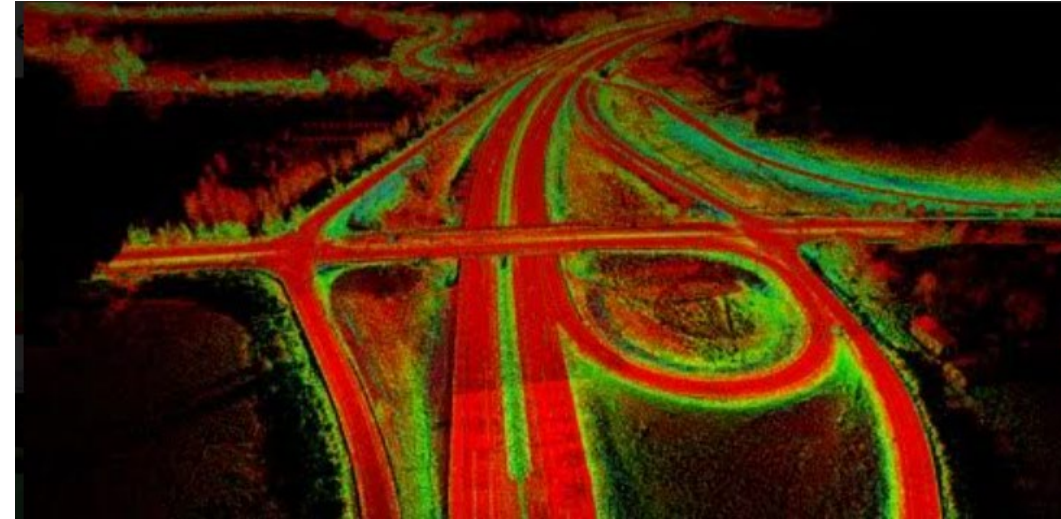
[Click on Image \(292010\) to Expand](#)

Incr. Decr. Req. MP: Min.: Max.: Inc Amt:

Digital Video Log

Other Data Sources

- Several other data sources may be beneficial:
 - Recent newspaper and related media
 - Mobile LIDAR Point Cloud Data
 - Local police agency input and/or reports
 - Maintenance records and/or input
 - Blueprint for Urban Design (BUD)
 - Transportation Safety Action Plan (TSAP)
 - All Roads Transportation Safety (ARTS)
 - ODOT Safety Implementation Plans
 - Regional Integrated Transportation Information System



LIDAR Point Cloud Data

Field Data

- Additional information regarding site visits described in Chapter 5
- Condition diagrams
 - Drawing of location with dimensions
 - Traffic control devices
 - Adjacent land use
 - Pavement type
 - Date and time of visit

