

# **Before and After Travel Time Studies**

## ***Congestion Performance Measurement Data Collection***

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**Washington State  
Department of Transportation**

# Before and After Travel Time Studies

## “Data Collection”

### Overview

- Reason for the travel time studies
- Collection of traffic and travel time methodology
- Use of current and new traffic monitoring technologies
- Resources available
- Example of Results from Travel Time Studies
- Reporting Results

# Reason - WSDOT Strategic Initiative #4

Deliver high quality capital projects that add to and improve the state's transportation system on-time and on-budget.

- **Capital projects for reducing congestion and travel times should have their effectiveness measured**

- **Within WSDOT until recently only Northwest Region has had the equipment to accurately measure travel times**

- **To expand travel time data collection beyond Northwest Region, funds for new equipment and two FTEs have been provided to the TDO**



*Bridge construction: SR 18 over SR 169*

# Before & After Study Travel Time Data Collection Methodology

- Before a congestion relief capital project is begun, travel times and traffic volumes will be recorded during hours known to have congestion (speeds below posted)
- After the project is completed, traffic volumes and travel times will again be collected
- Data will be compared to determine a projects effectiveness in (a) decreasing travel times or (b) increasing traffic volume without increasing congestion



*Spike+ camera mounted on a light standard*

# Current and New Traffic Monitoring Technologies



*Electronic Crew installing Permanent Traffic Reporting site sensors*



*Short Duration Traffic Collection Field Crew Setting Road Tubes*



*New Technology – Infrared Traffic Loggers - TIRTL*



*New Technology – License Plate Readers*

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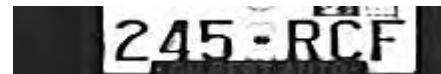
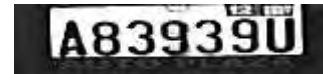






# License Plate Reader Output

- Sample of License Plates from Walla Walla Study

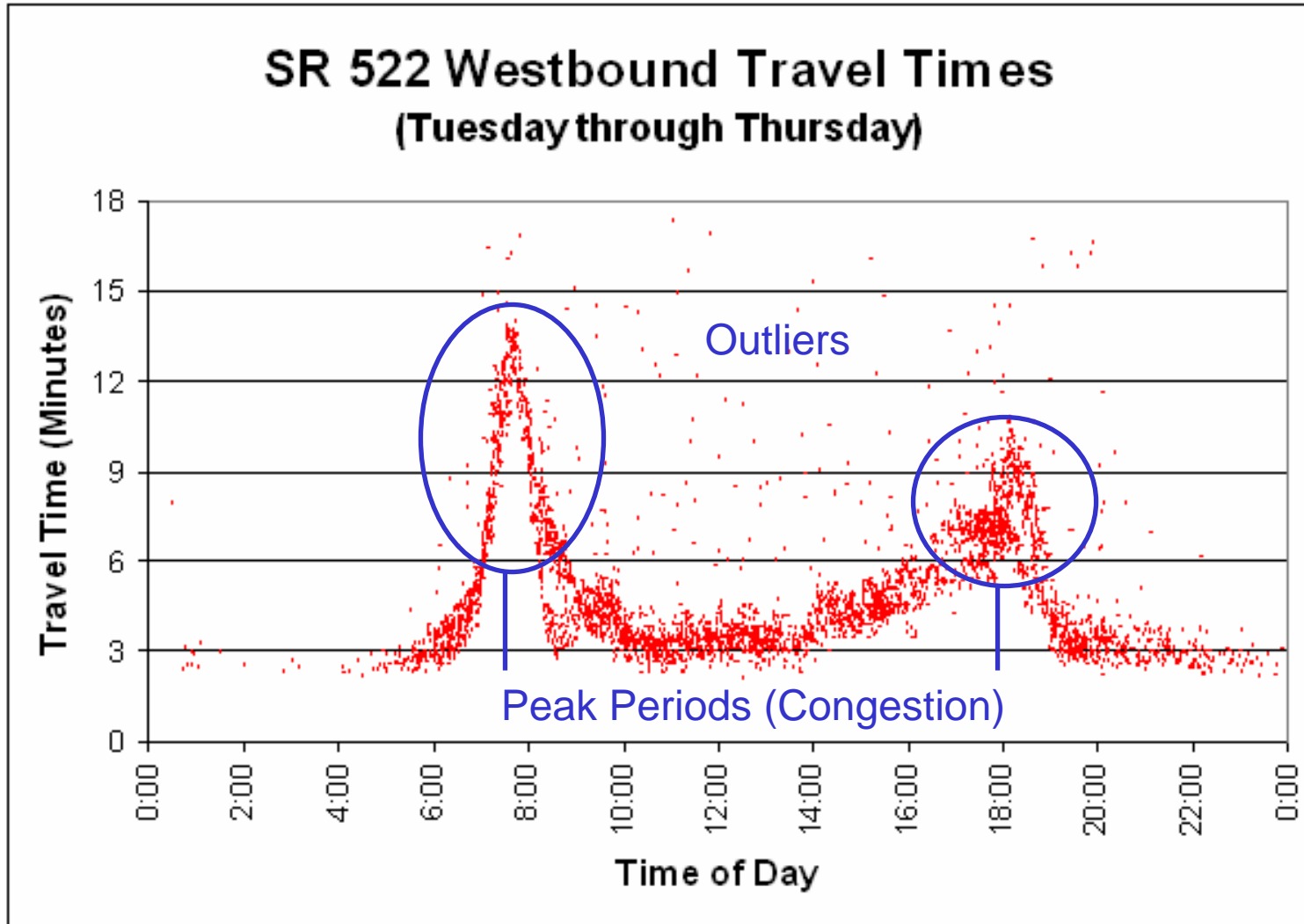


# Equipment Available and Data Collected

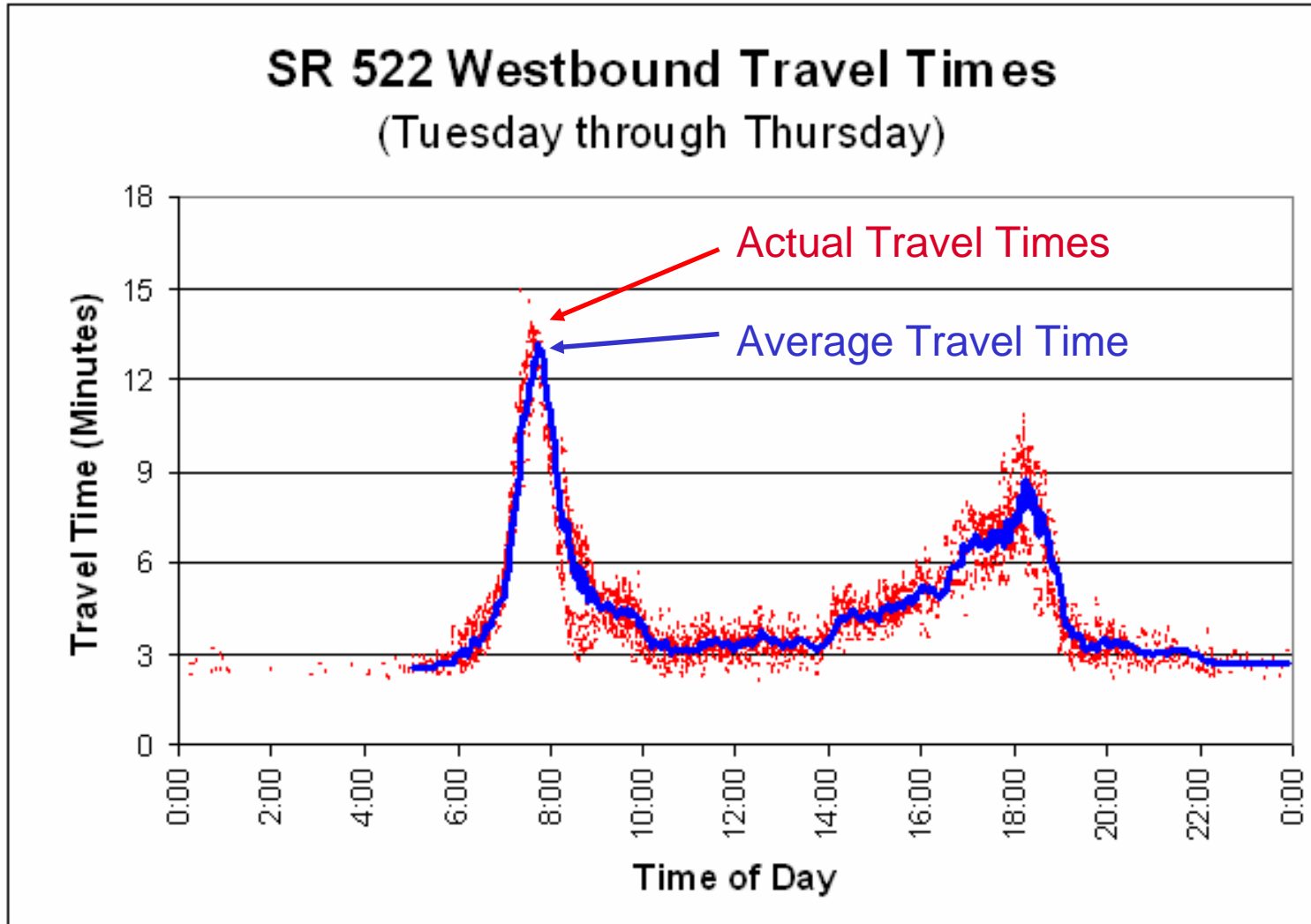
## ■ Traffic Count Data

- Permanent Traffic Reporting Sites (Volume of traffic, Type of vehicles, Speed of vehicles) for 24 hours a day 7 days a week
  - International Road Dynamics (TCC540) and Diamond Traffic Products (Phoenix)
- Short Duration Traffic Counts (Volume of Traffic, Type of Vehicles depending on location of sensors, Speed of Vehicles) normally taken for 72 continuous hours
  - Diamond Traffic Products (Unicorn Limited)
  - Control Specialist Company (The Traffic InfraRed Data Logger – TIRTL)
  - Wavetronics (Microwave Counter)
  - EIS Corporation (RTMS – Microwave Counter)
  - Coral Sales Company (Groundhog – currently being tested)
  - Pips Corporation (Automated License Plate Reader – ALPR) (travel time)
  - CellInt - Cell Phone Tracking (travel time)
  - Commercial Vehicle Information System (CVISN) Tag Readers (travel time)

# Travel Time Data Example



# Travel Time Data Example (Outliers Removed)

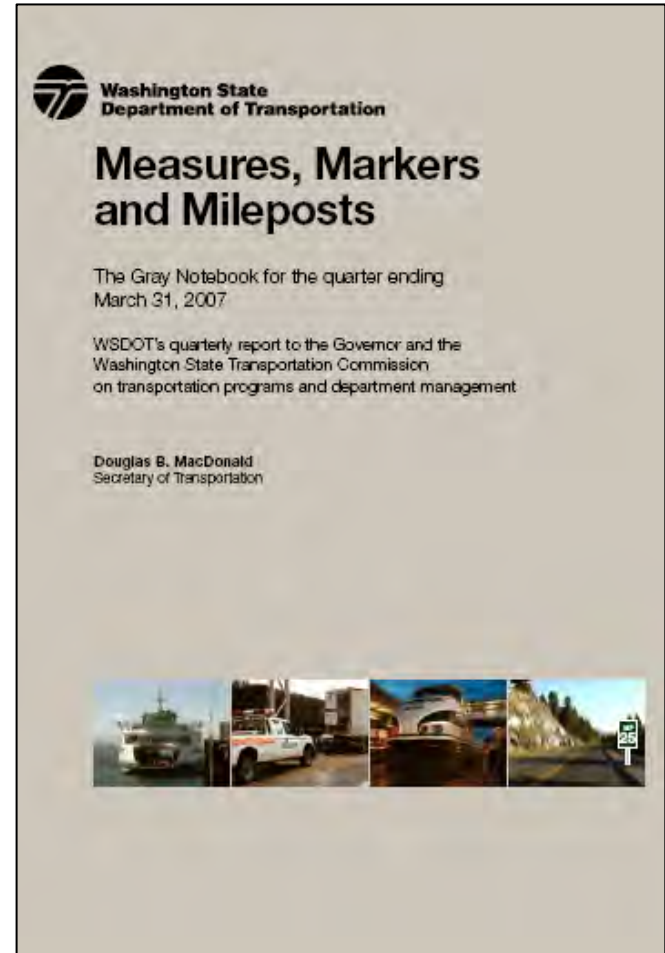




# Performance Measure Reporting

Once data from both before and after a capital project have been collected:

- **Travel times and traffic volumes will be compared by the Travel Analysis Branch of the Transportation Data Office (TDO)**
- **Findings will be reported to the Systems Analysis and Program Development Office (which manages the highway construction program)**
- **Findings will also be provided to the Strategic Assessment Office for possible reporting in the Gray Notebook**



*WSDOT's Gray Notebook*