WTSC TRAFFIC CRASH DATA

What's it cover

How to get it

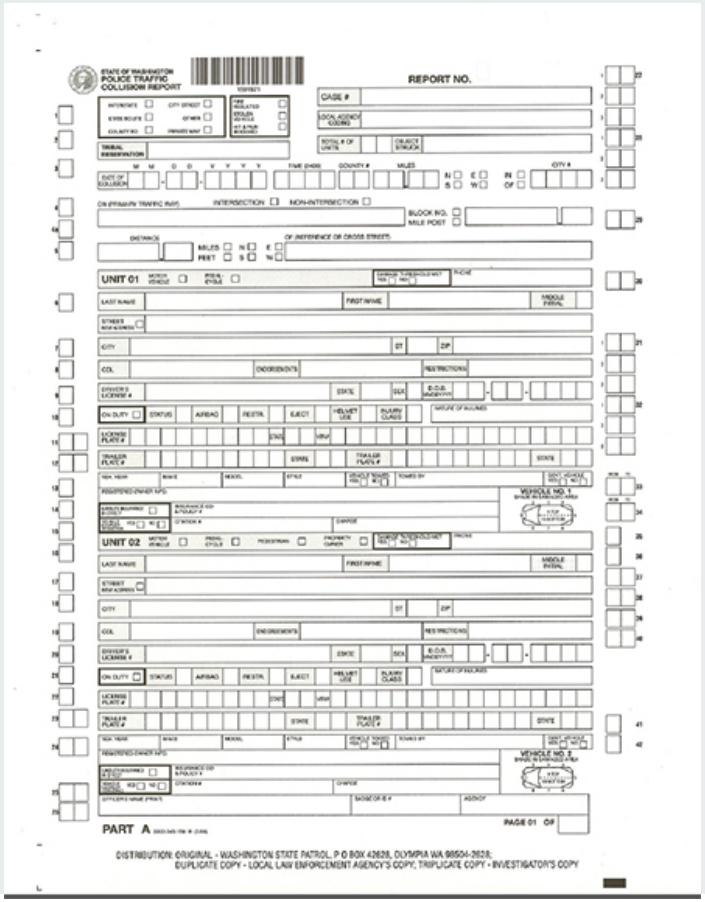
HOW IT STARTS.

- Someone does something stupid* on the road and there's a crash.

**Probably*. Based on impaired/distracted/speeding driver numbers in the 2013 State Strategic Highway Safety Plan

LIFE CYCLE OF COLLISION DATA

- Law enforcement investigation produces Police Traffic Collision Report (PTCR) – paper or electronic


STATE OF WASHINGTON
POLICE TRAFFIC
COLLISION REPORT

REPORT NO.

CASE #

UNIT 01

UNIT 02

PART A

PAGE 01 OF

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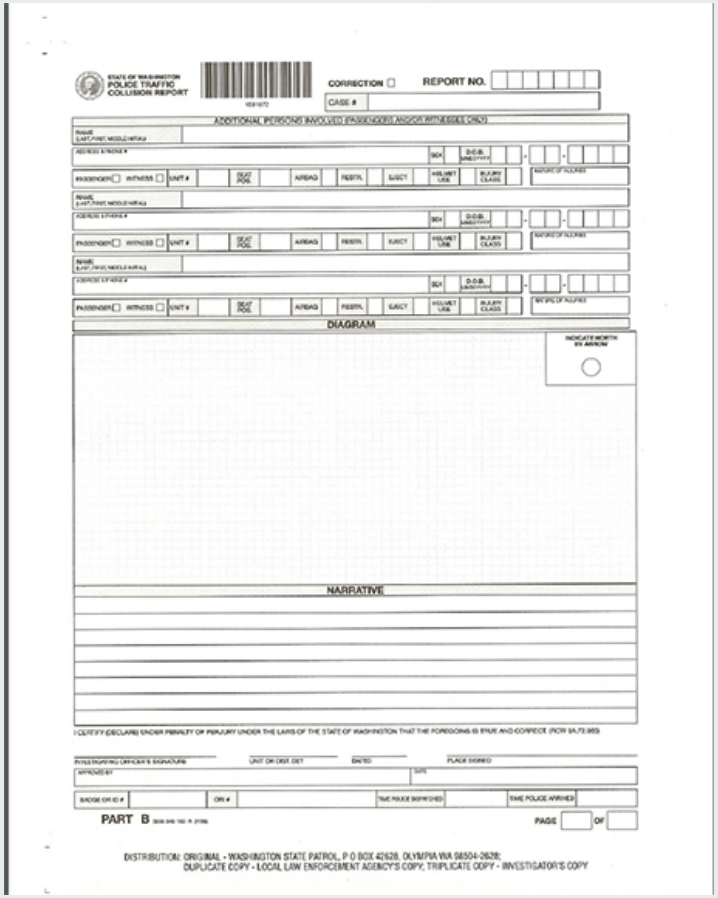
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CORRECTION

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CASE #

ADDITIONAL PERSONS INVOLVED (PASSENGERS AND/OR WITNESSES ONLY)

DIAGRAM

NARRATIVE

PART B

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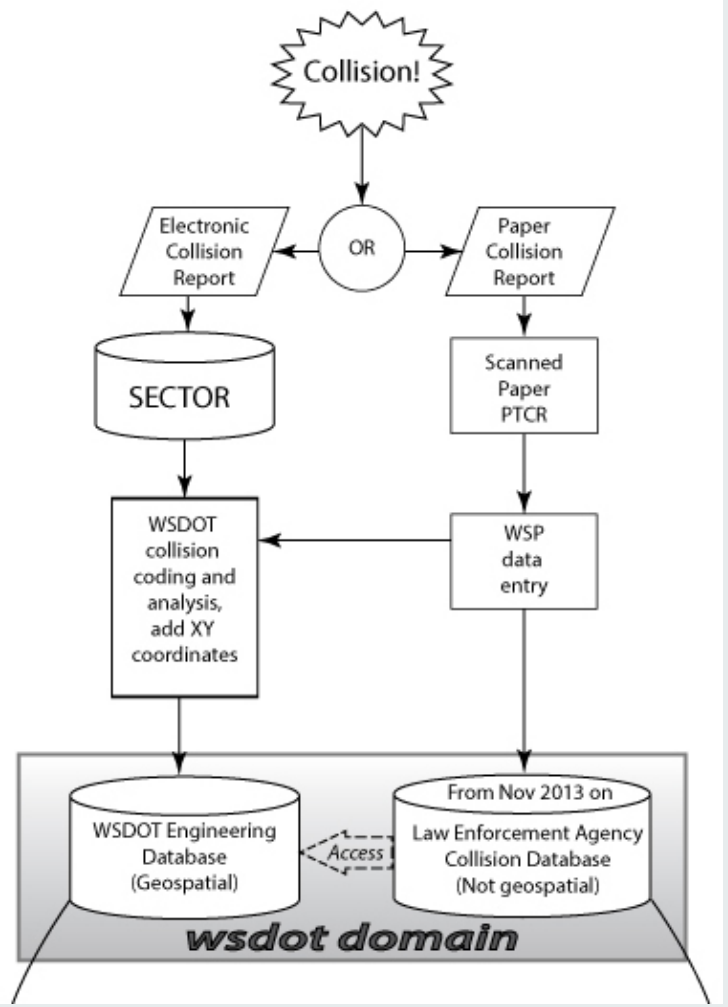
LIFE CYCLE OF COLLISION DATA

- PTCR information becomes collision data in two semiparallel processes, FARS (Fatality Analysis Reporting System) and CLAS (Collision Location Analysis System)
  - These then are the two primary sources of collision data for WTSC



2 SOURCES - 1

- FARS – Fatality Analysis Reporting System
  - NHTSA-maintained (Federal, public)
  - WTSC responsible for data entry/coding
  - Derived from PTCR, Police Traffic Crash Report
  - Only fatalities
  - ~400 fatal crashes/year statewide, ~430 fatalities
  - Better quality geospatial data from 2008 on (10 – 30% lat/long values missing prior to 2008)

2 SOURCES - 2

- CLAS – Collision Location Analysis System
  - WSDOT (State, sort of public)
  - WSDOT responsible for data entry/coding
  - Derived from SECTOR, State Electronic Collision and Ticketing Online Reporting, + PTCR
    - WSP + ~40 local/municipal LEO
  - Fatalities, Serious Injuries, Minor Injuries, PDO
  - ~100,000 crashes statewide
  - Geospatial data from 2010 on

WTSC AND FARS DATA - 1

- PTCR processed by FARS coder
  - Crash level, driver level, person level
  - Standardized set of precrash, crash, postcrash conditions
  - Standardized set of codes for impairment, distraction, etc.
  - And of course, we're all GIS people asking *how's it get located?* Answer: by clicking on a map to set a point, based on
    - Geocoding
    - Crash narrative + diagram
    - Latitude and longitude values

WTSC AND FARS DATA - 2

- After NHTSA level data entry, WTSC adds binary flags for analysis/subsetting
  - Drug and/or alcohol impaired, distracted, driver age category, etc.
  - Multiple categories for strategic highway safety plan
  - More than 140 fields total including specifics from
    - Toxicology reports
    - Death certificates
    - Dept of Licensing

- WTSC FARS data slightly different than NHTSA because
  - They freeze their files after 1 year, we don't have to
  - PTCRs, death certificates can come in after freeze date

WTSC AND CLAS DATA - 1

- WSDOT codes crash according to engineering needs
  - Drug and/or alcohol impaired, distracted, driver age category, etc.
  - Standardized but different set of precrash, crash, postcrash conditions
  - Standardized set of codes for impairment, distraction
  - And of course, we're all GIS people asking *how's it get located?* Answer: by clicking on a map to set a point, based on
    - Geocoding
    - Crash narrative + diagram
    - Somewhat more accurately than FARS coder, it could be argued, with commercial geocoding service + engineering drawings - BUT
    - Washington State Plane South northings and eastings

WTSC AND CLAS DATA - 2

- WSDOT ships quarterly file to WTSC
- WTSC processing in SAS adds codes, fields to match FARS based on WSDOT coding
- Crosswalk with FARS to highlight different fatal counts
  - FARS includes fatalities on "publicly accessible roads," such as DNR forest development roads (non-gated) that CLAS excludes
  - CLAS includes non-traffic deaths on roadways that FARS excludes (rockslide or falling tree fatalities, skateboarder hits utility pole)
  - CLAS excludes fatalities happening more than 20' from roadway
  - CLAS relies on PTCR – FARS will make do with whatever info available

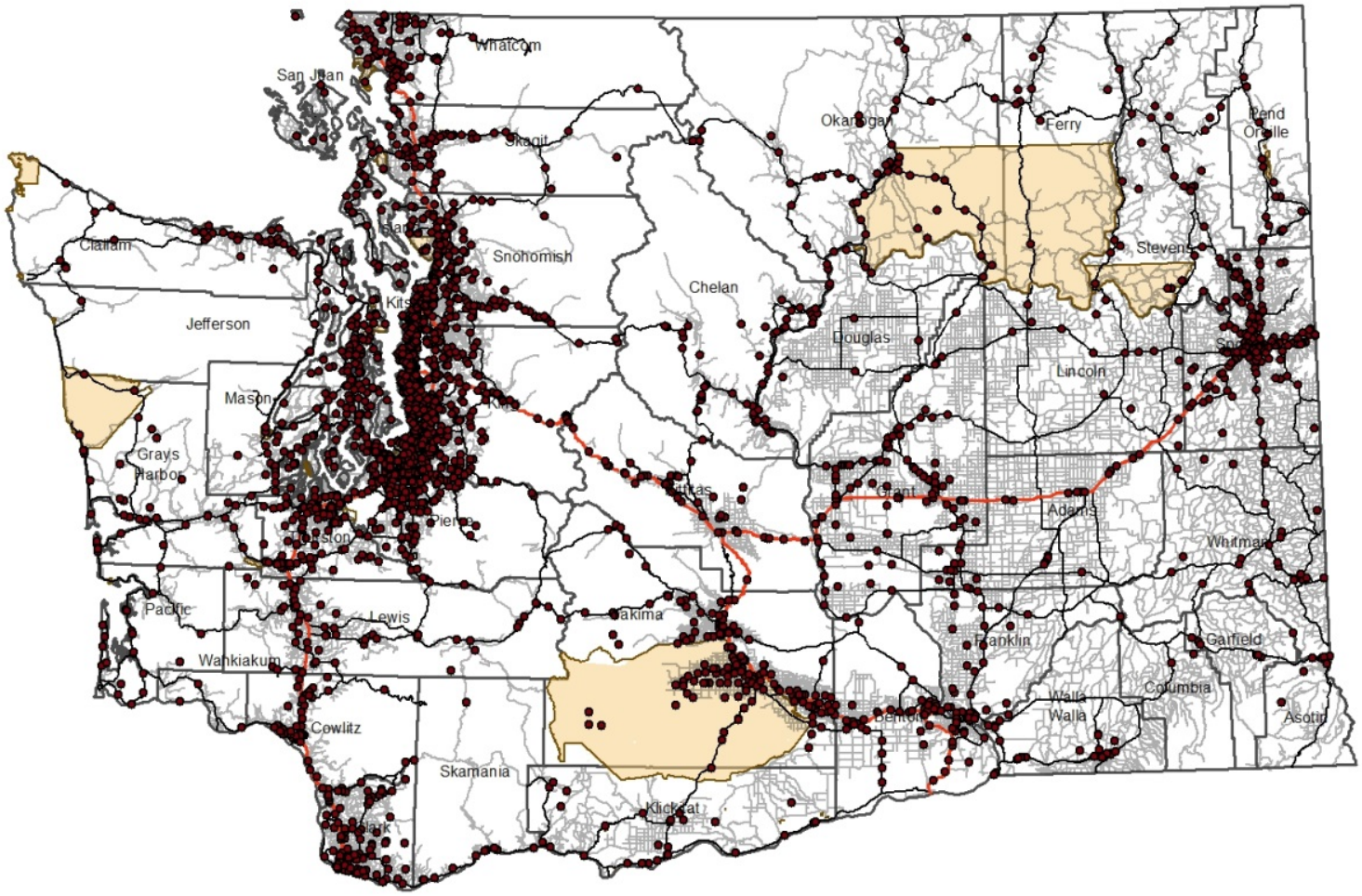
WTSC AND CLAS DATA - 3

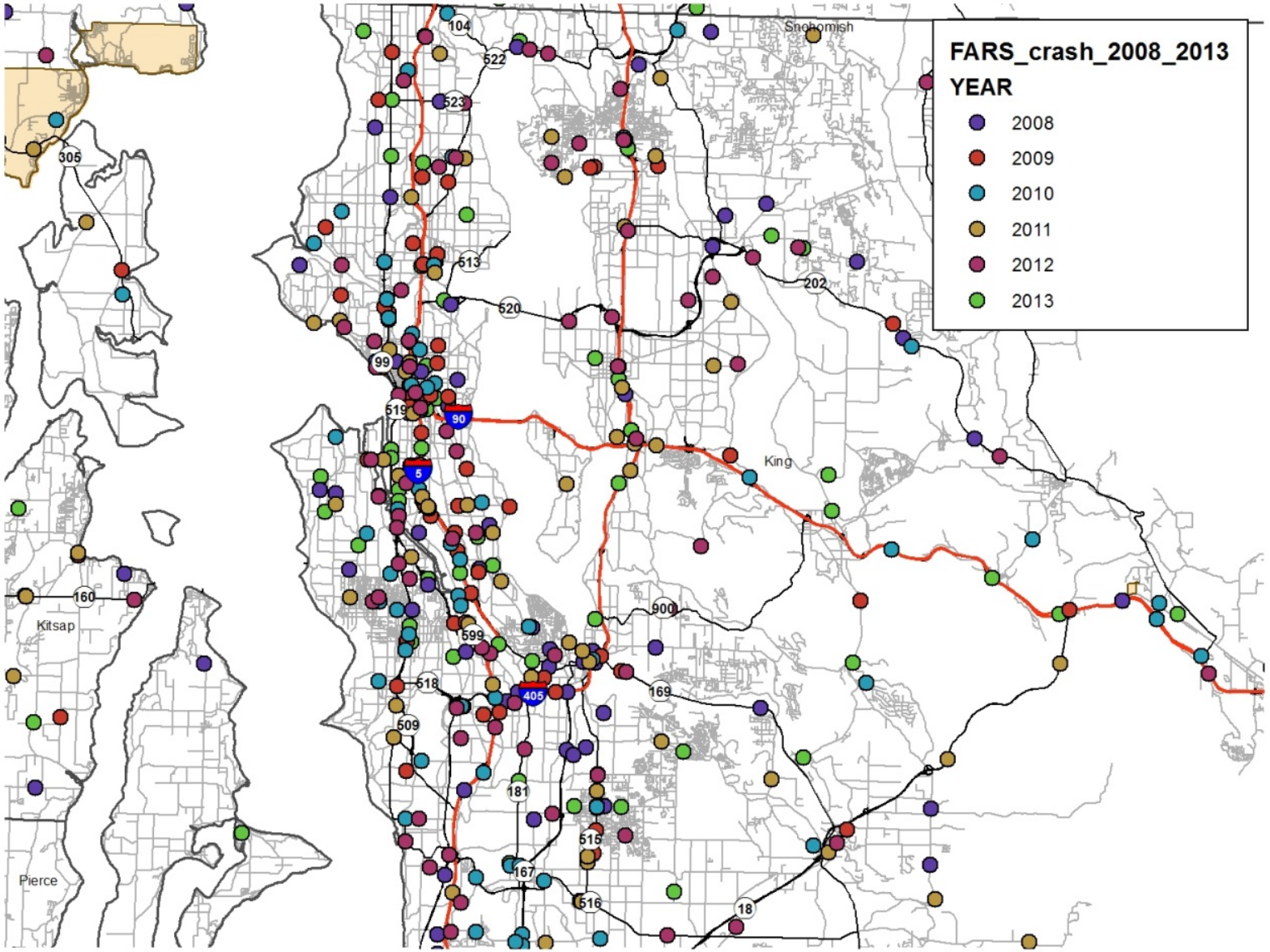
- Data sharing agreements between WTSC/WSDOT still in process
  - Liability questions over point location
  - Sensitivity around USC23§409, admissibility of highway safety data in legal action against the generating entity
  - So until such time as things change, you can't get CLAS point data from WTSC.
  - What you *can* get from WTSC is aggregated data
    - County, census polygon, road centerline

OKAY, SO WHAT'S IT LOOK LIKE?

- Lots of dots
- Feature class tables with some fairly opaque field headings
  - Data dictionary in process
  - Changing as file handling in SAS changes

All FARS 2008-2013




FARS_crash_2008_2013
YEAR
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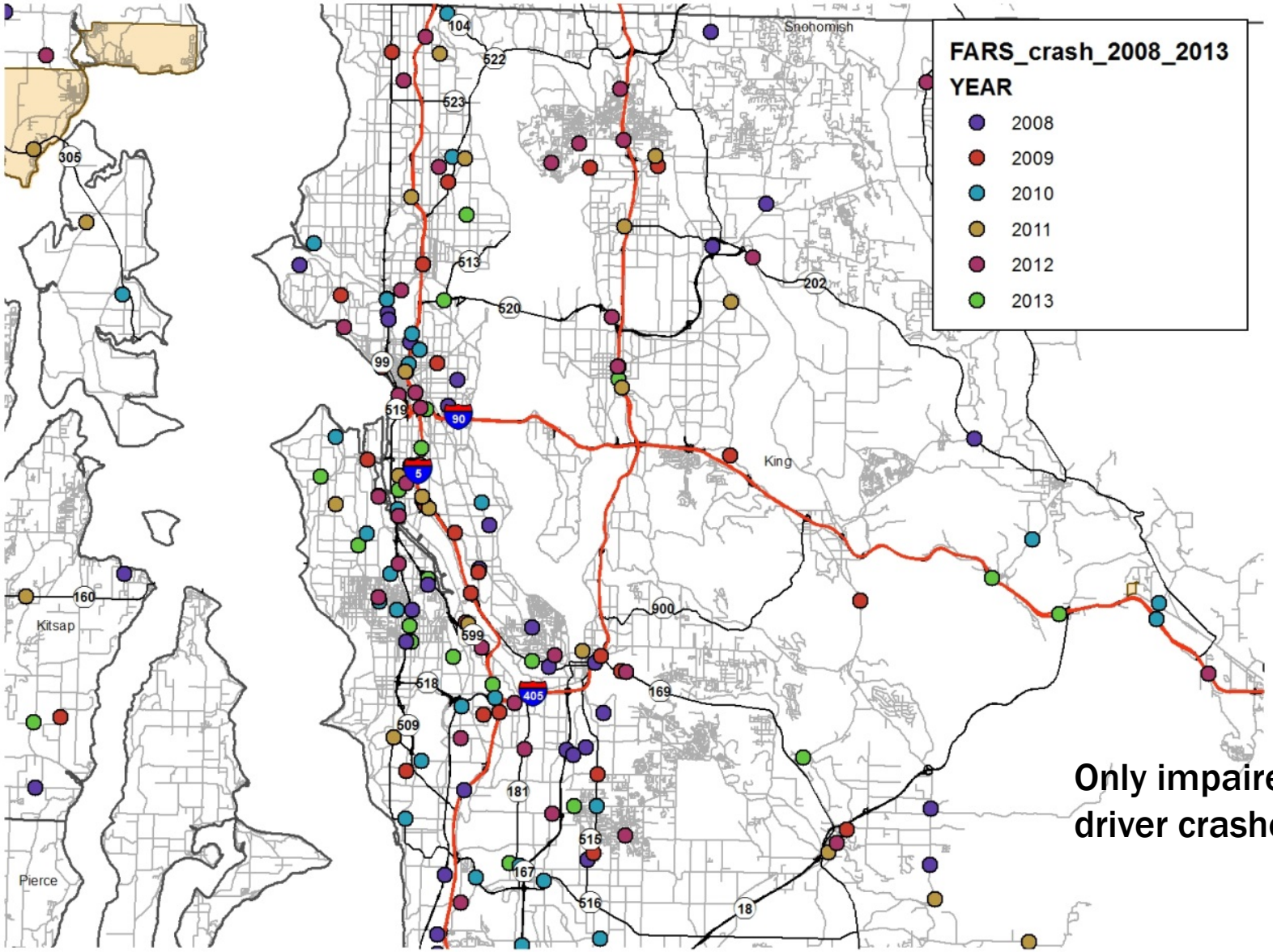
FARS_crash_2008_2013
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Only impaired driver crashes

EXAMPLE

work_zone	ddl	alc_imp	drug_imp	ldl	speed	dr16_17	dr18_20	dr16_20	dr21_25	dr16_25	dr62	dr65	dr75	mc_inv	unlic	drowsy	inattn	train	wildlife	rotr_fars	rural	urban	single	ped_inv	bike_inv	htl	pvl	intersect
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
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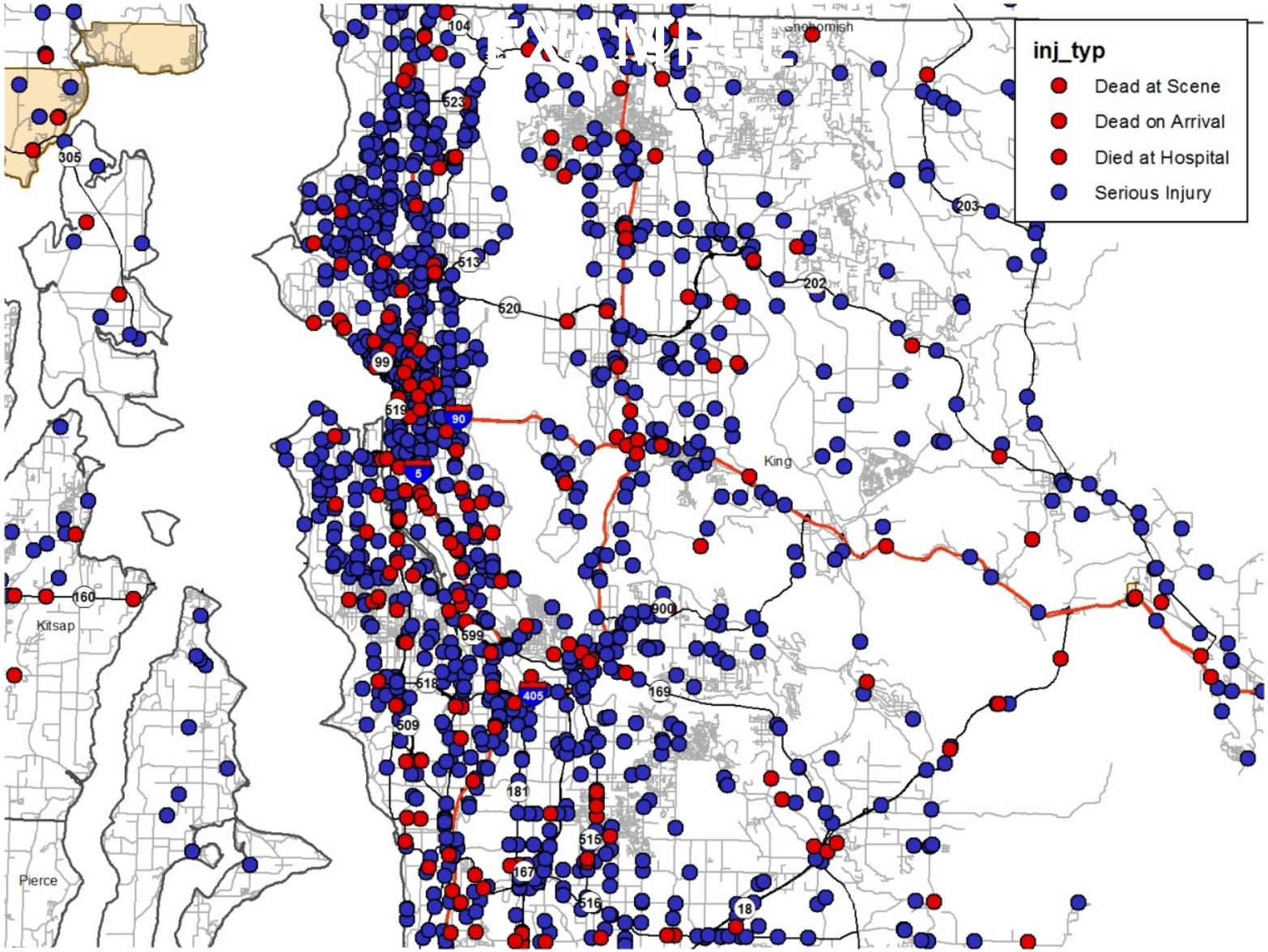
inj_typ
Dead at Scene
Dead on Arrival
Died at Hospital
Serious Injury
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Kitsap
Pierce
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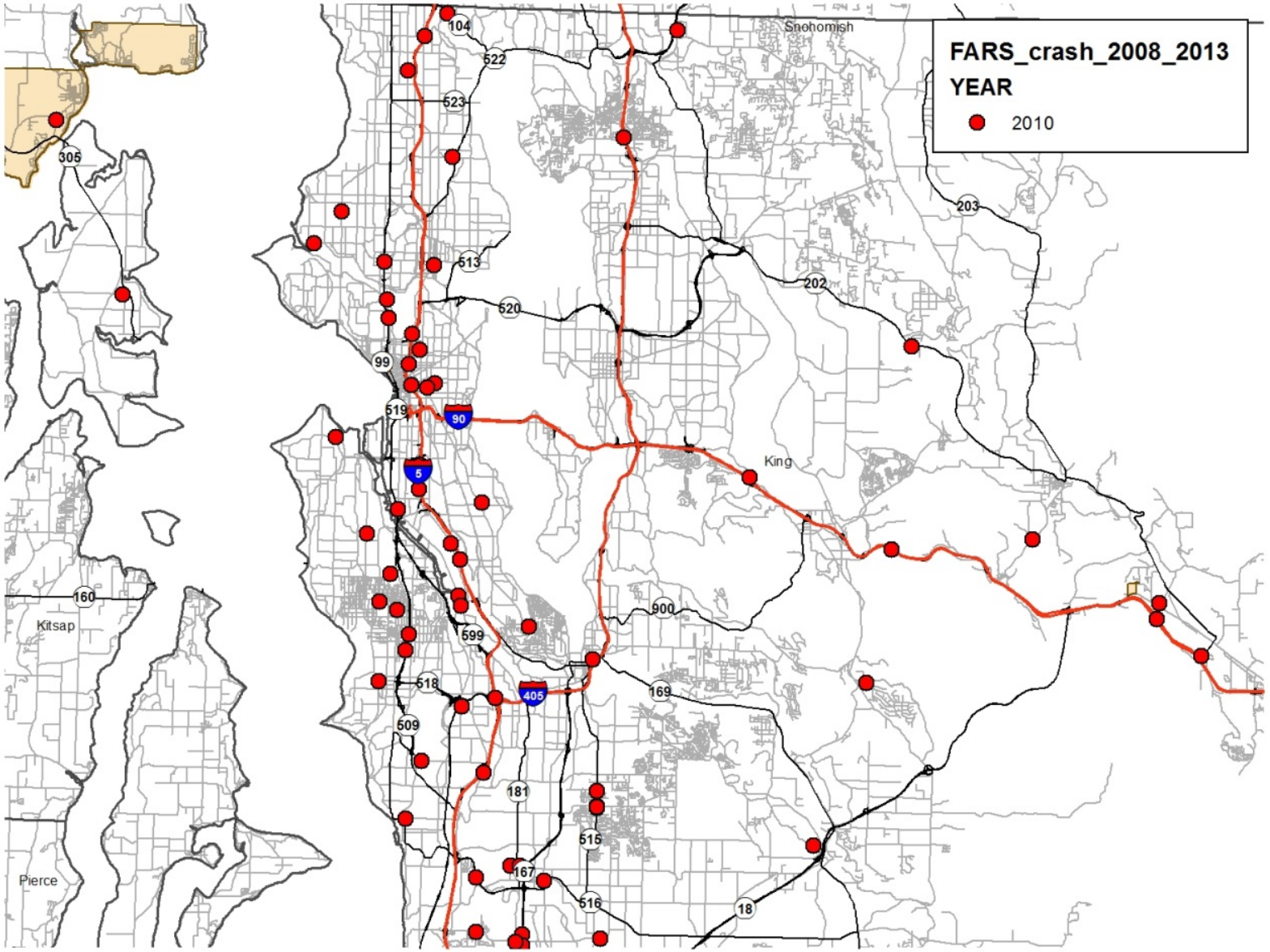
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SO HOW DO I GET THIS STUFF.

- FARS – you ask WTSC for data and we give it to you
  - Subsetted if you want, or the whole thing
  - By filling out a data request form
    - http://wtsc.wa.gov/research-data/about-our-data/
  - You have to ask specifically for geospatial data lest you get an xlsx or a csv file
- Or FARS Encyclopdia –
  - http://www-fars.nhtsa.dot.gov/Main/index.aspx
    - Querying of specific incidents – univariate, crosstab
    - Coding sheets and crash specifics

SO HOW DO I GET THIS STUFF.

- CLAS – you ask WSDOT and they give it to you
  - "Engineering" database and therefore not strictly a collision database – not public information
  - USC23§409 protected – if you don't check the box, you don't get the data
    - http://www.wsdot.wa.gov/mapsdata/collision/collisiondatarequest.htm
  - You have to ask pretty specifically for map or geospatial data lest you get an xlsx or csv file.