RULES & REGULATIONS PANEL DISCUSSION

Traffic Engineering Workshop

June 4, 2025

Bree Hetzel, PE – ODOT, District 8

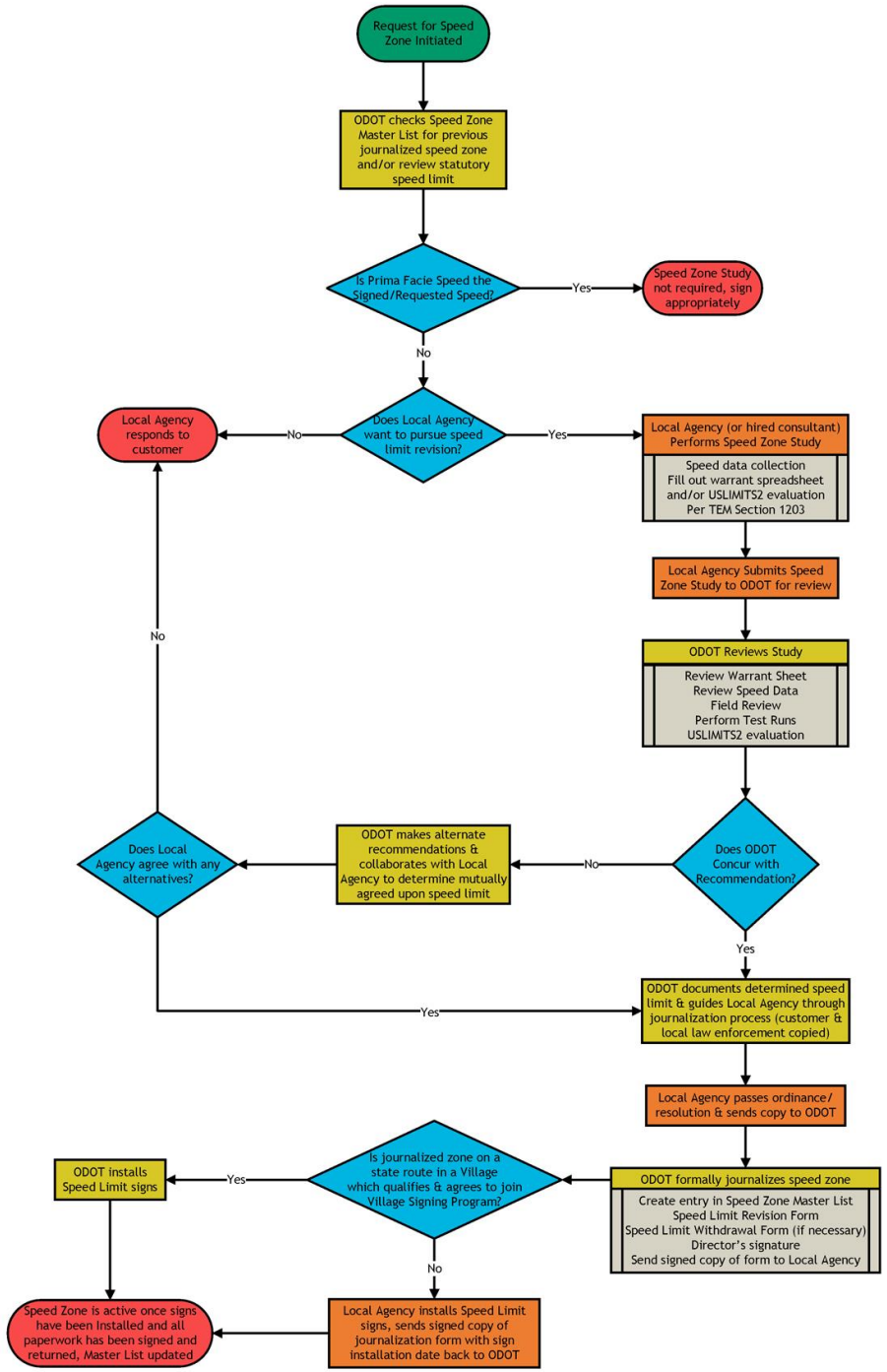
Matt Loeffler, PE - BCEO

SPEED ZONES

- July 2024 updates to ODOT Speed Zoning Policy
  - Primary change is departing from using ODOT specific forms/spreadsheets and using *USLIMITS2* as the basis for speed zone studies
  - *Crash history* shall only be considered when submitting USLIMITS2 speed study in conjunction with a comprehensive safety study
  - Requires a *signed letter* from the local agency requesting the Director to review the speed study
  - *Rescinded* the previous method for “narrow and low-volume rural roads”
  - Speed checks taken at *regular intervals* using engineering judgement
  - Approved speed limit shall *not be less than the 50th percentile speed* rounded to the closest 5mph interval

SPEED ZONES, CONT.

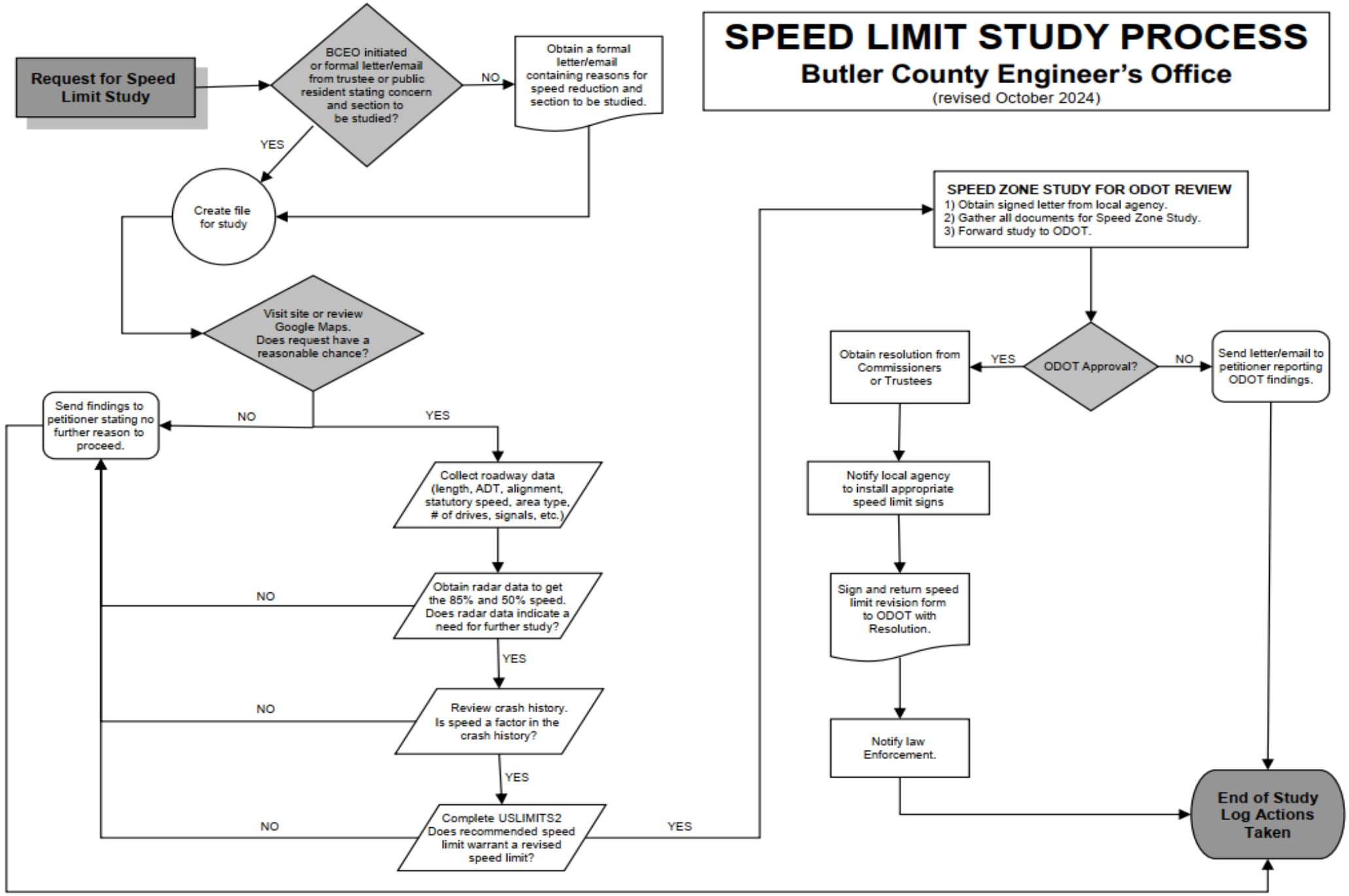
- ODOT must approve speed zones to have speed limits set lower than the statutory speed limits, ***regardless of jurisdiction***. This includes rural state highways, county and township roads, and streets in both cities and villages.
- While both cities and villages are required to have ODOT approval to have a speed limit ***lower*** than the statutory prima-facie speed limits given in the Ohio Revised Code, they can ***raise*** speed limits on their streets without ODOT approval.



SPEED LIMIT STUDY PROCESS

Butler County Engineer's Office

(revised October 2024)



SIGNAL WARRANTS (ODOT)

- Utilize Section 4C of the OMUTCD and 402-3 of the TEM for projects with Federal funding
  - For new signals, use Warrants 1, 2 or 3 with 100% values and right turn reduction unless there are 5 or more correctable crashes in one year
- Meeting the criteria does not always guarantee a signal – other factors are also considered

Advantages

- They provide for the orderly movement of traffic.
- They increase the traffic-handling capacity of the intersection if:
  - Proper physical layouts and control measures are used, and
  - The signal operational parameters are reviewed and updated on a regular basis to maximize the ability of the traffic control signal to satisfy current traffic demands.
- They reduce the frequency and severity of certain types of crashes, especially right-angle collisions.
- They are coordinated to provide for continuous or nearly continuous movement of traffic at a definite speed along a given route under favorable conditions.
- They are used to interrupt heavy traffic at intervals to permit other traffic, vehicular or pedestrian, to cross.

Disadvantages

- They can cause excessive delay.
- Excessive disobedience of the signal indications may occur.
- They can increase use of less adequate routes as road users attempt to avoid the traffic control signals.
- They can cause significant increases in the frequency of collisions, especially rear-end collisions.

PRIVATELY OWNED SIGNALS

Private Drive only (“T” intersection)	All costs assumed by Private Entity(s)	Maintenance agreement(s) required
Private Drive across from Private Drive	All costs assumed by Private Entity(s)	Maintenance agreement(s) required
Private Drive across from Public Road (not warranting signalization)	All costs assumed by Private Entity(s)	Maintenance agreement(s) required
Private Drive across from Public Road (warrants signalization but agency choosing not to signalize)	Design and Construction costs by Private Entity. Maintenance costs covered by ODOT.	Maintenance agreement not required. Right-of-Entry agreement may be necessary.
Private Drive across from Public Road (warranted and approved for signalization)	All costs assumed by ODOT	Maintenance agreement not required. Right-of-Entry agreement may be necessary.

ODOT D8 has around 30 private agreements

Annual Maintenance Fee is $3000

ALL WAY STOP CONTROL WARRANTS

- OMUTCD – Section 2B.07 (MUTCD, 11th edition, Section 2B.12)
- Based on engineering study

A. Interim measure prior to signalization or roundabout

B. 5 or more crashes in 12-month period (susceptible to correction by installation)

C. Volume criteria

1. Major street = 300 vph for any 8 hours (total of both approaches)

2. Minor Street = 200 vph for same 8 hours (total of both approaches) AND avg. delay of 30s per vehicle during highest hour

3. 70% value if 85th percentile approach speed exceeds 40 mph

D. If no single criterion is satisfied, 80% of criteria B, C.1 and C.2

ALL WAY STOP CONTROL WARRANTS

- Other Factors to consider
  - Need to control left turn conflicts
  - Need to control vehicle/pedestrian conflicts
  - Inadequate sight distance
  - Intersection of two residential collector streets of similar design & operating characteristics (Basically if you can't tell which street should be the 'major' street

  - Should/Shall not be used for speed control!

  - ALL WAY supplemental plaque SHALL be mounted below each STOP sign

TRAFFIC CONTROL MODIFICATIONS

- On County and Township roadways (non ODOT)
- The following should be based on engineering study and require Local Authority approval
  - Closing passing zones on local roads
  - Converting TWSC to AWSC or Signalization
  - Modifying Speed Zones

- Per OAG opinion 1954-4644, “local authority” is Board of County Commissioners
  - Commissioners depend on county engineer for professional services
- Per OAG 2021-026, township trustees may designate an intersection a multi-way stop of two township roadways per OMUTCD requirements.

OVERHEAD FLASHERS AND LED STOP SIGNS

TEM 201-3.4

STOP Sign Controlled Approach	ODOT Maintained (i.e., U.S. or State Route)		
"Ran Stop Sign" Crashes in Recent 3 Year Period	5 or fewer	6 to 8	9 or more
Dual STOP Signs	Should be installed		
Dual Stop Ahead Signs	Should be installed		
Oversized STOP Signs		At the discretion of ODOT District	
Flashing STOP Signs			Should be installed

STOP Sign Controlled Approach	Non-ODOT Maintained (i.e., County or Township Road)		
"Ran Stop Sign" Crashes in Recent 3 Year Period	5 or fewer	6 to 8	9 or more
Single STOP Sign	Shall be installed		
Dual STOP Signs		Should be installed	
Dual Stop Ahead Signs		At the discretion of the County or Township	
Oversized STOP Signs		At the discretion of ODOT District	
Flashing STOP Signs			Should be installed

TEM 201-3.3 &
Table 297-3

NON-EFFECTIVE WARNING SIGNS/TRAFFIC CONTROL DEVICES

TEM 407-2

TEM 202-2
TEM 202-3

TEM 202-16

TEM 1416-1

NO THROUGH TRUCKS

- Per OAG 2010-008 – Non-home rule townships and County Commissioners have no authority to prohibit truck travel
- Home rule townships and municipalities can regulate truck traffic

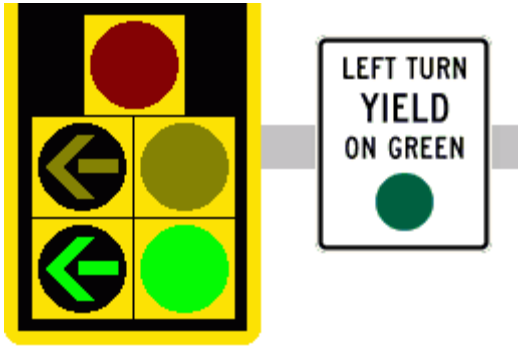
NO PARKING ZONES

State maintained roads	• Zones approved by ODOT
Village roads on ODOT routes	• Zones approved by ODOT • Resolution/ordinance needed from Council
City maintained roads	• Zones approved by Ordinance from Council
Local county/township-maintained roads	• Resolution by Township Trustees

NO PARKING AND ENGINE NOISE

- Per ORC 505.17 and OAG 1979-058
  - Board of Township Trustees may regulate vehicle parking
  - County commissioners do not have this authority
- Per ORC 4513.221 and ORC 505.17
  - Both County Commissioners and Township Trustees may regulate engine noise

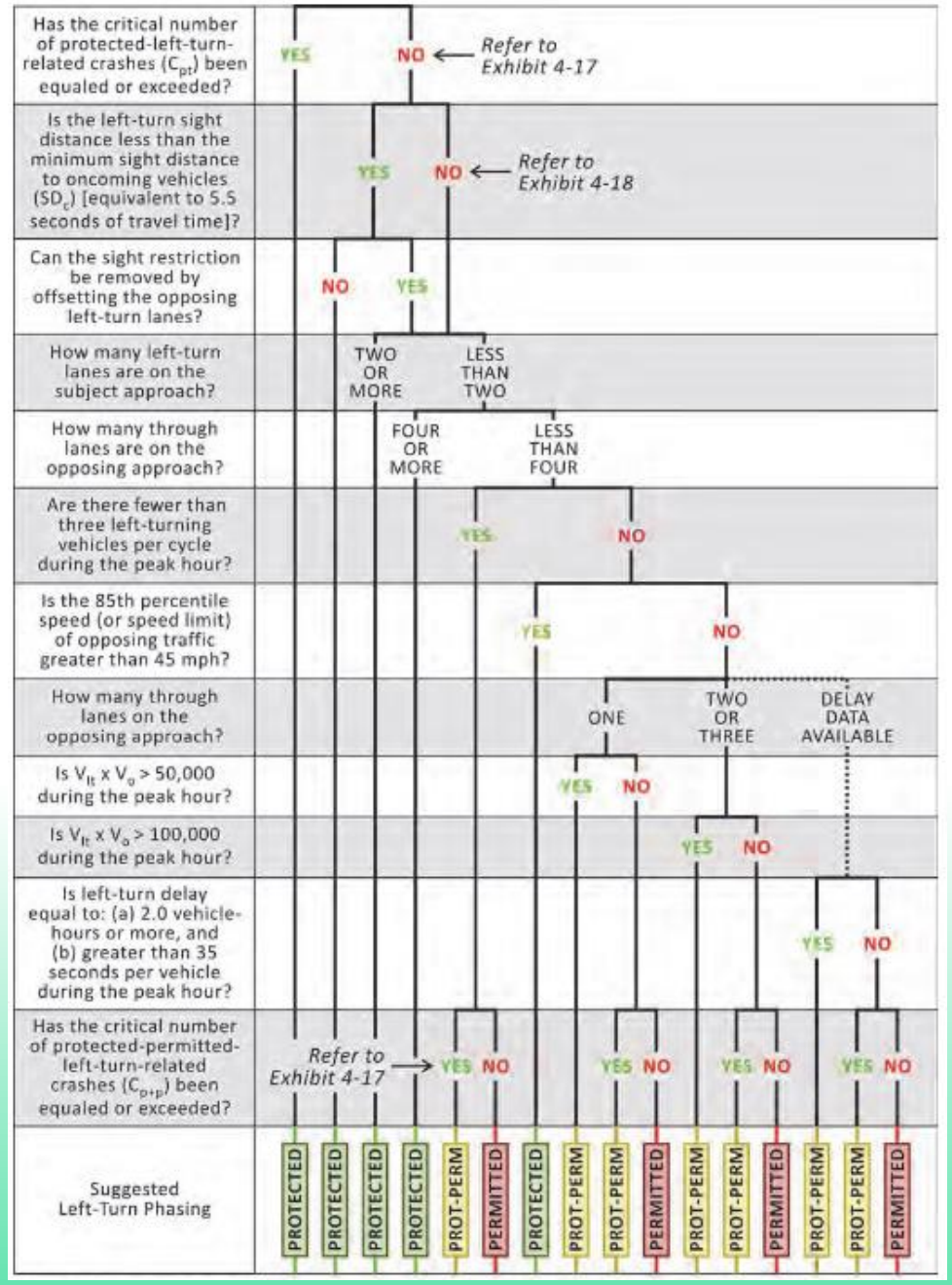
LEFT TURN PHASING



Check crash data (3 left turn crashes per year)

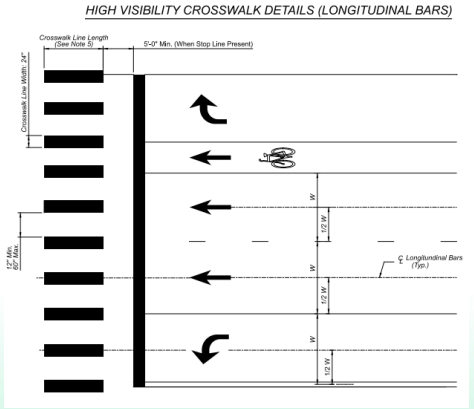
Get updated counts

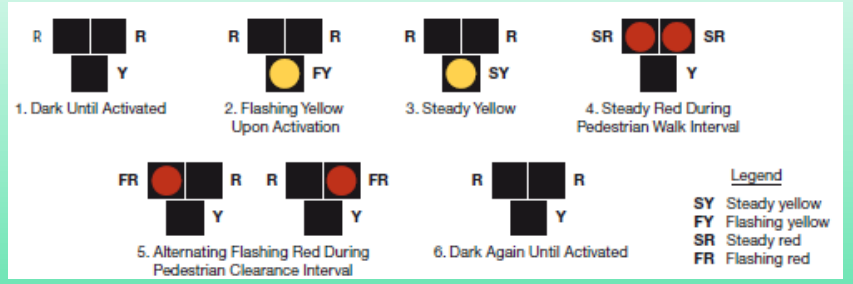
Analyze signal operations and queues



PEDESTRIAN CROSSING TREATMENTS

- ODOT MMDG Table 4-6





Roadway Configuration	Posted Speed Limit and AADT								
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
2 lanes (1 lane in each direction)	● 2 4 5 6	● 5 6 7 9	○ 5 6 ● ●	● 4 5 6	● 5 6 7 9	○ 5 6 ● ●	● 4 5 6 7 9	○ 5 6 7 9	○ 5 6 ●
3 lanes with raised median (1 lane in each direction)	● 2 3 4 5	● ● 5 7 9	○ ● 5 ● ●	○ 3 4 5 7 9	○ ● 5 ● ●	○ ● 5 ● ●	○ ● 4 5 7 9	○ ● 5 ● ●	○ ● 5 ●
3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane)	● 2 3 4 5 6 7 9	● ● 5 6 7 9	○ ● 5 6 ●	○ 3 4 5 6 7 9	○ ● 5 6 ● ●	○ ● 5 6 ●	○ ● 4 5 6 7 9	○ ● 5 6 ●	○ ● 5 6 ●
4+ lanes with raised median (2 or more lanes in each direction)	● ● 5 7 8 9	● ● 5 7 8 9	○ ● 5 8 ●	○ ● 5 7 8 9	○ ● 5 ● 8 ●	○ ● 5 8 ●	○ ● 5 ● 8 ●	○ ● 5 ● 8 ●	○ ● 5 8 ●
4+ lanes w/o raised median (2 or more lanes in each direction)	● ● 5 6 7 8 9	○ ● 5 6 7 8 9	○ ● 5 6 8 ●	○ ● 5 6 7 8 9	○ ● 5 6 ● 8 ●	○ ● 5 6 8 ●	○ ● 5 6 ● 8 ●	○ ● 5 6 ● 8 ●	○ ● 5 6 8 ●

Given the set of conditions in a cell,

- # Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.
- ● Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.
- ○ Signifies that crosswalk visibility enhancements should always occur in conjunction with other identified countermeasures.*

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

1. High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning signs
2. Raised crosswalk
3. Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
4. In-Street Pedestrian Crossing sign
5. Curb extension
6. Pedestrian refuge island
7. Rectangular Rapid-Flashing Beacon (RRFB)**
8. Road Diet
9. Pedestrian Hybrid Beacon (PHB)**

HIGHWAY SAFETY IMPROVEMENT PROGRAM

HSIP Systemic Safety Funding Application Process

- Pedestrian up to $2M
- Roadway Departure up to $5M
- All phases – 10% local match required
- Must be on arterial or collector
- Should focus on critical, high and medium priority
- Applications accepted 2x per year

HSIP Abbreviated Safety Funding Application

- Non-complex simple projects
- Under $500,000
- Must be constructed within 2 years
- Location has 3 crashes/year
- Construction or material purchases only
- Applications accepted 4x per year

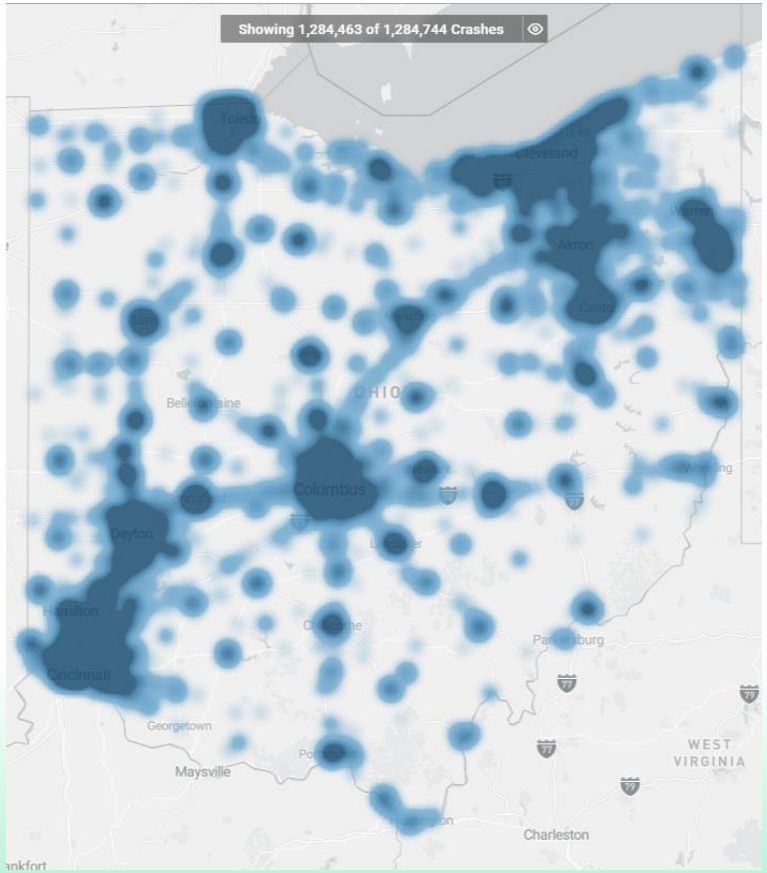
HSIP Formal Safety Application

- Location has 3 crashes per year AND 30% injury rate to apply
- Up to $5M
- All phases – 10% local match required
- Submitted to District staff 6 weeks in advance
- Requires formal safety study with ECAT and cost estimate
- Applications accepted 2x per year

AASHTOWARE SAFETY

Old TIMS GCAT going away permanently this fall

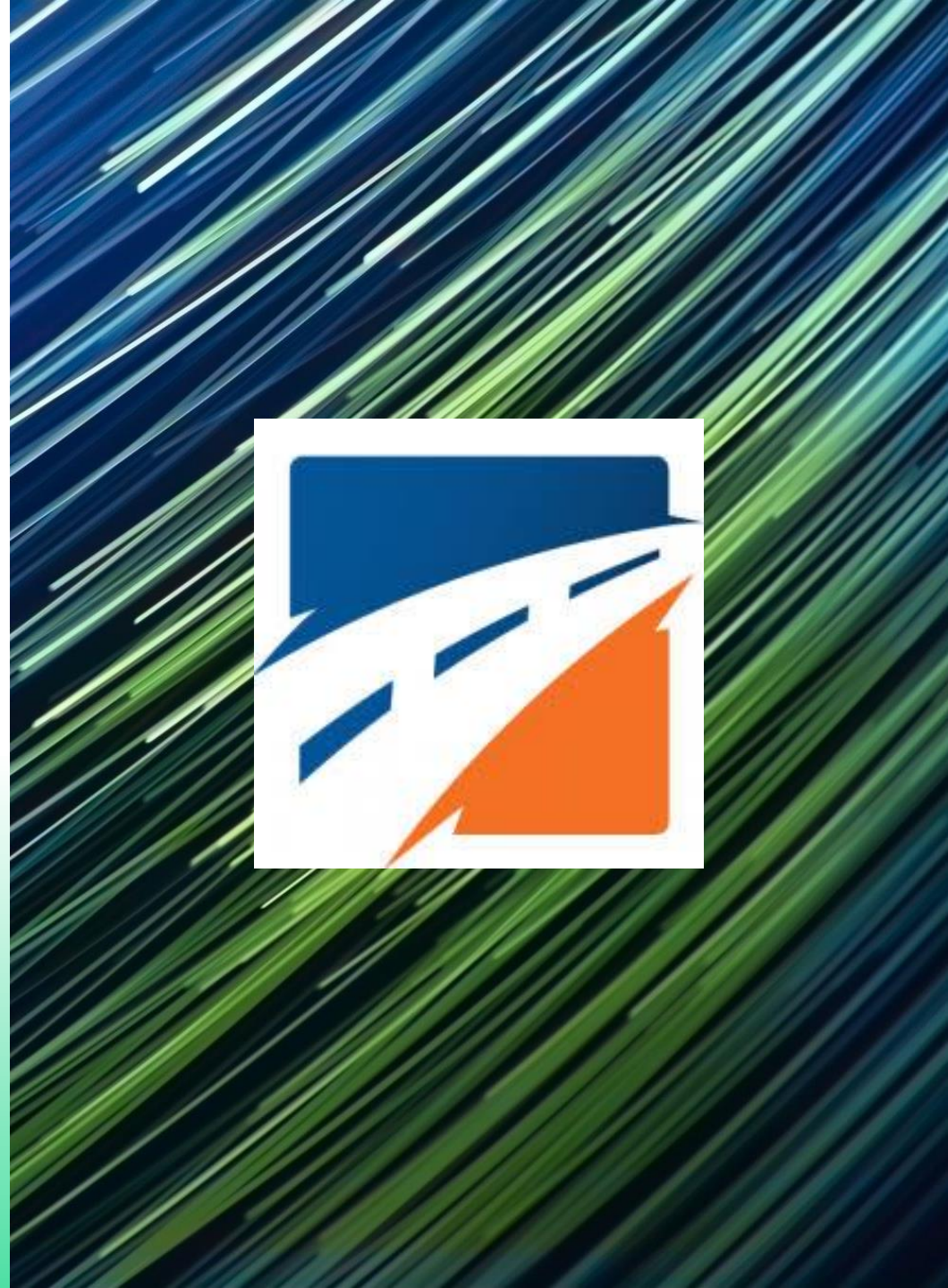
New AASHTOWare software can query crash data and perform Network Screenings



Register for next training through LTAP on June 17th (will be recorded)

OATS MANUAL

- ODOT Analysis and Traffic Simulation Manual
- Requires the use of HCS for traffic analysis and Transmodeler in congested areas or areas with a systems interchange
- Synchro and SimTraffic are not allowed per our manuals



STREETLIGHT OUTAGES

BCEO and ODOT do not maintain streetlighting

- Except at signalized intersections and select few locations

Lighting Districts

- Report outage on Duke Energy Street & Area Light Repair

Municipalities maintain own lighting