

# Traffic Calming Ideas Toolbox



April 2020

# What is Traffic Calming?

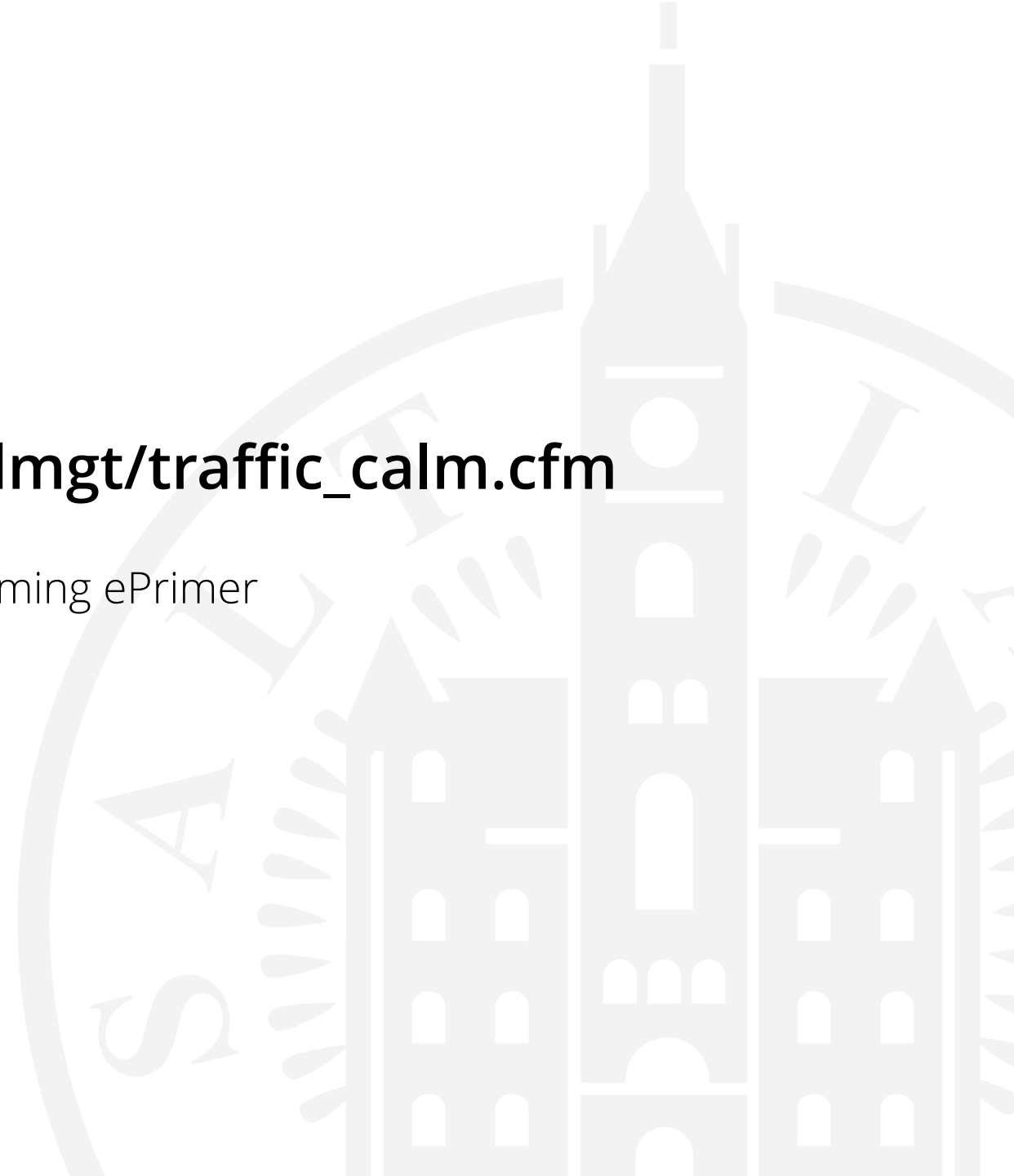
“Traffic calming is the combination of mainly **physical measures that reduce the negative effects of motor vehicle use**, alter driver behavior and improve conditions for non-motorized street users”

Source: *Traffic Calming: State of the Practice* (ITE/FHWA, 1999)

# Learn More

[safety.fhwa.dot.gov/speedmgt/traffic\\_calm.cfm](https://safety.fhwa.dot.gov/speedmgt/traffic_calm.cfm)

or Google: Traffic Calming ePrimer



# What is a “Toolbox”?

- Lists the measures most applicable to Salt Lake City
- Describes each traffic calming measure and gives guidance on applicability
- Can be updated as new ideas are developed and tried



# Toolbox Organization

## Width Reduction

- Bulbout
- Choker

## Vertical Deflection

- Speed Cushion (Lump)
- Speed Table

## Horizontal Deflection

- Lateral Shift
- Chicane
- Realigned Intersection

- Median Island

- Raised Crosswalk
- Raised Intersection

- Traffic Circle
- Mini-Roundabout
- Roundabout

# Toolbox Organization

## Routing Restriction

- Diagonal Diverter
- Full Closure
- Half Closure
- Median Barrier

## Others

- Driver Feedback Signs
  - Permanent or Temporary
- Signage

- Forced Turn Island

- Enforcement





# Toolbox Organization

## Not Traffic Calming

- Stop signs
- “Child at Play” and similar signs
- Citizen installed signage
- Items placed in roadway by citizens



# Bulbout



Location: 500 East & Edith Ave

## Effectiveness on Speed

- Can slow traffic, but speed reduction is localized at measure
- -2.6 mph (-4%) average reduction

## Effectiveness on Volume

- Little effect on volumes

## Other Notes

- Medium cost
- Can be used on roads with higher speeds
- Can be combined with other measures



# Choker



Location: Hollywood Ave & McClelland St

## Effectiveness on Speed

- Can slow traffic, but speed reduction is localized at measure
- -2.6 mph (-4%) average reduction

## Effectiveness on Volume

- Little effect on volumes

## Other Notes

- Medium cost
- Similar to a bulbout, but used at mid-block locations

# Median Island



Location: Hollywood Ave & 900 East

## Effectiveness on Speed

- Speed reduction expected is minimal
- Speed reduction due to narrowing effect
- More beneficial at slowing turns

## Effectiveness on Volume

- Little effect on volumes

## Other Notes

- Medium cost
- May restrict access to driveways
- Landscaped islands can be costly



# Speed Cushions (Lumps)



Location: Alameda, California

## Effectiveness on Speed

- Large speed reduction effect
- -8.9 mph (-24%) average reduction

## Effectiveness on Volume

- Little effect on volumes (<10% change)

## Other Notes

- Replaces the speed hump (“bump”)
- Low cost
- Fire Dept. can traverse without delay

# Speed Table / Raised Crosswalk



Location: 2700 South & 1700 East

## Effectiveness on Speed

- Speed reduction effect less than with speed cushions
- -7.3 mph (-20%) average reduction

## Effectiveness on Volume

- Some effect on volumes (-12% change)

## Other Notes

- Typically used instead of speed cushions on collector roadways
- Speed table used at the location of a crosswalk is a raised crosswalk



# Raised Intersection



Source: NACTO

## Effectiveness on Speed

- Speed reduction expected is minimal
- < -1 mph (-1%) average reduction

## Effectiveness on Volume

- Little effect on volumes

## Other Notes

- Calms traffic on two roads at once
- Uncommon in the U.S.
- Added benefits for bike/ped crossings



# Lateral Shift



Location: Roberta St north of 800 South

## Effectiveness on Speed

- Expected reduction in speed as motorists' straight-path is obstructed
- However, insufficient data available

## Effectiveness on Volume

- Little effect on volumes

## Other Notes

- Can be created with alternating on-street parking and/or chokers
- Can be expensive for retrofits
- Helps break-up "straight path" driving



# Chicane



Source: NACTO

## Effectiveness on Speed

- Speed reduction is greater on roads with higher traffic volume and equal volume in both direction

## Effectiveness on Volume

- Little to moderate

## Other Notes

- Landscaping increases the visual effect
- May be used in conjunction with parking regulation



# Realigned Intersection



Location: Salt Lake County

## Effectiveness on Speed

- Speed reduction is limited to the intersection

## Effectiveness on Volume

- Little effect on volumes

## Other Notes

- Limited applicability
- Can be expensive

# Traffic Circle & Mini Roundabout



Location: 1700 East & Yalecrest Ave

## Effectiveness on Speed

- Can slow traffic, but speed reduction is localized at measure
- -3.9 mph (-11%) average reduction

## Effectiveness on Volume

- Little effect on volumes (-5%)

## Other Notes

- Calms traffic on two roads at once
- Cost can be high, especially if landscaping is included
- Good safety record (29% reduction in collisions)



# Roundabout



Location: 900 South & 1100 East

## Effectiveness on Speed

- Speed reduction expected is minimal

## Effectiveness on Volume

- None

## Other Notes

- Calms traffic on two roads at once
- May present challenge for bikes and pedestrians
- Good safety record (37% reduction in collisions)



# Diagonal Diverter



Location: Seattle

## Effectiveness on Speed

- Helps to slow traffic along the treated roadway
- -1.4 mph (-4%) average reduction

## Effectiveness on Volume

- Substantial reduction in volume (-35%)

## Other Notes

- Often found on neighborhood byways with cut-through access for bikes and pedestrians
- Can be designed to allow for emergency access

# Half Closure



Location: Commonwealth Ave east of State St

## Effectiveness on Speed

- Helps to slow traffic along the treated roadway
- -6.0 mph (-19%) average reduction

## Effectiveness on Volume

- Substantial reduction in volume (-42%)

## Other Notes

- Can be designed to permit two-way bicycle use



# Full Closure



Location: 1100 West & 9 Line Trail

## Effectiveness on Speed

- Expected to be similar to half closure
- However, insufficient data available

## Effectiveness on Volume

- Substantial reduction in volume (-44%)

## Other Notes

- Permeable closures can remain public and allow for bikes and pedestrians
- Added benefits for bike/ped crossings
- Requires City Council action

# Median Barrier



Location: 1200 East north of 800 South

## Effectiveness on Speed

- Speed reduction expected is minimal
- Speed reduction due to narrowing effect

## Effectiveness on Volume

- Little effect on volumes

## Other Notes

- High cost
- Restricts access to driveways from both directions
- Potential issues with Fire Dept.



# Forced Turn Island



Location: 600 East & 2100 South

## Effectiveness on Speed

- Speed reduction expected is minimal

## Effectiveness on Volume

- Dependent on location

## Other Notes

- Can exempt bikes from restriction



# Speed (Driver) Feedback Signs



Location: Multiple Locations in Salt Lake City

## Effectiveness on Speed

- Increases driver awareness of speeding, but may not result in lower speeds
- Typically speed reduction occurs at/near sign
- Most effective in residential areas

## Effectiveness on Volume

- No effect on volumes

## Other Notes

- Can be used to collect data
- Portable options available (trailers, temporary signs)

# Signage



Location: South Temple & Virginia St

## Effectiveness on Speed

- Speed reduction expected is minimal

## Effectiveness on Volume

- Minimal, but varies by sign type

## Other Notes

- Very low cost
- Many options not MUTCD compliant



# Enforcement



## Effectiveness on Speed

- Speed reduction only during enforcement period

## Effectiveness on Volume

- No effect on volumes

## Other Notes

- Depends on local law enforcement resources



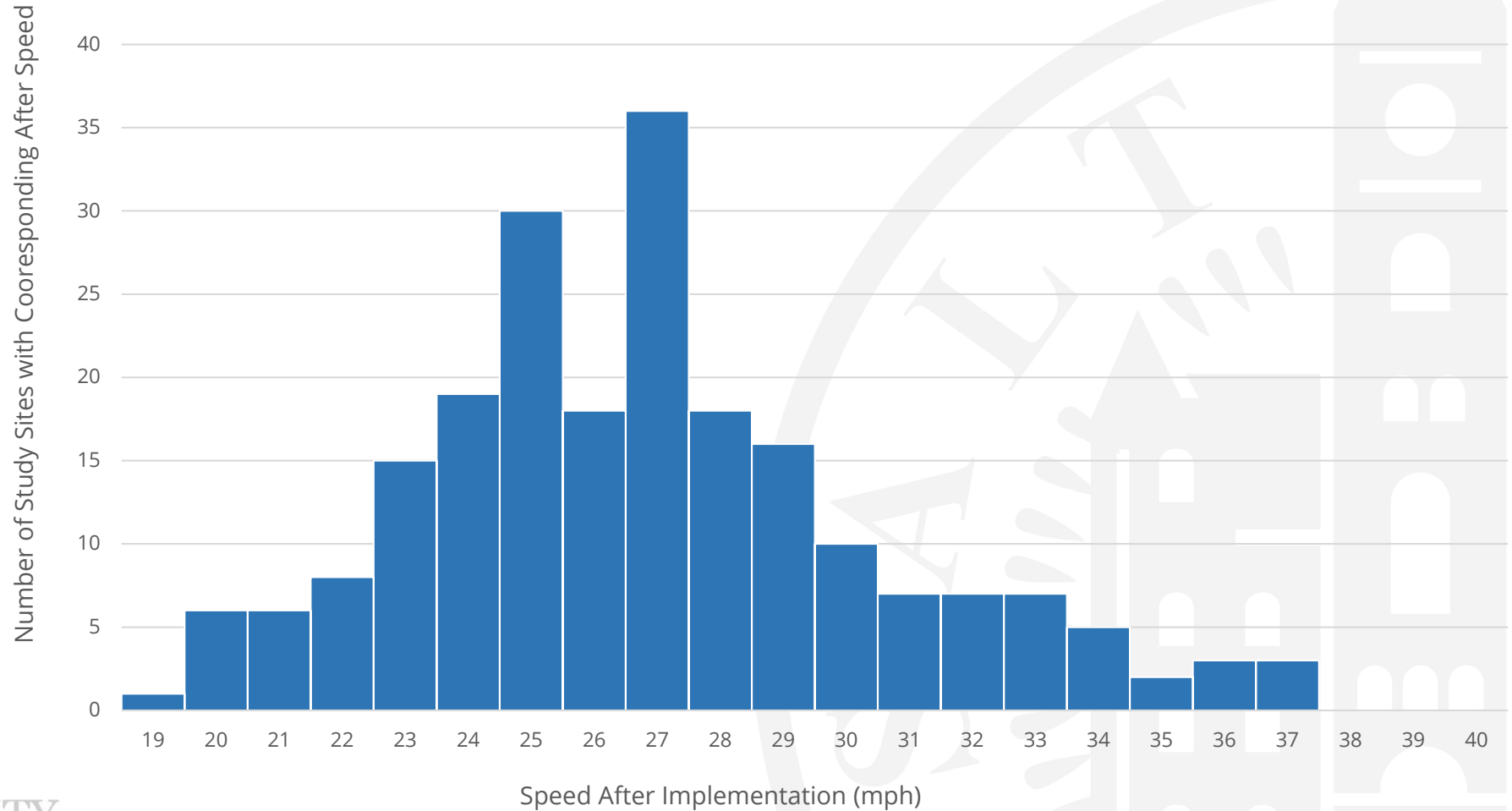
# What Speed Can We Expect?

with Speed Humps

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"After" Speeds for Speed Humps  
(Frequency of Distribution of 85th Percentile)

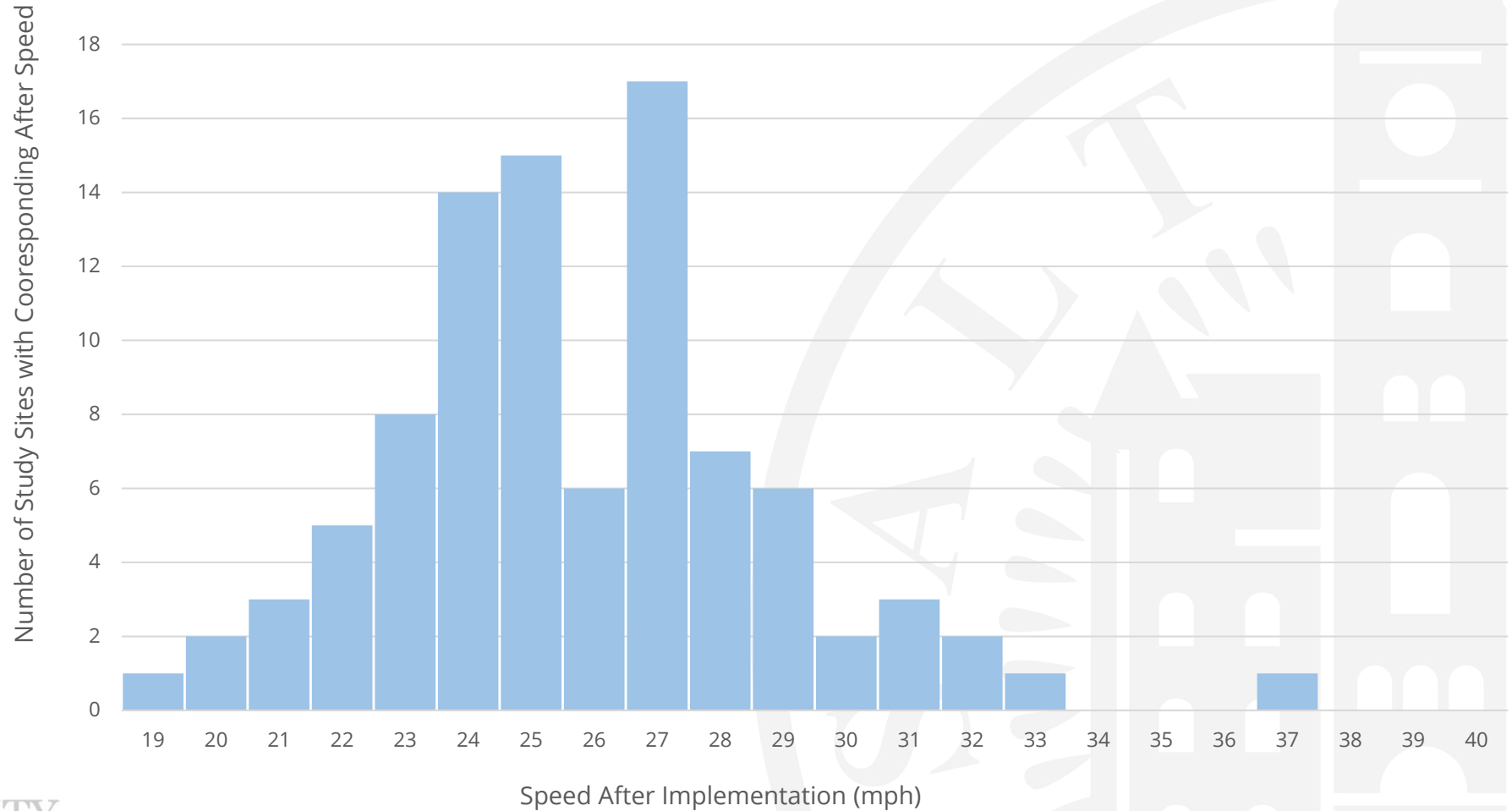




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with Speed Humps

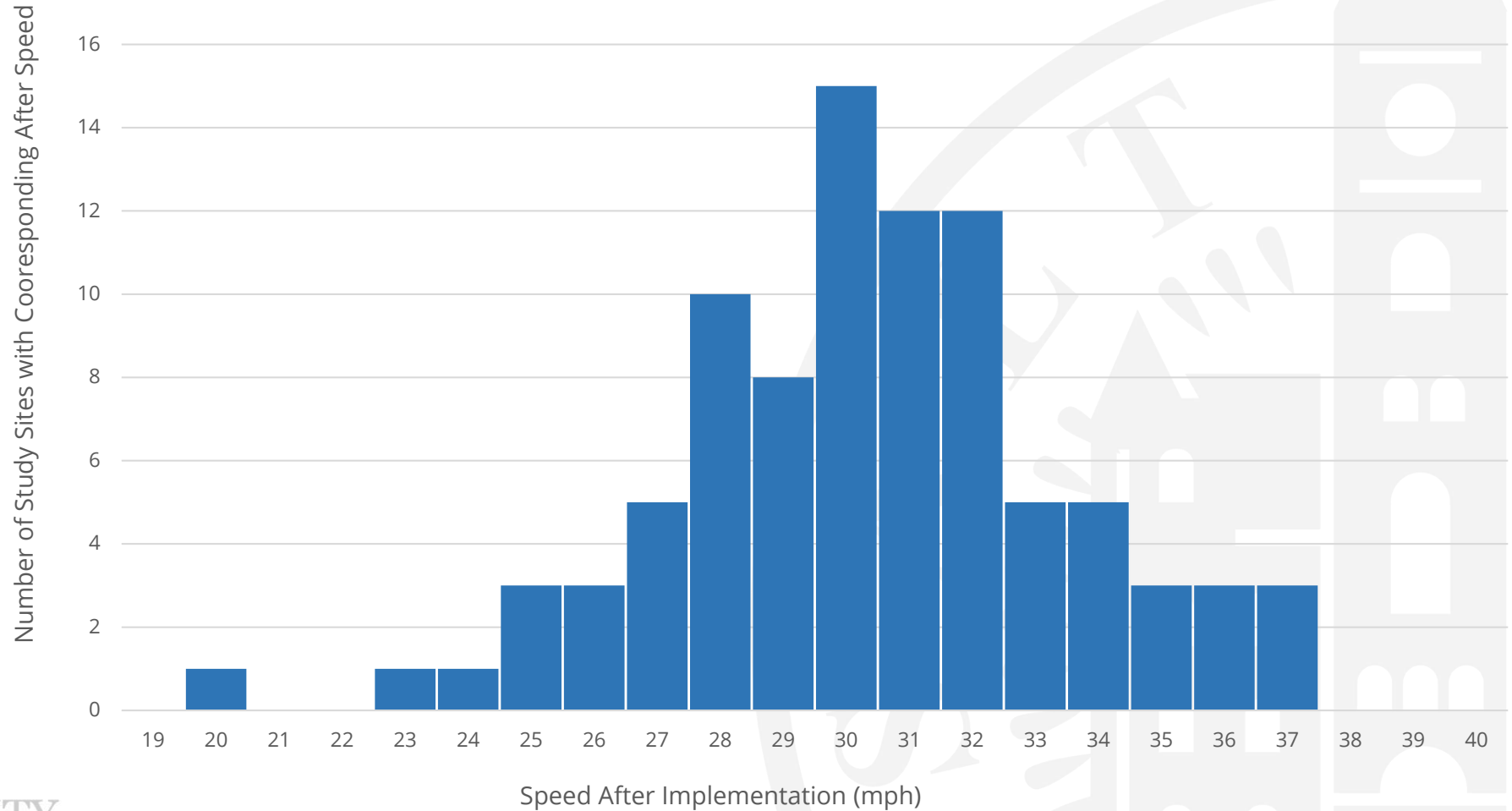
"After" Speeds for Speed Humps  
(Frequency of Distribution of 85th Percentile, When "Before" is 31-35 mph)



# What Speed Can We Expect?

with Speed Tables

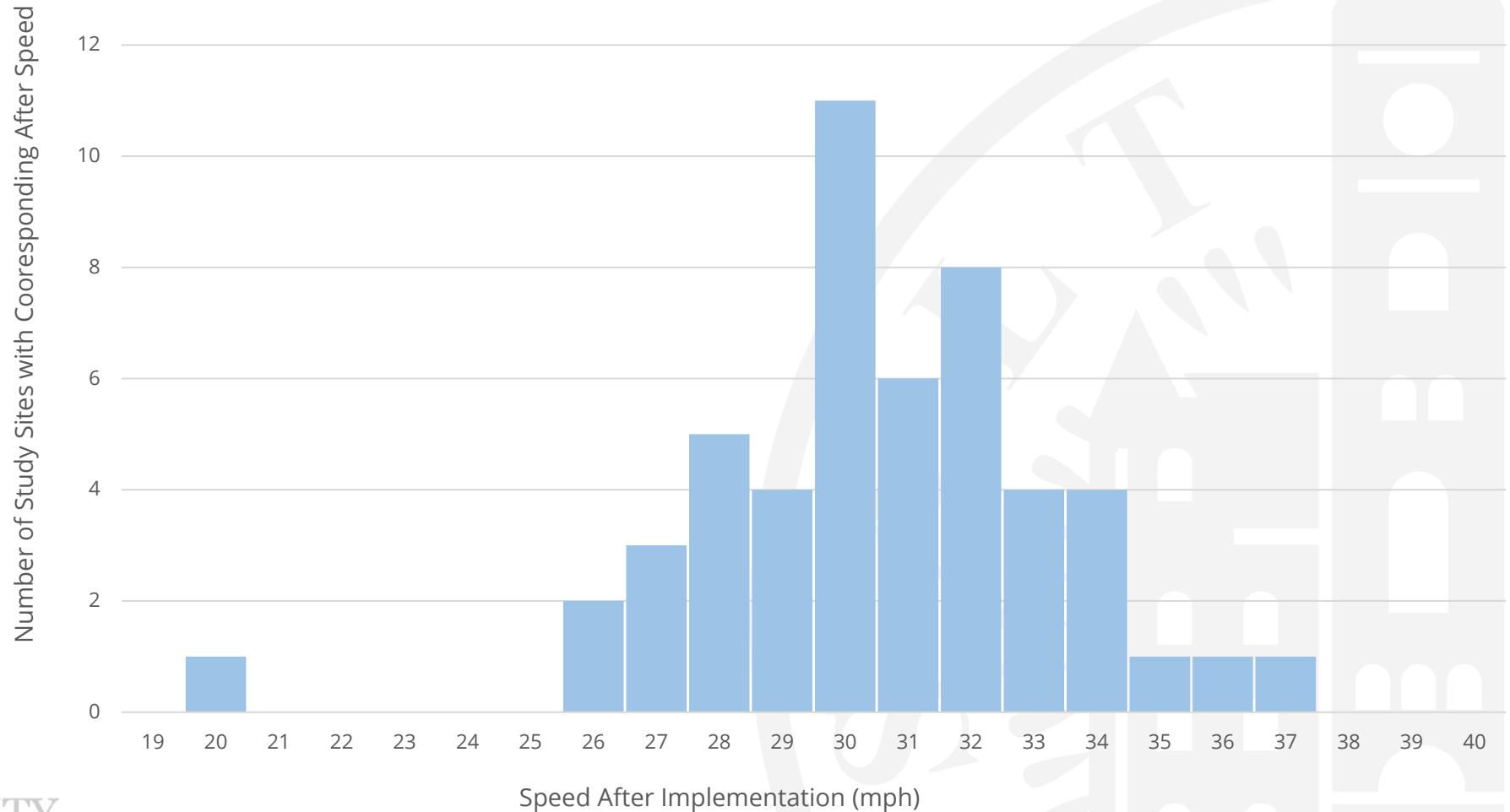
"After" Speeds for Speed Tables  
(Frequency of Distribution of 85th Percentile)



# What Speed Can We Expect?

with Speed Tables

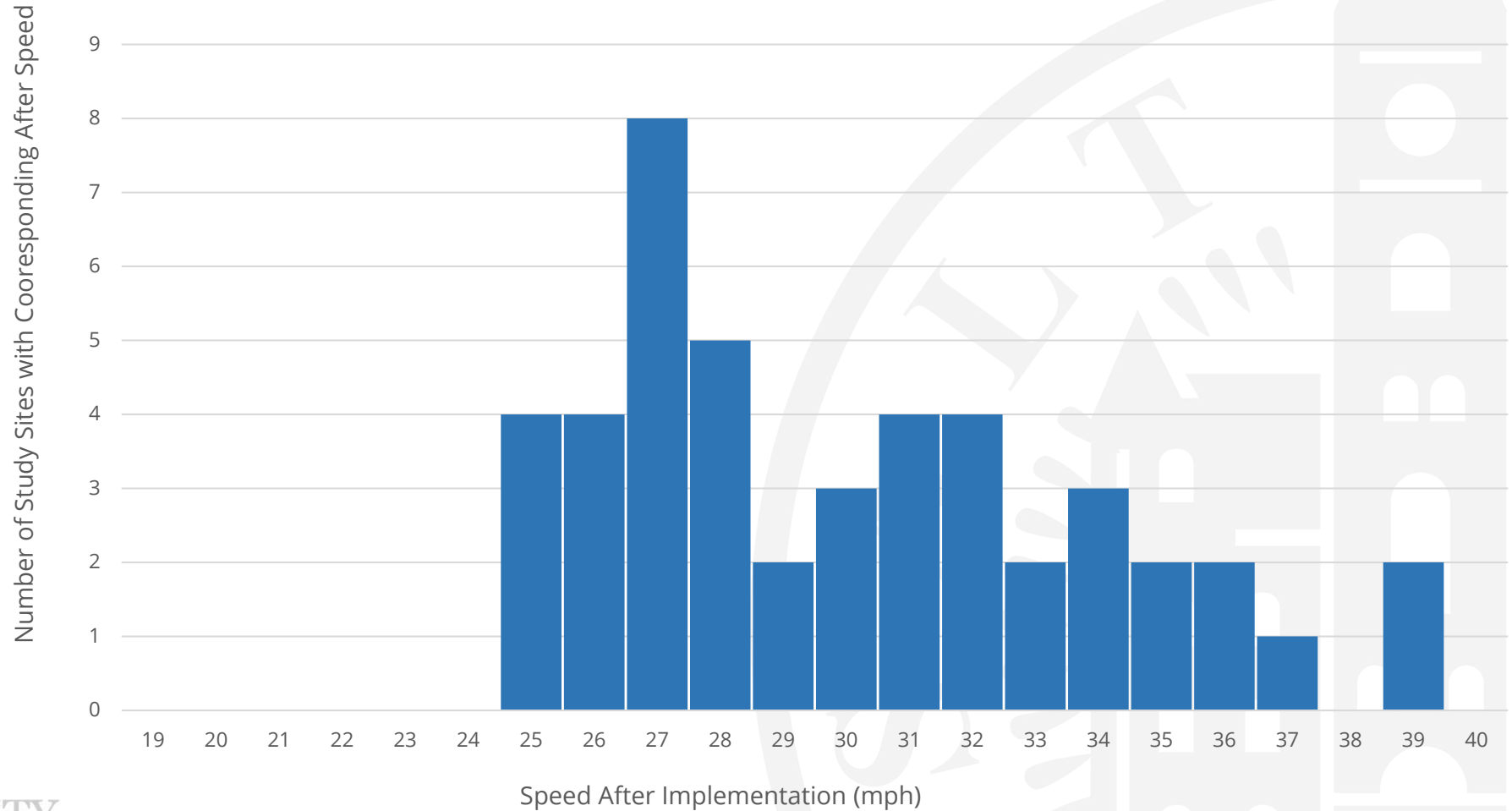
"After" Speeds for Speed Tables  
(Frequency of Distribution of 85th Percentile, When "Before" is 36-40 mph)



# What Speed Can We Expect?

with Traffic Circles

"After" Speeds for Traffic Circles  
(Frequency of Distribution of 85th Percentile)





# Learn More

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