CITY OF WASHINGTON
PUBLIC SAFETY COMMITTEE
MONDAY, NOVEMBER 21, 2016
5:30 P.M.

POLICE DEPARTMENT CONFERENCE ROOM
115 W. JEFFERSON STREET

AGENDA

1. **ALDERMAN WISHING TO BE HEARD ON A NON-AGENDA ITEM**
2. **CITIZENS WISHING TO BE HEARD ON A NON-AGENDA ITEM**
3. **APPROVAL OF MINUTES** – October 17, 2016 regular meeting
4. **BUSINESS ITEMS**
   A. Monthly Report
   B. Dallas Road – Speed Study Review
5. **OTHER BUSINESS**
6. **ADJOURNMENT**

DRAFT

DRAFT OF MINUTES FOR CONSIDERATION AND COMMENT

CITY OF WASHINGTON PUBLIC SAFETY COMMITTEE MEETING OCTOBER 17, 2016

Alderman T. Gee called the meeting to order at 5:30 P.M.

Voting Members Present: Mike Brownfield, Tyler Gee

Other City officials present: Jim Culotta, Ed Papis, Jeff Stevens

Residents: Steve Hullcranz, Paul Speizio

1. ALDERMEN WISHING TO BE HEARD ON A NON-AGENDA ITEM: NONE
2. CITIZENS WISHING TO BE HEARD ON A NON-AGENDA ITEM

   DALLAS ROAD: Paul Speizio said that speeding on Dallas Road is still an issue and he is looking for a solution. Mr. Speizio said Alderman Butler watched traffic from Mr. Speizio's house for an hour recently and saw the speed has not abated, as well as a large number of drivers using cell phones. Mr. Speizio said there was a correlation of cell phone use with speeding drivers. Chief Papis noted that Butler sent an email about this event and issue and the Police Department has tasked patrol officers with greater vigilance specifically regarding the cell phone issue throughout the city. Mr. Speizio noted there was a traffic crash on Dallas in September. Mr. Brownfield asked whether the portable crosswalk signs donated by *Washington Citizens Engaged in Public Safety* would be effective in the Westminster and Bishops Court crosswalks. Brownfield said he saw traffic slowed by the signs. Brownfield also noted that Public Works Director Andrews looked in to the digital radar interface speed signs and found some evidence they are effective in reducing speeds. Mr. Speizio said he was skeptical and would like to see such a study. He also said the crosswalk signs have not slowed traffic on Jefferson. Mr. T. Gee asked about striping and signing crosswalks on Dallas. Mr. Hullcranz noted the portable signs cost about $250 each and noted that *Washington Citizens Engaged in Public Safety* would meet again on Wednesday to consider options related to digital radar interface signs. Gee noted that it should cost under $500 to sign and paint crosswalks and that is worth trying. Deputy Chief Stevens said consideration ought to include whether the signs will interfere with truck traffic associated with construction in the area. Speizio said these are the worst offenders. Brownfield said the Westminster and Bishops Court intersections would affect a break in traffic whereas the Kingsbury intersection is mostly turn traffic and would not affect such a return on the investment. Speizio said regarding the contract for the construction of Dallas, the copy he received was not a contract, but a bid specification. Speizio said that according to Ken Park of IDOT, the city can change the speed limit on Dallas without jeopardizing federal funding. Speizio provided a printed email from Park. Mr. Culotta said he would show the email to Andrews and if the Committee is so inclined it can consider the issue again. Brownfield said he wants to ensure that is the IDOT and FHWA position rather than an isolated opinion. Speizio said he likes the ideas for provision of crosswalk signage and marking, stops signs, and continued patrolling of Dallas.

3. APPROVAL OF MINUTES FOR THE SEPTEMBER 19, 2016 MEETING: Mr. Brownfield noted that the spelling of Sonny Drive was incorrect in the draft minutes. Mr. Hullcranz noted that the USPS

has unenforceable suggestions for street naming that call for avoidance of homophones. MOTION BY Mr. Brownfield second by Mr. T. Gee. Minutes unanimously approved as amended by changing the spelling of "Sonny Drive".

4. BUSINESS ITEMS:
    a. MONTHLY REPORT: Chief Papis presented the monthly activity report for the police department. Papis noted some numbers are noticeably low without a clear explanation. He noted this is a month-to-month report so it is difficult to gauge the significance of the short time period; the department is in a state of flux and uncertainty. Gee asked about the increase in part II offenses. Papis said there were open-door car burglaries, thefts, criminal damage calls. Gee asked if we are making steps to remedy this. Papis noted that the PD had plainclothes patrols targeted at the car burglaries and believed that may have deterred some activity. Stevens noted WPD made an arrest in relation to a car burglary and East Peoria did as well. Culotta noted again that the data collection method changed recently, as noted last month, and that can affect the numbers. Papis noted it will be more accurate to compare longer terms such as year by year comparisons. He added that Circle K reported a large number of thefts classified as part II based on increased vigilance at the business. Gee asked about shift staffing and command staffing. Papis noted that the newly-trained officers are out of field training and on their own for patrol. November 3 is the date for command transition, moving to command on every shift. Papis noted it will take some overtime to do this and the number of shifts staffed by command should improve in November. Culotta noted that we still have not filled all available sergeant positions. He also asked how using Officer Simpson to supplement Investigations worked. Papis noted that Simpson worked well in that capacity, addressing a number of identity theft cases. He said the department has plans to have some officers enter on-the-job training as acting sergeants to prepare them for future leadership roles and allow them to fill in as needed.
    b. Changes to Police Badges: Papis presented a memo the Mayor's request for information about changing the current police badge from a star to a shield. Papis said that a shield is the norm locally for municipal badges and the department presented officers with the chance to express a preference among 3 shield styles. Papis said he believes we can get the projected cost down somewhat from the prices on the memo. Gee asked how long WPD has used the star. Stevens said he thought that was changed around 2004 but was not certain of the date. Gee asked how big an issue this is and why change the badge at a cost of thousands of dollars. Papis said that people often associate the star with a sheriff's office and suggested it may be a morale issue. Gee asked about presenting the issue to the Committee of the Whole and Brownfield agreed. Gee said he would like the Committee of the Whole to see a proof of the suggested badge.

5. OTHER BUSINESS: None.

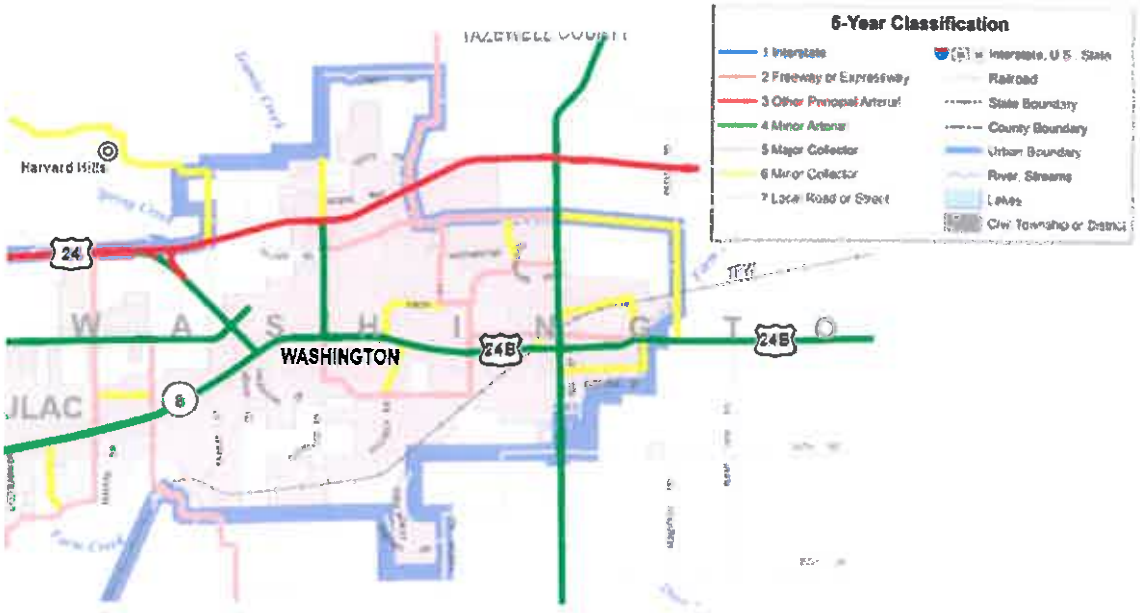
6. Mr. Brownfield motioned for adjournment, seconded by Mr. Gee. The meeting was adjourned at 6:10 P.M.

Memo

TO:	Public Safety Committee
FROM:	Ed Andrews, PE Public Works Director
SUBJECT:	Dallas Road Follow up Questions
	Traffic Study Summary
DATE:	November 17, 2016

Please accept the following memorandum in follow up to engineering related questions posed regarding Dallas Road at the October 17th, 2016 Public Safety Meeting. Additional questions concerning enforcement of the posted speed limit and deployment of the portable crosswalk signs would be items specific to the Police Department.

Roadway Network:



Dallas Road is a Major Collector with a Posted Speed of 30mph, currently carrying 2750 AADT. Functional classifications are established by the Illinois DOT, reviewed and submitted to the FHWA every five years. Only roadways which have functional classifications above a Local Road are eligible for Federal Funding.

Federal Funding:

In 2010 a Project Development Report (PDR) was prepared and approved for Dallas Road for the full length from Newcastle Road to Cruger Road. The ultimate projected traffic for the 20-year design period is 4100 ADT. The aforementioned project report established 30mph as the posted and design speed for both segments of the project. The required public meeting for the PDR was held at Five Points on Thursday, January 14, 2010. One of the public comments mentioned concerns over speeding. This was addressed by a commitment in the PDR that the speed would not be raised over its current 30mph.

Improvements to the roadway have been (or will be) undertaken in two phases, the first from Newcastle to Westminster in 2011 and a pending second phase from Westminster to Cruger. The Local Agency Agreement for Federal Participation was executed in 2011 and imposed the requirement "to regulate parking and traffic in accordance with the approved project report". This provided $700,000 of Federal Surface Transportation Urban (STU) Funds for the first phase of the construction of the project.

Public Concern:

In the Summer of 2016, a concern was shared by a resident that speeding is occurring along Dallas Road and the speed limit should be lowered or a speed bump installed.

Traffic Study:

On July 8th, 2016 staff performed a subsequent review of the results of two NuMetrics™ traffic counters placed on 6-14 thru 6-16, 2016. The raw traffic count (1414 NB + 1719 SB) compared favorably of IDOT's published 2700 ADT. Since IDOT's published ADT is normalized, we'd expect to see this minor variance. As such, it is felt the data is representative of current conditions.

The traffic counters found that the average NB and SB speeds were 34mph and 33mph respectively. The 85th percentile speed was at 38.5mph and 37.9mph.

Finding: Speeds in excess of the posted speed limit were confirmed.

The MUTCD recommends that agencies set speed limits within 5 mi/h (8 km/h) of the 85th percentile speed of free-flowing traffic. The 85th percentile speed is the speed that 85 percent of drivers travel at or below and is one of the best indicators of a reasonable and safe speed.

Setting a speed limit 5 mi/h (8 km/h) higher than the 85th percentile speed will make a few additional drivers legal, but setting it 5 mi/h (8 km/h) lower will make violators out of nearly half of all drivers.

Crash Data:

A review of crash data in the study segment of Dallas Road was also performed on July 26th of 2016. Data from the Washington Police Department shows four (4) reported crashes from 2011 thru July of 2016.

Curiously, the crash data in the 2010 PDR for a period of 2006 to 2008 shows similar accidents.

...Washington at a future date.

3. **Crash Analysis (BLRS Manual Section 22-2.11(b)(9))**

   a. **Summarize crash data for the past three years, including a spot map or a location map showing crash locations when possible. Detail the types of crashes and include collision diagrams, if possible, especially at cluster sites. Give the source of this data.**

Year	No. of Accidents
2006	1 (Prop. Dam.)
2007	2 (1 Prop. Dam. & 1 Pers. Injury)
2008	1 (1 Prop. Dam.)

The accident in 2006 occurred at the Dallas Road & Kingsbury Road Intersection. The accidents in 2007 & 2008 ocurred at the Dallas Road & Cruger Road intersetion. Collision reports are not available for the 2007 accidents. The 2006 accident ocurred when a vehicle Eastbound at the stop sign at Kingsbury pulled out in front of a Southbound vehicle on through Dallas Road. The 2008 accident was a single-vehicle accident that ocurred when the driver reached for a dropped item in the vehicle. Accident information was received from the City of Washington. Refer to Exhibit No. 5 for accident locations.

The current data set data was normalized for review against the national and statewide crash rates using crashes per 100 Million Vehicle Miles (MVM) traveled per FHWA using the following:

$$R = \frac{C \times 100{,}000{,}000}{V \times 365 \times N \times L}$$

The variables in this equation are:

R = Roadway Departure crash rate for the road segment expressed as crashes per 100 million vehicle-miles of travel,
C = Total number of roadway departure crashes in the study period
V = Traffic volumes using Average Annual Daily Traffic (AADT) volumes
N = Number of years of data
L = Length of the roadway segment in miles

The data shows Dallas Road to be less than half of the State of Illinois average and 60% of the national average.

Dallas Road	120 per 100MVM
State of Illinois	281.6 per 100MVM
National Average	209 per 100MVM

Crash data, in and of itself, does not meet corrective action warrants.

Posted Speed:

Further review of the posted speed was performed using FHWA's USLIMITS. It is a web based tool designed to help practitioners set reasonable, safe, and consistent speed limits for specific segments of roads. The program is applicable to all types of roads, ranging from rural local roads and residential streets to urban freeways. It places additional weight on the median speed rather than the 85th percentile, crash data and other specific roadway conditions

The results were as follows:

USLIMITS2 Speed Zoning Report

Project Name: Existing Speed

Analyst: EdA

Date: 07-26-2016

Basic Project Information
Project Number: 001
Route Name: Dallas
From: Newcastle
To: Cruger
State: Illinois
County: Tazewell County
City: Washington city
Route Type: Road Section in Developed Area
Route Status: Existing

Roadway Information
Section Length: 1 mile(s)
Statutory Speed Limit: 30 mph
Adverse Alignment: No
One-Way Street: No
Divided/Undivided: Undivided
Number of Through Lanes: 2
Area Type: Residential-Collector
Number of Driveways: 37
Number of Signals: 0

Crash Data Information
Crash Data Years: 4.00
Crash AADT: 3000 veh/day
Total Number of Crashes: 4
Total Number of Injury Crashes: N/A
Section Crash Rate: 120 per 100 MVM
Crash Rate Average for Similar Roads: 281

Traffic Information
85th Percentile Speed: 36 mph
50th Percentile Speed: 31 mph
AADT: 3000 veh/day
On Street Parking and Usage: Not High
Pedestrian / Bicyclist Activity: High

Project Description: Reviewed existing speed with accident data.

Recommended Speed Limit: **30**

Analyst Comments: Reviewed with number of crashes, four over a period of 4 years.

The results of FHWA's USLIMIT2 review recommend the current speed limit of 30mph be retained. This is consistent with the original project study and design plans for the roadway.

A series of subsequent discussion concerning the Local Agency's (a/k/a the City's) ability to change the speed limit has had IDOT underscore that an engineering study would need to be the basis of such consideration. This is consistent with the funding agreement and what has been previously provided and complied herein.

Additional Traffic Calming Measures:

A number of additional measures might be undertaken to help with reducing speeds above the posted limit.

Lane Diet

A striped narrower lane is thought to change the driver's perception of roadway conditions, hence slowing traffic. However lanes narrower than 12 feet reduce the capacity of a roadway. Streets with 11' lanes have 3% less capacity than streets with 12' lanes, 10' lanes have 7% less capacity than streets with 12' lanes; streets with 9' lanes have 10% less capacity than streets with 12' lanes. (source "Effective Utilization of Street Width on Urban Arterials," TRB 1990).

Additionally the Columbia Pike Street Space Planning Task Force by the Parsons Transportation Group in 2003 found the following:

> *"There is no consensus in the literature on the relationship between lane width and speed. Some studies have shown speed reductions of as much as 3 mph for every foot of lane narrowing; other studies show a more slight speed reduction of about 1 mph per foot of lane narrowing or no significant effect at all. The studies generally agree that there is wide variability between sites, suggesting that lane width alone is not responsible for the entire speed reduction."*

Additionally this would not be standard practice, in urban areas where curb and gutter is present, the curb provides the delineation of the edge of pavement. Cost and maintenance considerations of providing a 4" edge strip along this 0.6 miles segment of Dallas would be approximately $3,000 (assuming $0.40 per foot) and annual costs of $1,545 (a $3,000 touch up every two year at 3% inflation). Assuming this treatment is maintained for the remaining 15 years of the original 20 year design, costs for this consideration are **$26,175** and is not recommended at this time.

Radar Speed Signs

The City has previously deployed its single radar trailer to a degree of success in the past, but the benefits of its deployment are lost soon after its removal.

This observation is supported by industry literature and a 2010 Western Transportation Institute's publication "Effective Deployment of Radar Speed Signs" conducted for CalTrans and Oregon DOT. That report's discussion on temporary speed trailers is cited as follows:

> ***2.1. Speed Impacts***
>
> *Pesti and McCoy examined the impacts on speed that radar speed trailers had in a rural interstate work zone in Nebraska. The researchers evaluated the effectiveness of speed trailers in a 2.7mile work zone on I-80 near Lincoln over a five-week period. Results indicated that the presence of trailers reduced mean speeds by 3 to 4 miles per hour (mph), reduced 85th percentile speeds from 2 to 7 mph, and increased vehicle compliance with speed limits between 20 and 40.*
>
> *Casey and Lund examined the impacts of speed trailers on two- and four-lane urban roadways in Santa Barbara, California. Study locations included school zones as well as residential, commercial and undeveloped areas. Results in school zones indicated reductions in mean speeds between 1.5 and 5 mph. Results for other study locations showed mean speed reductions of 10 percent alongside the radar trailers and 7 percent downstream.*

Bloch examined the effectiveness of radar speed trailers with the presence of enforcement. The study location was Riverside, California, along two-lane, residential roads. Results indicated that at the location of the trailer, under both enforcement and non-enforcement conditions, a speed reduction of 6.1 mph was observed. Downstream of the trailer, reductions of 2.9 mph (without enforcement) and 5.9 mph (with enforcement) were observed during deployment. One week after removal of the trailer, speed reductions of 0.6 mph (at the former trailer location) and 1.7 mph (downstream) were observed for deployments that did not coincide with enforcement.

In work cited by Bloch (3), an examination of deployments in Orange County, California, focused on six roads, including arterials, residential collectors and local roads (4). Results indicated statistically significant reductions in 85th percentile speeds, as well as an average speed reduction of 4 mph at all sites.

That report also summarized the follow comparisons between temporary trailers and permanent mounted signs:

School zone effectiveness:

Trailer:	1-5 mph reduction
Permanent sign:	1-9 mph reduction

Other location (residential, commercial, speed transition zones) effectiveness:

Trailer:	1-5 mph reduction
Permanent sign:	2-8 mph reduction

It found that the speed reduction effects of permanent signs are just that, permanent. Cost for a SpeedCheck Sign w/ Traffic Analyzer software to download and measure effectiveness is **$8,528**. With a ten year warranty on the LED assembly, an assumed life of 15 years appears reasonable.

This is my recommended option.

Other Review items:

The following items were asked to be reviewed per the discussions on October 17, 2016.

Crosswalks

The City has a series of crosswalks along Dallas Road. Their presence is not for speed control, but per the following design guidelines:

Per IDOT:

BUREAU OF DESIGN AND ENVIRONMENT (BDE) MANUAL
57-3.05(c) Crosswalks
An engineering study should be used to determine the need for proper location of crosswalks. Typical locations where marked crosswalks are used include:

- points of significant pedestrian concentration,
- signalized or unsignalized intersection approaches, and
- traffic stops that channelize pedestrians into identified corridors.

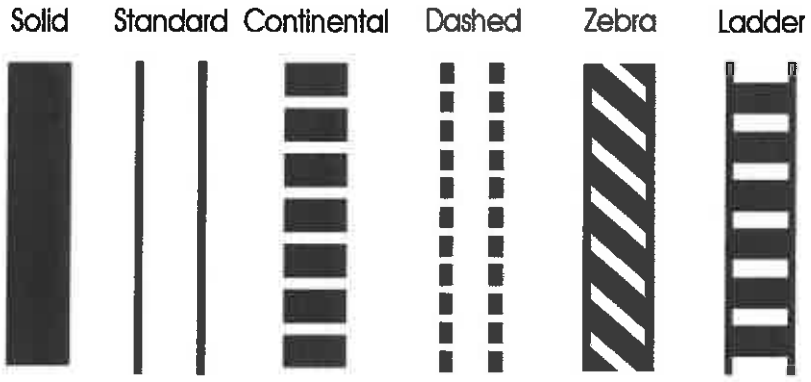
The crosswalk must encompass all curb ramps to satisfy the accessibility criteria; see Chapter 58.

Per MUTCD:

Manual of Uniform Traffic Control Devices (MUTCD)
Section 3B.18 Crosswalk Markings
Support:
01 Crosswalk markings provide guidance for pedestrians who are crossing roadways by defining and delineating paths on approaches to and within signalized intersections, and on approaches to other intersections where traffic stops.
02 In conjunction with signs and other measures, crosswalk markings help to alert road users of a designated pedestrian crossing point across roadways at locations that are not controlled by traffic control signals or STOP or YIELD signs.
03 At non-intersection locations, crosswalk markings legally establish the crosswalk.

Crosswalk Striping Patterns

A question arose as to why the City's has two different styles of cross walk delineation throughout town. The selection of crosswalk striping is more readily presented in Nevada DOT's StreetWise Fall 2008 publication, "*Crosswalk markings may follow many patterns including solid, standard, continental, dashed, zebra and ladder patterns. There is no conclusive evidence that links the type of crosswalk pattern to improved pedestrian safety.*"



The current cross walks along Dallas Road are all "Standard" style, a few other locations within the City are "Continental" style markings and appear to coincide with other Federal Funding sources such as ITEP and ITAP, rather than STU funding utilized for Dallas Road.

Striping patterns outside of the "Standard" style would be more difficult and costly for the City to maintain and would apparently derive no measureable benefit with regards to controlling speed. Other measures such as pedestrian activated, flashing crossing signs would provide more driver attention at these crossing if pedestrian safety were the consideration.

Additional Stop Signs along other Dallas Road Intersections:

Currently Dallas Road has a three-way stop at its intersection with Newcastle Road and a minor leg stop at Cruger Road. The question of introducing four-way stop signs at other intersections was raised.

Intersection traffic control is warrant based on traffic volumes and operational speeds. As with speed limit posting, these would need to adopted by engineering warrants.

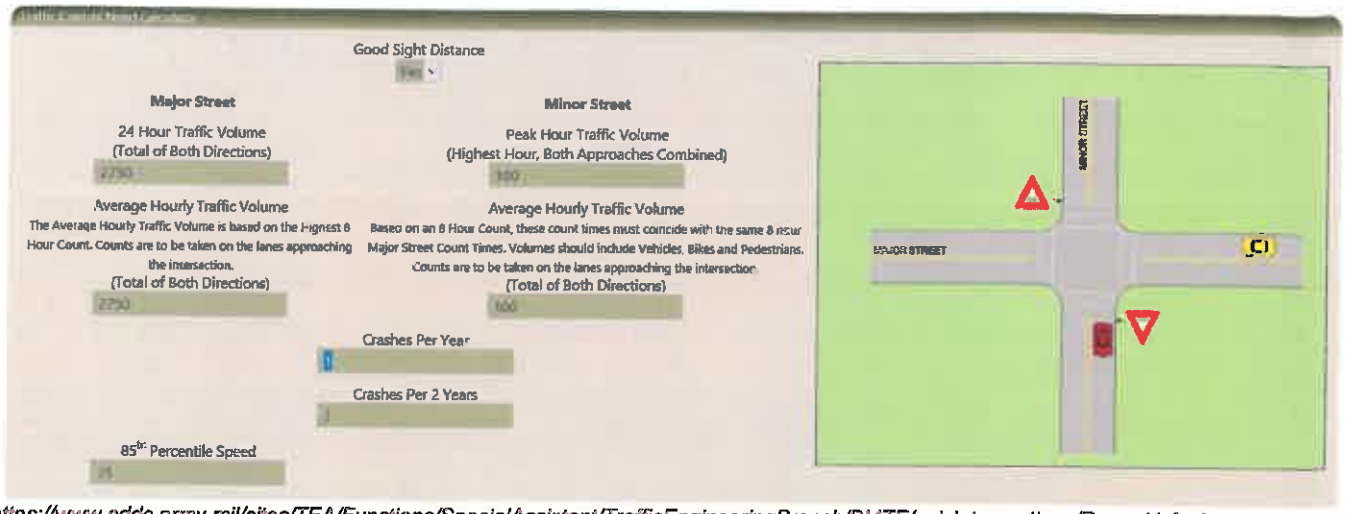
Per MUTCD:

> **Manual of Uniform Traffic Control Devices (MUTCD)**
> **Section 2B.06 STOP Sign Applications**
> Guidance:
> 01 At intersections where a full stop is not necessary at all times, consideration should first be given to using less restrictive measures such as YIELD signs (see Sections 2B.08 and 2B.09).
> 02 The use of STOP signs on the minor-street approaches should be considered if engineering judgment indicates that a stop is always required because of one or more of the following conditions:
>
> A. The vehicular traffic volumes on the through street or highway exceed 6,000 vehicles per day;
> B. A restricted view exists that requires road users to stop in order to adequately observe conflicting traffic on the through street or highway; and/or
> C. Crash records indicate that three or more crashes that are susceptible to correction by the installation of a STOP sign have been reported within a 12-month period, or that five or more such crashes have been reported within a 2-year period. Such crashes include right-angle collisions involving road users on the minor-street approach failing to yield the right-of-way to traffic on the through street or highway.

Dallas Road is currently at 2750 ADT and projected to reach 4100 by its 20-year design life. Traffic counts for the side roads along this segment are summarized below:

Dallas Road = Major Collector w/	ADT = 2750
Cruger Road = Major Collector w/	ADT =4850 (West of Intersection) ADT = 1650 (East of Intersection)
Westminster = Local Road w/	ADT = <1000
Mitchell = Local Road w/	ADT = <500
Kingsbury = Local Road w/	ADT = <1000 (at Agnes ADT = 850 on Sept / Oct '15)
Royal Court = Local Road w/	ADT = <500
Newcastle = Major Collector w/	ADT = 2000

The following results were analyzed using The Transportation Engineering Agency (TEA)'s intersection design calculator for traffic control requirements.



https://www.sddc.army.mil/sites/TEA/Functions/SpecialAssistant/TrafficEngineeringBranch/BMTE/calcIntersections/Paces/default.aspx

In all cases, current conditions show warrants for yields or stops on minor roadway approaches only.

The ultimate design volume project of 4100 ADT was reviewed. Side road volumes of 2000 ADT would be needed to reach be the tipping point for consideration of four-way stops. This would be beyond the 20-year design / study period.

Adoption of stop signs as speed control measures is not recommended and may potentially expose the agency to liability should an accident occur at an unwarranted stop controlled intersection.

MH Corbin Traffic Analyzer Study
Computer Generated Summary Report
City: Washington
Street: DALLAS
Location:

A study of vehicle traffic was conducted with the device having serial number 007105. The study was done in the NB lane at DALLAS in Washington, IL in Tazewell county. The study began on 06/14/2016 at 12:00 PM and concluded on 06/15/2016 at 12:00 PM, lasting a total of 24.00 hours. Traffic statistics were recorded in 60 minute time periods. The total recorded volume showed 1,414 vehicles passed through the location with a peak volume of 109 on 06/14/2016 at [06:00 PM-07:00 PM] and a minimum volume of 0 on 06/15/2016 at [02:00 AM-03:00 AM]. The AADT count for this study was 1,414.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 30 - 35 MPH range or lower. The average speed for all classifed vehicles was 34 MPH with 83.26% vehicles exceeding the posted speed of 30 MPH. 0.29% percent of the total vehicles were traveling in excess of 55 MPH. The mode speed for this traffic study was 30MPH and the 85th percentile was 38.52 MPH.

< to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to >						
5	26	196	677	352	78	16	2	4						

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin.

Most of the vehicles classified during the study were Vans & Pickups. The number of Passenger Vehicles in the study was 0 which represents 0 percent of the total classified vehicles. The number of Vans & Pickups in the study was 1342 which represents 99 percent of the total classified vehicles. The number of Busses & Trucks in the study was 0 which represents 0 percent of the total classified vehicles. The number of Tractor Trailers in the study was 14 which represents 1 percent of the total classified vehicles.

< to 6	7 to 23	24 to 38	39 to 69	70 to >										
0	1342	12	2	0										

CHART 2

HEADWAY

During the peak traffic period, on 06/14/2016 at [06:00 PM-07:00 PM] the average headway between vehicles was 32.727 seconds. During the slowest traffic period, on 06/15/2016 at [02:00 AM-03:00 AM] the average headway between vehicles was 3600 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 79.00 and 126.00 degrees F. The roadway surface was Dry 100.00% of the time.

MH Corbin Traffic Analyzer Study
Computer Generated Summary Report
City: Washington
Street: DALLAS
Location:

A study of vehicle traffic was conducted with the device having serial number 007060. The study was done in the SB lane at DALLAS in Washington, IL in Tazewell county. The study began on 06/14/2016 at 12:00 PM and concluded on 06/15/2016 at 12:00 PM, lasting a total of 24.00 hours. Traffic statistics were recorded in 60 minute time periods. The total recorded volume showed 1,719 vehicles passed through the location with a peak volume of 211 on 06/14/2016 at [05:00 PM-06:00 PM] and a minimum volume of 0 on 06/15/2016 at [03:00 AM-04:00 AM]. The AADT count for this study was 1,719.

SPEED

Chart 1 lists the values of the speed bins and the total traffic volume for each bin. At least half the vehicles were traveling in the 30 - 35 MPH range or lower. The average speed for all classifed vehicles was 33 MPH with 72.61% vehicles exceeding the posted speed of 30 MPH. 0.30% percent of the total vehicles were traveling in excess of 55 MPH. The mode speed for this traffic study was 30MPH and the 85th percentile was 37.87 MPH.

< to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 to 44	45 to 49	50 to 54	55 to >						
13	54	385	759	333	78	21	2	5						

CHART 1

CLASSIFICATION

Chart 2 lists the values of the classification bins and the total traffic volume accumulated for each bin.

Most of the vehicles classified during the study were Vans & Pickups. The number of Passenger Vehicles in the study was 0 which represents 0 percent of the total classified vehicles. The number of Vans & Pickups in the study was 1614 which represents 98 percent of the total classified vehicles. The number of Busses & Trucks in the study was 0 which represents 0 percent of the total classified vehicles. The number of Tractor Trailers in the study was 36 which represents 2 percent of the total classified vehicles.

< to 6	7 to 23	24 to 38	39 to 69	70 to >										
0	1614	29	7	0										

CHART 2

HEADWAY

During the peak traffic period, on 06/14/2016 at [05:00 PM-06:00 PM] the average headway between vehicles was 16.981 seconds. During the slowest traffic period, on 06/15/2016 at [03:00 AM-04:00 AM] the average headway between vehicles was 3600 seconds.

WEATHER

The roadway surface temperature over the period of the study varied between 79.00 and 126.00 degrees F. The roadway surface was Dry 100.00% of the time.

Customer:	Ed Andrews, PE	Contact:	Heidi Hendrickson, Sales Manager			
Quote #:	Washington, IL	Phone/Email:	heidi@informationdisplay.com			
Date:	Oct. 18, 2016		800.421.8325 x101			

Item	Part #	Description	Single Unit	2-4 units	Item Qty	Total
1	SC-15	SpeedCheck™ Sign - "YOUR SPEED" static sign, 30x42", Display cabinet 15" Amber LED digits, 26.5x20x6", 36 lbs.; **Standard features:** ViolationAlert™, High-speed blanking, UltraClear™, SafetyMask™, Approach-only radar, without wireless communication, mounting hardware, **AC or DC power ready : HI Sheeting Color: White, Yellow or DG FYG Sign Face**		$ 3,545	2	$ 7,090
2	Pkg-01*	"SLOW DOWN" Message Alternately displays speed limit and "SLOW DOWN" (15-inch displays have 6-inch LED message and 18-inch displays have 7-inch LED message), available in red or amber LEDs, includes DeviceManager OnSite™ .	$ 499	$ 449	2	$ 898
3	Pkg-02*	SchedulePro™ and TrafficAnalyzer™ Unlimited schedules and modes with 2-yr perpetual calendar, setting operation hours by time of day and day of week, and collects date, time, and speed of vehicle and generates speed compliance reports with data windowing and access to the raw data via .csv file.	$ 399	$ 359	2	$ 718
4	Pkg-03*	SchedulePro™, TrafficAnalyzer™ and "SLOW DOWN" Message Unlimited schedules and modes with 2-yr perpetual calendar, setting operation hours by time of day and day of week, collects date, time, and speed of vehicle and generates speed compliance reports with data windowing and access to the raw data via .csv file, and alternately displays speed limit and "SLOW DOWN" (15-inch displays have 6-inch LED message and 18-inch displays have 7-inch LED message), available in red or amber LEDs, includes DeviceManager OnSite™ .	$ 799	$ 719	2	$ 1,438
5	FL-12-Dual	12" Dual Flashers Kit (Qty 2)	$ 781	$ 734	2	$ 1,467

Purchasing Entity:	Terms and Conditions:
Contact Information Ed Andrews Director Public Works 301 Walnut St Washington, IL 61571 (309)444-1136 (309)745-3503 (309)981-9087 eandrews@ci.washington.il.us http://ci.washington.il.us/	1. Quote is valid for 90 days 2. PO must include price discount clause: a) All discount prices are subject to invoices paid Net-30-day terms and b) Discounts subject to removal after net-30 days 3. Shipment and delivery: a) Standard Delivery is 4-5 weeks. Expedites are available for a fee and b) Large orders may require a phased shipment 4. Sales Tax: a) Oregon does not charge a sales tax for sales in Oregon, b) Sales tax may be required if you are not tax exempt and your state requires it. Your company or agency assumes responsibility for sales tax payments. If the goods are to be resold, a valid copy of your State Sales Tax Reseller Permit is required at the time of the order, otherwise sales tax must be added to the invoice.

Limited Warranty: 3-years product, technical support, and 10-years for amber LED panels, 3-years for white LED panels

SpeedCheck™

Warning Signs
PN: SC-15, SC-18

Speeding drivers put others at risk, especially when pedestrians are present in school zones, neighborhood streets and work zones. Well-designed radar speed signs are highly effective in getting drivers to slow down in these areas.

SpeedCheck™ radar speed signs detect the speed of oncoming vehicles and display the speed in bright LED digits. The display is combined with an FHWA MUTCD-compliant YOUR SPEED sign face, making it easy for drivers to understand the intended message at a glance--and react to it by slowing down.

DeviceManager™

Device set-up, diagnostics, service and data alerts, upgrades

Two-way wireless communication

Local: Onsite™ Bluetooth®
Remote: InstaNet™
Failure Alerts: OfficeAlert™

SchedulePro™

Program with ease, unlimited schedules, modes, exceptions

TrafficAnalyzer™

Traffic data and reporting

Calming Traffic. Saving Lives.

SpeedCheck™ radar speed signs dramatically outperform any other brand on the market by incorporating these exceptional features:

- Highest contrast UltraClear™ display technology for best viewability in all weather and lighting conditions
- Unique SafetyMask™ driver safety feature to prevent hazardous "rubbernecking" when drivers take their eyes off the road to look at the sign while passing it
- Integrated ViolationAlert™, high-speed cut-off, and optional Slow Down message at user-defined speed thresholds
- Lowest power consumption on the market for cost saving up-front and over time
- Most durable construction throughout, using heavy 11-gauge welded aluminum and stainless steel and brass hardware
- Best vandal-resistant design with ability to absorb up to two inches of impact deflection without damage to internal components
- Modular design for easy repair in the field using standard tools
- Backed by the best warranty in the business and supported by our highly-acclaimed customer service team

800.421.8325
sales@informationdisplay.com
www.informationdisplay.com

THE BEST IN THE BUSINESS
INFORMATION DISPLAY COMPANY

SpeedCheck™ Specifications

15-inch digits (SC-15)	Seven segment design, white or amberLED's Recommended for use in speed zones 45MPH or lower. Includes static YOUR SPEED sign (30" x 42", 36 lbs or 30" x 30", 33 lbs.)
18-inch digits (SC-18)	Seven segment design, white or amberLED's Recommended for use in speed zones 45MPH or higher Includes static YOUR SPEED sign (36" x 48", 45 lbs.)
AC Power	Supports 110-240VAC, 25 watts.
Solar Power	Industry-standard 12VDC. Solar power systems designed for specific geographic location and sign application. Performance guaranteed 24/7/365.
Environmental specifications	Conformal-coated electronics. NEMA 3R cabinet, sealed ventilated. Operating temperature: -40°C to +75°C, -40°F to +167°F. 90% RH non-condensing, 5-30Hz 3-axis vibration, ½-sine 3-axis shock, FCC 15.107 and 15.109 Class A radiated and conducted emissions compliance. Radar FCC part 15 low-power device.
Warranty	Three years on products, five years on white LED panels, 10 years on amber LED panels. Free technical support for three years.

Options

SchedulePro™	Sets operation hours by time of day and day of week with unlimited schedules and modes on perpetual calendar; includes two-year exception list. Schedule times of day for on and off control, view current schedule and speed settings modes, edit exceptions by date and time, and download pre-configured schedules to any of our devices.
Output Manager™	Triggers external devices, e.g. flashing beacons or cameras , by speed threshold, schedule, or remotely from your Traffic Management Center.
TrafficAnalyzer™	Collects date, time and speed for over 200,000 individual target vehicles and provides access to the raw data via .csv file for further analysis. Program ON or OFF times, download and erase data in device, select stop-when-full or FIFO data storage. Generate easy pre-defined speed compliance reports; includes advanced data windowing and statistics.
Package 01	"SLOW DOWN" Message. Alternately displays speed limit and SLOW DOWN message in 6" digits for 15" display, or 7" digits for 18" display; red or amber LED's. Includes DeviceManager OnSite.
Package 02	SchedulePro™ and TrafficAnalyzer™ Includes DeviceManager OnSite.
Package 03	SchedulePro™, TrafficAnalyzer™ and "SLOW DOWN" Message. Includes DeviceManager OnSite.
TimeKeeper™	Automatic daily time clock synchronization via GPS satellite signal.
Mounting Options	Mounting brackets support poles, posts, portable stands, and lockable QuickChange™ bracket for our DuraTrailer™ or for moving the sign to different locations.
OnSite™	Enables two-way onsite communication using a laptop with a Bluetooth® wireless link to program, update, and conduct display diagnostics, and download speed data, from up to 50 feet from front of device equipped with DeviceController with a Bluetooth® interface. One USB Bluetooth® module per agency included.
InstaNet™	Enables two-way remote communication from TMC to program, update, download speed data, conduct diagnostics via NTCIP, fiber, WAN TCP/IP, cellular modem, radio/RF modem, serial, or Ethernet.
OfficeAlert™	Failure reporting and alert notification via text message or email. Includes failure notification of LED segments, power monitoring for solar systems, recent high detected speed for speeding problems, and built-in time clock correction using NIST time servers. Allows separate maintenance, administrative, and enforcement email or text message contacts. Requires InstaNet.

Information Display Company Products: AdvisorySpeed™; DeviceController™- Flashing Beacon Retrofit , NTCIP; FlashAlert™; Flashing Beacon Systems; InstaNet™ Two-Way Wireless Remote Communication; OfficeAlert™; Portables; Rectangular Rapid Flashing Beacons (RRFB); SlowDown Alert™; SchedulePro™; SpeedCheck™; TollRate™; TimeKeeper™; TravelTime™; TrafficFlow Manager™; TrafficInfo™; TrafficAnalyzer™; VariableSpeed Limit™