

A regular meeting of the Troy Traffic Committee was held Wednesday, January 21, 2009 in the Lower Level Conference Room at Troy City Hall. Pete Ziegenfelder called the meeting to order at 7:30 p.m.

1. **Roll Call**

PRESENT: Sarah Binkowski  
John Diefenbaker  
Ted Halsey  
Jan Hubbell  
Gordon Schepke  
Pete Ziegenfelder  
Sam Jiang  
ABSENT: Richard Kilmer

Also present: Bill Huotari, Deputy City Engineer  
Lt. David Livingston, Troy Police Dept.

And Kirsten Sonnevile, 3131 Kilmer

**RESOLUTION #2009-01-01**

Moved by Halsey  
Seconded by Hubbell

To excuse Mr. Kilmer.

YES: All-6  
NO: None  
ABSENT: 1 (Kilmer)  
MOTION CARRIED

2. **Minutes – November 19, 2008**

**RESOLUTION #2009-01-02**

Moved by Hubbell  
Seconded by Schepke

To approve the November 19, 2008 minutes.

YES: All-6  
NO: None  
ABSENT: 1 (Kilmer)  
MOTION CARRIED



## REGULAR BUSINESS

### 3. Request for a STOP Sign on Langston at Kilmer

Kirsten Sonnevile, 3131 Kilmer, has requested installation of a STOP sign on Langston at Kilmer. She reports seeing many close calls when drivers exit Langston without yielding to traffic on Kilmer. Based on their review and studies, our traffic engineering consultant, OHM, recommends that a YIELD sign be installed on Langston at Kilmer (see attached report).

The traffic counts on Langston are quite high for a short dead-end street. Ms. Sonnevile believes someone is operating a business from one of the homes.

#### RESOLUTION #2009-01-03

Moved by Schepke

Seconded by Hubbell

Recommend installation of a YIELD sign on Langston at Kilmer.

YES: All-6

NO: None

ABSENT: 1 (Kilmer)

MOTION CARRIED

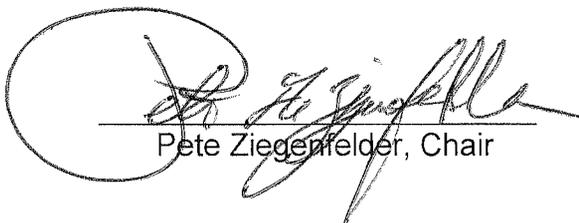
### 4. Public Comment

### 5. Other Business

Mr. Ziegenfelder commented that traffic signal timing on Big Beaver from the City Hall area to Crooks is poor. Mr. Huotari replied that the Road Commission for Oakland County is working on wireless signals for that area.

### 6. Adjourn

The meeting adjourned at 8:07 p.m.

  
Pete Ziegenfelder, Chair

  
Laurel Nottage, Recording Secretary





# TRAFFIC COMMITTEE REPORT

January 6, 2009

TO: Traffic Committee  
FROM: Bill Huotari, Deputy City Engineer  
SUBJECT: Kilmer at Langston  
Stop Sign Request

## Background:

- Kirsten Sonnevile of 3131 Kilmer requested that a STOP sign be placed on Langston at Kilmer.
- Ms. Sonnevile stated that she has experienced vehicles not yielding to traffic or pedestrians when turning from Langston onto Kilmer.
- Traffic volumes were collected November 3, 2008 through November 5, 2008 and again on November 17, 2008 through November 19, 2008 to verify counts.
- Average daily traffic (ADT) on Kilmer is 617 with Langston at 158. The highest peak hour volumes along each road are 59 for Kilmer and 24 on Langston.
- The city requested that our traffic engineering consultant (OHM) review the request and provide a report of their findings and recommendations.
- The report recommends that a YIELD sign be placed on Langston at Kilmer based on their review and findings that the safe approach speed on Langston is greater than 10 mph.
- A copy of this report is attached.

## Recommendations:

- Staff concurs with our consultant's recommendation to modify the intersection control from "no traffic control" to a YIELD sign on the Langston Street westbound approach to Kilmer.

## Suggested Resolutions:

- a. Recommend installation of a YIELD sign on Langston at Kilmer.
- b. Recommend no changes at the intersection of Langston at Kilmer.



December 30, 2008



Mr. William Huotari, P.E.  
Deputy City Engineer  
City of Troy  
500 W. Big Beaver Road  
Troy, MI 48084

Subject: Traffic Control Recommendation for the intersection of Kilmer Drive and Langston Street  
OHM JN: 0128-08-0070

Dear Mr. Huotari:

As requested, we have reviewed the Kilmer Drive/Langston Street intersection to determine the proper traffic control. The subject intersection is a T-intersection located in the City of Troy between Livernois and Rochester Roads, approximately 500 feet north of Big Beaver Road and 250' south of Hartland Drive. Kilmer Drive is a local street, which runs north-south forming T-intersections at both ends (with Big Beaver Road to the south and Hartland Drive to the north). Langston Street is a local street running in the east-west direction forming the T-intersection with Kilmer Drive at the west end. Langston Street is a 275' dead end street with three houses along both the north and south sides. The speed limit on both streets is 25 mph. There is currently no traffic control at the intersection. Reference the attachments for an aerial photograph and intersection photos.

#### **Background on Traffic Control Determination**

Based on the *Michigan Manual of Uniform Traffic Control Devices (MMUTCD)* there are four conditions where STOP signs may be warranted:

- At the intersection of a less important road with a main road where application of the normal right-of-way rule is unduly hazardous.
- On a street entering a through highway or street.
- At an unsignalized intersection in a signalized area.
- At other intersections where a combination of high speed, restricted view, or crash records indicate a need for control by the STOP sign.

Many times STOP signs are installed where they may not be warranted. Traffic experts agree that unnecessary STOP signs:

- Cause accidents they are designed to prevent.
- Breed contempt for other necessary STOP signs.
- Waste millions of gallons of gasoline annually.
- Create added noise and air pollution.
- Increase, rather than decrease, speeds between intersections.

The use of "multiway-STOP" or "all-way" STOP sign installation is discouraged. The multiway-STOP warrant requires the volumes of traffic per approach leg on intersecting roads to be approximately equal.

The use of a YIELD sign is intended to assign the right-of-way at intersections where it is not usually necessary to stop before proceeding into the intersection. Conversely, the STOP sign is intended for use where it is usually necessary to stop before proceeding into the intersection. The following conditions should be fully evaluated to determine how the right-of-way should be assigned:

- Traffic Volumes: Normally, the heavier volume of traffic should be given the right-of-way.
- Approach Speeds: The higher speed traffic should normally be given the right-of-way.
- Types of Highways: When a minor highway intersects a major highway, it is usually desirable to control the minor highway.
- Sight Distance: Sight distance across the corners of the intersection is the most important factor and is critical in determining safe approach speeds.

### **Traffic Volumes**

24-Hour traffic volumes were provided by the City of Troy. The counts indicate the average daily traffic (ADT) on Kilmer Drive to be 617 with Langston Street at 158. The highest peak hour volumes along each road are 59 for Kilmer Drive and 24 on Langston Street. The MMUTCD indicates that multi-way STOP control could be warranted if there were at least 300 vehicles per hour from the major street approaches and 200 units (vehicles, pedestrians and bicycles) per hour from the minor street approaches for the same eight hours on an average day. Based on the peak hour volumes alone, the option of multi-way STOP control does not meet warrants. In addition, the traffic volumes at the intersection are not directionally balanced, which is required for multi-way STOP control.

With the pedestrian and vehicular traffic added together (assuming 20 pedestrians per hour) this location is still far below warrant thresholds for multi-way STOP control. All traffic counts are provided as an attachment to this letter. Pedestrian traffic has not been counted at the intersection.

### **Crash Analysis**

Based on data provided by Traffic Improvement Association's (TIA) Traffic Crash Analysis Tool (TCAT), there have been no crashes recorded in the past three years at this intersection.

### **Approach Speeds**

The approach speed limit on both streets is 25 mph. Speed limits alone cannot be used in this case to determine which direction of traffic should be assigned the right-of-way.

### **Types of Highways**

Although both Kilmer Drive and Langston Street are considered local streets, Kilmer Drive is considered the major road at this intersection based on the traffic volumes. The road with the heavier volume of traffic, Kilmer Drive, should be given the right-of-way.

### **Sight Distance**

The only major sight distance obstructions at the intersection are the houses on the northeast and southeast quadrants. The houses and sight distance come into play when determining the safe approach speeds for the intersection. The safe approach speed is the speed at which a vehicle can approach an intersection and still stop in time to avoid a collision with a vehicle on the cross street. Safe approach speeds are determined through calculations.

When the safe approach speed is found to be less than 10 mph for the minor road, a STOP sign is commonly used. In this case, the safe approach speed on Langston Street was found to be greater than 10 mph; therefore a YIELD sign is the recommended treatment. The safe approach speed calculation spreadsheet is attached for your reference.

**Recommendation**

OHM recommends that the intersection control be modified from "no traffic control" to a YIELD sign on the Langston Street westbound approach to the intersection. We recommend against modifying the intersection to multi-way STOP control.

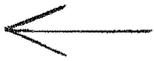
Sincerely,  
Orchard Hiltz & McCliment, Inc.



Steven M. Loveland, PE, PTOE  
Traffic Project Engineer

Attachments:

- Aerial and Intersection Photos
- Traffic Counts
- Safe Approach Speed Calculation Spreadsheet



North





**Kilmer NB at Langston**



**Kilmer SB at Langston**



**Kilmer NE at Langston**



**Kilmer SE at Langston**

# Safe Approach Speed Calculation

Kilmer and Langston  
City of Troy, MI

Major = Kilmer  
Local = Langston

Date: 12/30/2008  
Analyst: S. Loveland

**Measured:**

Width of Roads  
Major: M = 22 (ft)  
Local: L = 28 (ft)

Distance to Obstruction  
a = 32 (ft)  
b = 38 (ft)

Angle of Intersection  
Delta = 90 (degrees)

Major Rd Posted  
Speed Limit = 25 (mph)

**Assumed:**

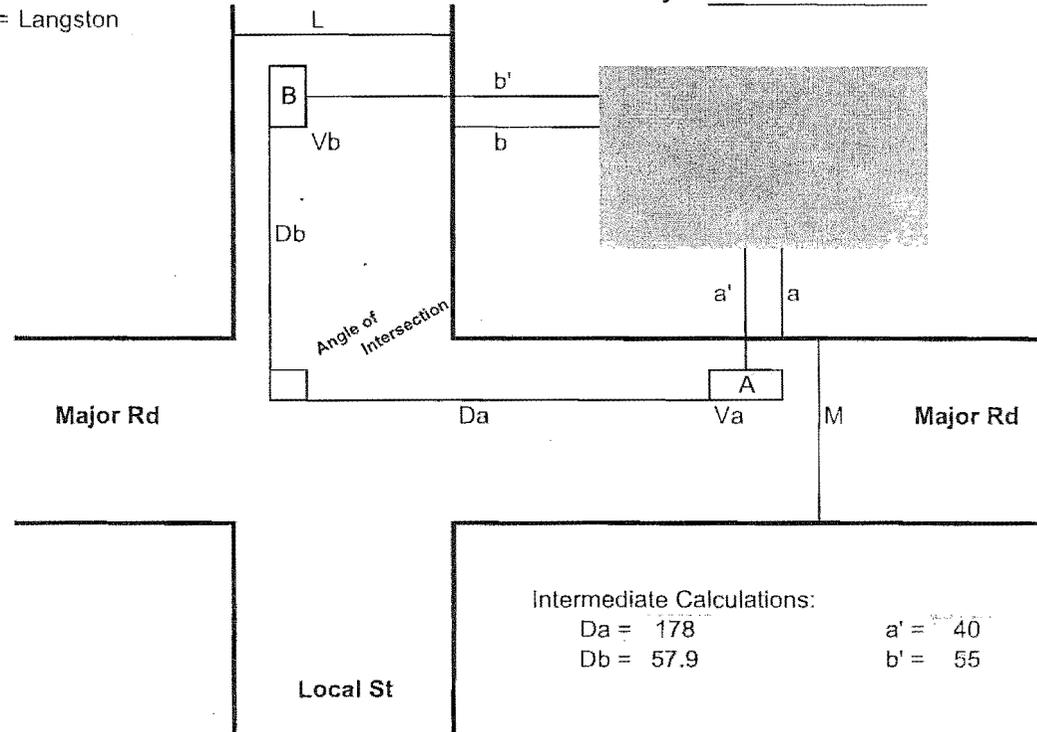
Speed of Vehicle A = Posted Speed Limit  
on Major Road + 5 (mph)  
Va = 30 (mph)

Perception / Reaction Time (AASHTO)  
t = 2.0 (sec)

Coefficient of friction (AASHTO)  
f = 0.40

Clearance distance in excess of safe stopping distance (AAA)  
C = 15 (ft)

Calculated Safe Approach Speed for Vehicle  
Approaching on Local Rd  
Vb = 11.1 (mph)

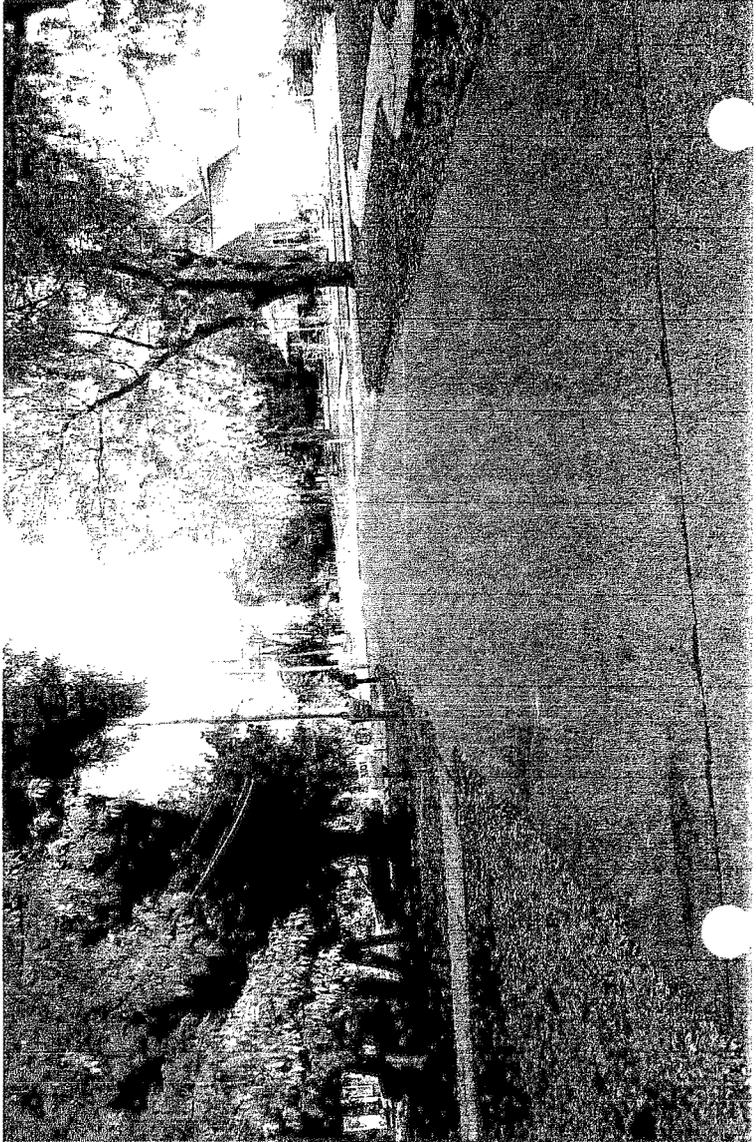
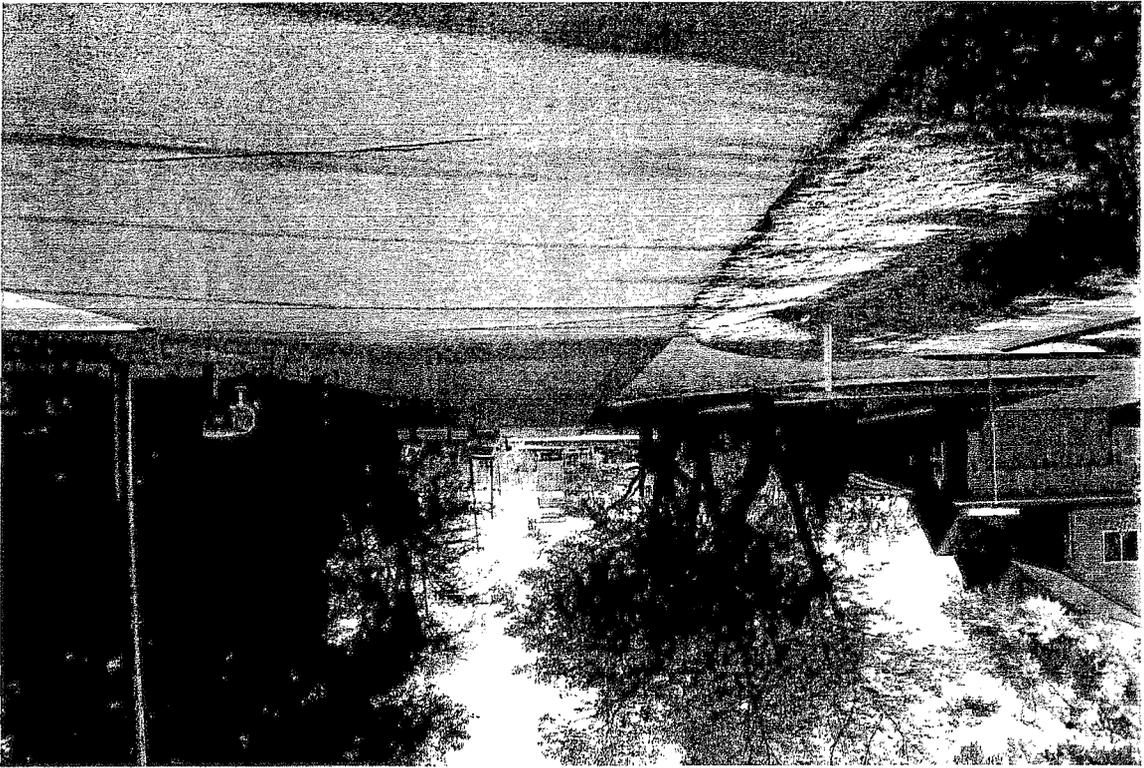


Intermediate Calculations:  
Da = 178      a' = 40  
Db = 57.9      b' = 55

Notes: Enter field measurements in yellow highlighted area.  
Blue fields are std. default values; change only for cause.  
Calculated by spreadsheet

Recommended ROW control for local street  
based on safe approach speed:

**YIELD Sign**



STOP SIGN REQUEST AT LANGSTON & KILMER

1 SOURCE: Citizen request for a stop sign on Langston thru Traffic Engineering  
2 ACTION TAKEN: On November 3<sup>rd</sup> 2008 a counter was put out on Kilmer south of  
3 Langston for speed and volume count. A second counter was placed on Langston east of  
4 Kilmer for a volume count. On November 17<sup>th</sup> a counter was again placed at the same  
5 location on Langston and Kilmer to verify the first volume count at that corner.  
6 CONCLUSIONS: The average speed on Kilmer from November 3<sup>rd</sup> at 12:00 hrs to  
7 November 5<sup>th</sup> at 12:00 hrs was 17.4 mph. The volume of cars that passed in the same  
8 time period was 1248. On Langston the volume of cars that passed over the counters from  
9 November 3<sup>rd</sup> thru the 5<sup>th</sup> was 338. When a counter was placed on Langston, for  
10 verification, on November 17<sup>th</sup> from 12:00 hrs thru the 19<sup>th</sup> to 12:00 hrs the count was  
11 similar at 294. Further details can be found on the attached data sheets.  
12 STATUS: Open

