

**CITY OF NEWBERG  
TRAFFIC SAFETY COMMISSION  
MONDAY, AUGUST 12, 2013  
7:00 P.M. MEETING  
PUBLIC SAFETY BUILDING TRAINING ROOM (401 EAST THIRD STREET)**

- I. CALL MEETING TO ORDER**
- II. ROLL CALL**
- III. PLEDGE OF ALLEGIANCE**
- IV. PUBLIC COMMENTS**
- V. CONSENT CALENDAR**
  - a. Approve meeting minutes for July 8, 2013**
- VI. OLD BUSINESS**
  - a. TSC-13-010 College-2<sup>nd</sup> 4-way stop request**
  - b. TSC-13-014 Center-7<sup>TH</sup> stop sign request**
- VII. NEW BUSINESS**
- VIII. REPORTS**
  - a. Police**
  - b. Engineering**
- IX. ADJOURNMENT**

*ACCOMMODATION OF PHYSICAL IMPAIRMENTS: In order to accommodate persons with physical impairments, please notify the City Recorder's Office of any special physical or language accommodations you may need as far in advance of the meeting as possible and no later than 48 business hours prior to the meeting. To request these arrangements, please contact the City Recorder at (503) 537-1283. For TTY services please dial 711.*

# TRAFFIC SAFETY COMMISSION MINUTES

Monday, July 8, 2013, 7:00 PM

Public Safety Building (401 E. Third Street)

*Mission Statement: "To give the citizens of Newberg a forum to voice traffic safety concerns, evaluate related issues, provide liaison with the City and promote traffic safety within the community."*

## I. CALL MEETING TO ORDER

Chair Neal Klein called the meeting to order at 7:00 PM.

## II. ADMINISTER OATH OF OFFICE

Mayor Bob Andrews administered Commissioner Tony Roos oath of office.

## III. ROLL CALL

Members Present:	Neal Klein, Chair	Karl Birky, Vice Chair	Dianna Cotter
	Shannon Eoff	Ron Johns	Kari Lawson
	Greg Martin	Tony Roos	Suzanne Stitch
	Mayor Bob Andrews (Ex-officio)	Austin Christensen, Student Representative	

Staff Present:	Paul Chiu, Senior Engineer	Mary Newell, Support Services Manager
	Chris Bolek, Police Captain	DawnKaren Bevill, Minutes Recorder

Others Present: Mark Grier

## IV. PLEDGE OF ALLEGIANCE

The Pledge of Allegiance was performed.

## V. PUBLIC COMMENTS

Mr. Mark Grier has been a Newberg citizen since 1978. He lives adjacent to Sportsman Air Park, with Hwy. 219 on the north and the Bypass construction on the south. The Oregon Department of Transportation (ODOT) plans on placing a traffic barrier at the Hwy. 219 and Second Street intersection making it a right turn only intersection, leaving everyone in that area with only one intersection to exit. He asked if there are any plans to make a controlled intersection at Everest Street and Hwy. 219. Chair Klein replied not to his knowledge as that is located in the jurisdiction of ODOT because it is a state highway. Mr. Paul Chiu said he sent an email to a manager at ODOT asking what their plans are for the intersection at Hwy. 219 and Everest. The response he received stated that intersection will be reevaluated when the improvement alternatives are looked at as part of the Newberg Transportation Safety Plan (TSP) update that is currently in process. Commissioner Karl Birky is a liaison to the TSP committee and can voice Mr. Grier's concerns regarding the intersection along to them.

## VI. CONSENT CALENDAR

Review and approve meeting minutes of June 11, 2013.

**MOTION:** Birky/Cotter approving the Consent Calendar including the Traffic Safety Commission minutes for June 11, 2013. Motion carried (9 Yes/0 No).

## VII. OLD BUSINESS

a. (Continued) TSC-13-010: College-2<sup>nd</sup> Street 4-way Stop Request

TIME – 7:12 PM

Mr. Paul Chiu, Senior Engineer, presented the updated staff report accompanied by a PowerPoint presentation (see official meeting packet for full report). The traffic report states that while a 4-way stop request is not warranted, as the intersection is operating at an acceptable rate of service and has a low accident rate, the intersection sight distance is somewhat limited and the engineer recommended that one additional parking space be removed from the NW corner of College/2<sup>nd</sup> Streets and the no-parking be extended. It was discussed the recommended sight distance that should be obtained.

Mayor Bob Andrews viewed cars parked in front of The Painted Lady restaurant in the yellow zone two evenings in a row and is not an uncommon occurrence and is an enforcement issue. Captain Chris Bolek stated a few minor accidents have occurred at that intersection. Chair Klein asked if a 4-way stop would open up more parking spaces in taking away more yellow curb. Mr. Chiu reminded the committee 20 feet of no-parking is needed at the crosswalk and based on the finding he cannot recommend the 4-way stop. Chair Klein stated there is already a lack of parking now without removing any more spaces. Mayor Andrews believes there is no shortage of parking spaces available in the merchant's parking lot, only a shortage of on-street parking.

**MOTION:** Cotter/Eoff to remove one parking space on College Street southbound in front of the business Pulp & Circumstance creating a no-parking zone to increase visibility to the north of the intersection at College/2<sup>nd</sup> Streets. Motion carried (9 Yes/0 No).

**MOTION:** Cotter/Eoff to reduce the yellow no-parking zone on the north side of 2<sup>nd</sup> Street from the crosswalk to 20 feet. Motion carried (9 Yes/0 No).

**MOTION:** Cotter/Lawson to remove one parking space on the southwest corner of College/2<sup>nd</sup> Streets on the west side. Motion carried (9 Yes/0 No).

## VIII. OLD BUSINESS

None.

## VIII. NEW BUSINESS

TIME – 7:59 PM

Chair Klein gave Commissioner Tony Roos an opportunity to introduce himself. Commissioner Roos has lived in Newberg since 1999 and has served on the Yamhill County Road Improvement Advisory Committee for six years. He is a civil engineer and manages the transportation department for a civil engineering firm in Portland, Oregon.

Ms. Austen Christensen, new student representative, is a high-school senior and is also in the work study program at the police department. She plans on attending Oregon State University and study law.

## IX. REPORTS

Captain Chris Bolek reported that since the prescription drug disposal bin was installed in June, 2011, 697 pounds of unwanted/unused drugs has been collected. Three drunk drivers were arrested last weekend after attending the St. Paul Rodeo. The Special Olympics will be held Saturday, July 16, 2011 - Sunday, July 17, 2011, and Safety Town will be held August 12 – 16, 2011.

Mr. Chiu reported on the two city-wide pavement projects and the invitation to bid on the pavement restoration project. Details are posted on city's website. Mr. Jason Wuertz will be stepping in as the Traffic Safety Commission liaison for the next one - two years. Mr. Chiu thanked the commission both past and present for the help they have given him during the past seven years.

Mayor Andrews asked for a report on the Safe Routes to School Action Plan update. Mr. Chiu stated the city executed an Intergovernmental Agreement (IGA) with the Newberg School District to receive state and federal funding. The city will be receiving approximately \$360,000.00 to provide two sets of school zone flashing lights on Deborah Road. There will also be money for two bike racks and bike shelters on the school ground.

Mayor Andrews spoke of his trip to Washington, D.C. to speak with the legislative delegation regarding funding to optimize phase one of the Newberg-Dundee Bypass.

Commissioner Suzanne Stitch reported she will be meeting with the head of the Impact Teen Driver's Program from California on July 29, 2013, for a brainstorming session. All are welcome to attend at 1:00 p.m. in the Public Safety Building.

## **X. ADJOURNMENT**

The meeting adjourned at 8:20 PM.

**Approved** by the Newberg Traffic Safety Commission this \_\_\_ day of \_\_\_\_\_, 2013.

---

**Minutes Recorder**

---

**Neal Klein**  
**Traffic Safety Commission Chair**

Paul Chiu  
Senior Engineer  
503.554.1751

Brian Casey  
Chief of Police  
503.538.8321



414 East First Street  
PO Box 970  
Newberg, OR 97132

July 23, 2013

Dear Property Owner:

RE: Limited Traffic Decisions (File #TSC-13-010)

The Traffic Safety Commission (TSC) at their meeting on Monday, July 8, 2013 made three Limited Decisions to:

- (1) Eliminate one marked on-street parking closest to the intersection, at the northwest corner of the intersection of S. College and E. Second Streets, on the west side of S. College Street.**
- (2) Eliminate one marked on-street parking closest to the intersection, at the southwest corner of the intersection of S. College and E. Second Streets, on the west side of S. College Street.**
- (3) Reduce the length of an existing yellow curb from 33 feet to 20 feet as measured westerly on the north side of E. Second Street, from the near side of a marked crosswalk, west of the intersection of S. College and E. Second Streets.**

You are notified as an adjacent property owner that you may request the Traffic Safety Commission reconsider their decision and schedule a public hearing on this Limited Traffic Decision by submitting written comments within fourteen (14) days of the date of this letter to:

Newberg Traffic Safety Commission  
P.O. Box 970, 401 E. Third Street  
Newberg, OR 97132

If two or more owners request a public hearing, a special public hearing shall be scheduled. If a public hearing is scheduled, a public notice shall be made and a written notice to adjacent property owners shall be given. Those persons who submit written or oral testimony at the public hearing may appeal the final decision of the Commission to the Newberg City Council.

The appeal process is explained in §2.15.450 Appeals of decisions of the Newberg Municipal City Code, enclosed, or you may access it at the city website: [www.newbergoregon.gov](http://www.newbergoregon.gov). Please call (503) 537-1221 if you have questions or require additional information.

Sincerely,

Mary Newell  
Support Services Manager  
Newberg Traffic Safety Commission

Enclosures

cc: Newberg Engineering Services Department

"Working Together For A Better Community-Serious About Service"

*"To give the citizens of Newberg a forum to voice traffic safety concerns, evaluate related issues, provide a liaison with the City and promote traffic safety within the community."*

#### **2.15.450 Appeals of decisions.**

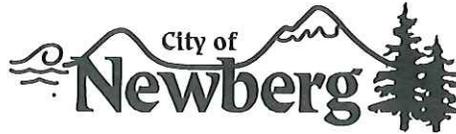
The decisions of the commission can be appealed to the city council. The commission will have an opportunity to reconsider its decision when a petition for appeal is filed. The following procedure is established for an appeal of a commission decision:

- A. Parties Who Can Appeal. Any party appearing before the commission, either in written form or by oral testimony, the city manager, and the chief of police have the authority to appeal the decision of the commission.
- B. Petition for Appeal and Time of Filing. Any decision of the commission can be appealed to the city council if such appeal is made within 14 days of the date of the decision. Such appeal will be made upon the petition prescribed for and approved by the commission stating the name of the party, indicating standing of party to appeal, demonstrating where the decision was in error, and what, if any, new evidence is available that was not available at the hearing.
- C. Reconsideration. Such petition will immediately be placed upon the next regular meeting of the commission for reconsideration of the decision. The commission may consider any new evidence presented, the record of the decision and any reason stated by the appellant. The commission may set the matter down for further hearing, affirm its previous decision, alter its decision in any manner it deems proper, or take no action.
- D. Appeal to the Council. If the decision is reaffirmed or no action is taken, or within 14 days after the commission has altered its decision, and the appealing party is notified of the commission's actions, the party filing the appeal will notify the city if they wish the matter to be appealed to the city council.
- E. Effect of Decision While Appeal or Reconsideration Is Pending. The decision of the commission will be held in abeyance pending appeal to the city council. However, this does not affect the ability of the chief of police to enact any decision under the authority granted to him/her under NMC 2.15.470. [Ord. 2743 § 1, 10-3-11; Ord. 2733 Att. A, 2-7-11; Ord. 2427. Code 2001 § 32.27.]

#### **2.15.460 City council decisions.**

The city council will consider any appeal of a decision by the commission using the following procedure:

- A. Record Before Council and Public Testimony. The city council will hear the appeal based upon the record filed, any written information which will consist of all documents before the commission, plus the minutes of the commission. Written material can be submitted by the appellant or any party prior to the council meeting. The council may, upon the majority of the vote, set the matter down for a public hearing where testimony can be heard.
- B. Authority of Council. The city council, after hearing, may reverse the commission's decision and/or completely substitute their judgment for that of the commission, and will have the authority to consider all matters, whether they were specified in the appeal or not, remand the matter back to the commission, or do whatever the council deems proper.
- C. Final Decision. The decision of the city council is final. [Ord. 2743 § 1, 10-3-11; Ord. 2427. Code 2001 § 32.28.]



---

## MEMORANDUM

---

PUBLIC WORKS DEPARTMENT  
Engineering Division  
P.O. Box 970 • 414 E. First Street • Newberg, Oregon 97132  
Tel 503.537.1240 • Fax 503.537.1277

May 28, 2013

**To:** Newberg Traffic Safety Commission  
**Cc:** Jay Harris, PE, City Engineer; Brian Casey, PD Chief; Mary Newell, PD Support Services Manager  
**From:** Paul Chiu, PE, Senior Engineer *PC*  
**RE:** TSC-13-010 \4-Way Stop Request at College Street and Second Street

---

Ms. Rebecca Thexton provided comments to the City regarding her concern for safety at the above intersection. Staff interviewed her over the phone on March 25, 2013, and understood the reasons behind her request for a 4-way stop (see photo below for an aerial view of the said intersection). Staff mentioned to her that traffic data would need to be collected and evaluated before an accurate response could be given. Staff encouraged her to speak at the monthly TSC meeting.



**Figure 1 - Aerial view at the intersection of Second & College Streets**

College Street runs in a north and south direction. Second Street extends east to west from River Street with a stop sign each way at College Street (see the regional map on the following page for the location of the intersection).

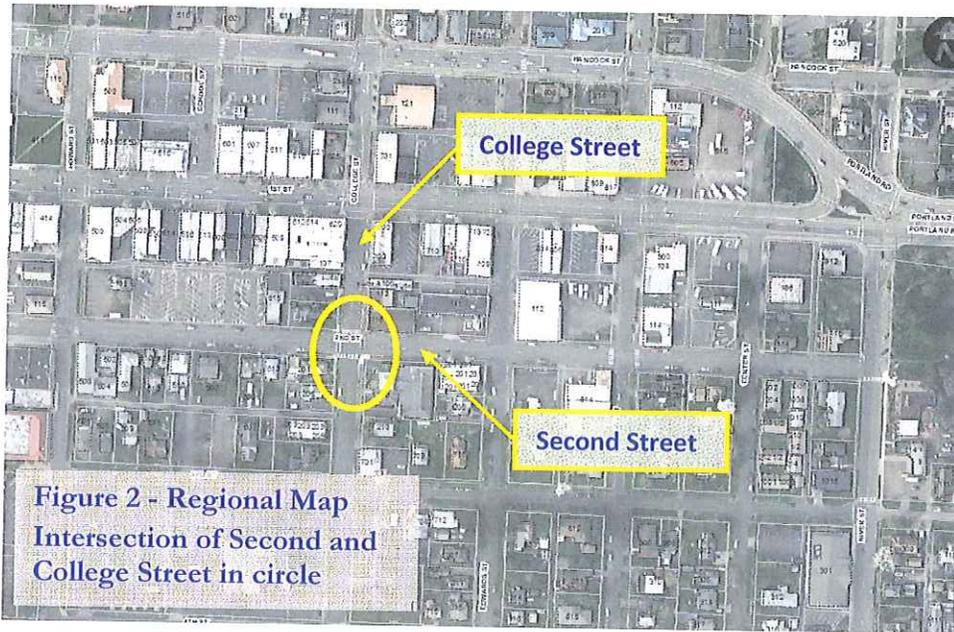
A traffic consultant, **Associated Transportation Engineering & Planning, Inc.**, was hired to provide the 4-way stop warrant analysis. [Please refer to the traffic consultant's letter for the traffic stop warrant analysis.](#)

Traffic data (speed and volume) at the four legs of said intersection was provided to the traffic consultant by the City. The data was collected from April 2<sup>nd</sup> thru 4<sup>th</sup>, 2013. The 3-day traffic data is summarized in the tables on the following page.

---

**“Working Together for a Better Community – Serious About Service”**

**“Traffic Safety Mission Statement: To give the citizens of Newberg a forum to voice traffic safety concerns, evaluate related issues, provide a liaison with the City and promote traffic safety within the community.”**

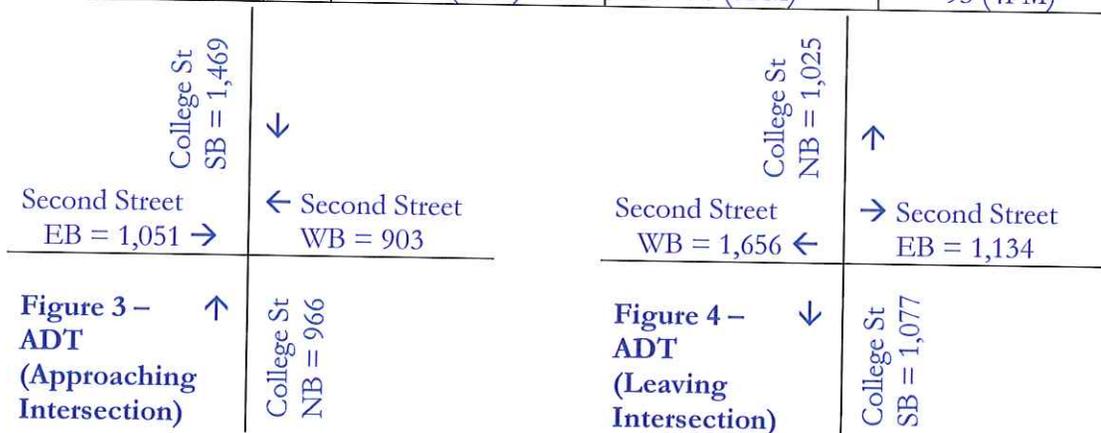


**Table 1 - Traffic Data on College Street**

Block	North of Second Street Intersection		South of Second Street Intersection	
	Southbound	Northbound	Southbound	Northbound
85% Speed	23.7 MPH	23.0 MPH	26.3 MPH	23.9 MPH
ADT =	1,469	1,025	1,077	966
AM Peak =	93 (8AM)	75 (8AM)	70 (8AM)	67 (7AM)
PM Peak =	134 (4PM)	89 (3PM)	96 (6PM)	85 (3PM)

**Table 2 - Traffic Data on Second Street**

Block	West of College Street intersection		East of College Street intersection	
	Westbound	Eastbound	Westbound	Eastbound
85% Speed	21.0 MPH	13.2 MPH	16.1 MPH	21.6 MPH
ADT =	1,656	1,051	903	1,134
AM Peak =	87 (8AM)	68 (7AM,8AM)	51 (8AM)	85 (7AM)
PM Peak =	162 (4PM)	76 (5PM)	90 (5PM)	93 (4PM)



**“Working Together for a Better Community – Serious About Service”**  
 “Traffic Safety Mission Statement: To give the citizens of Newberg a forum to voice traffic safety concerns, evaluate related issues, provide a liaison with the City and promote traffic safety within the community.”

10

1ST ST

COLLEGE ST

2ND ST

3RD ST

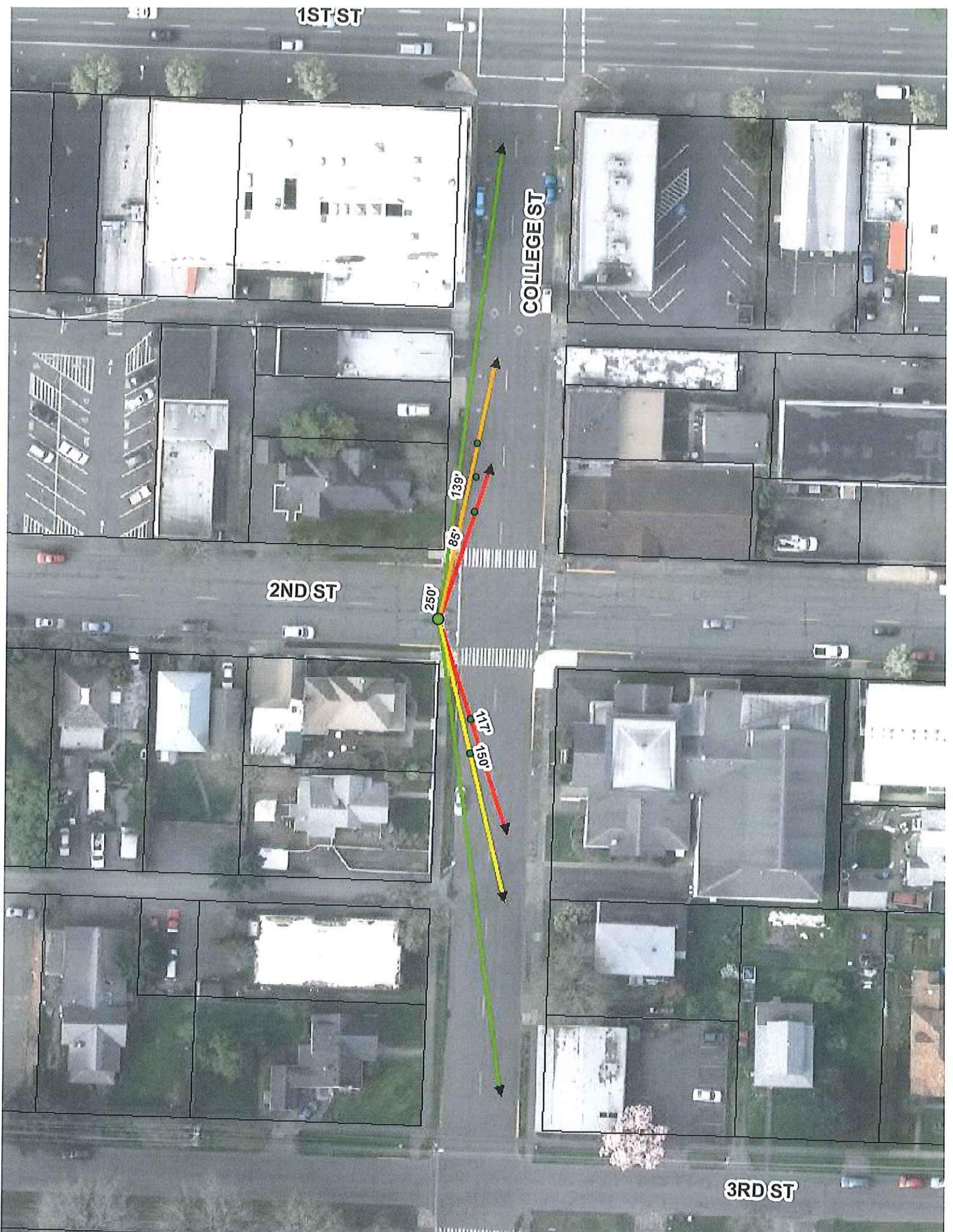
250'

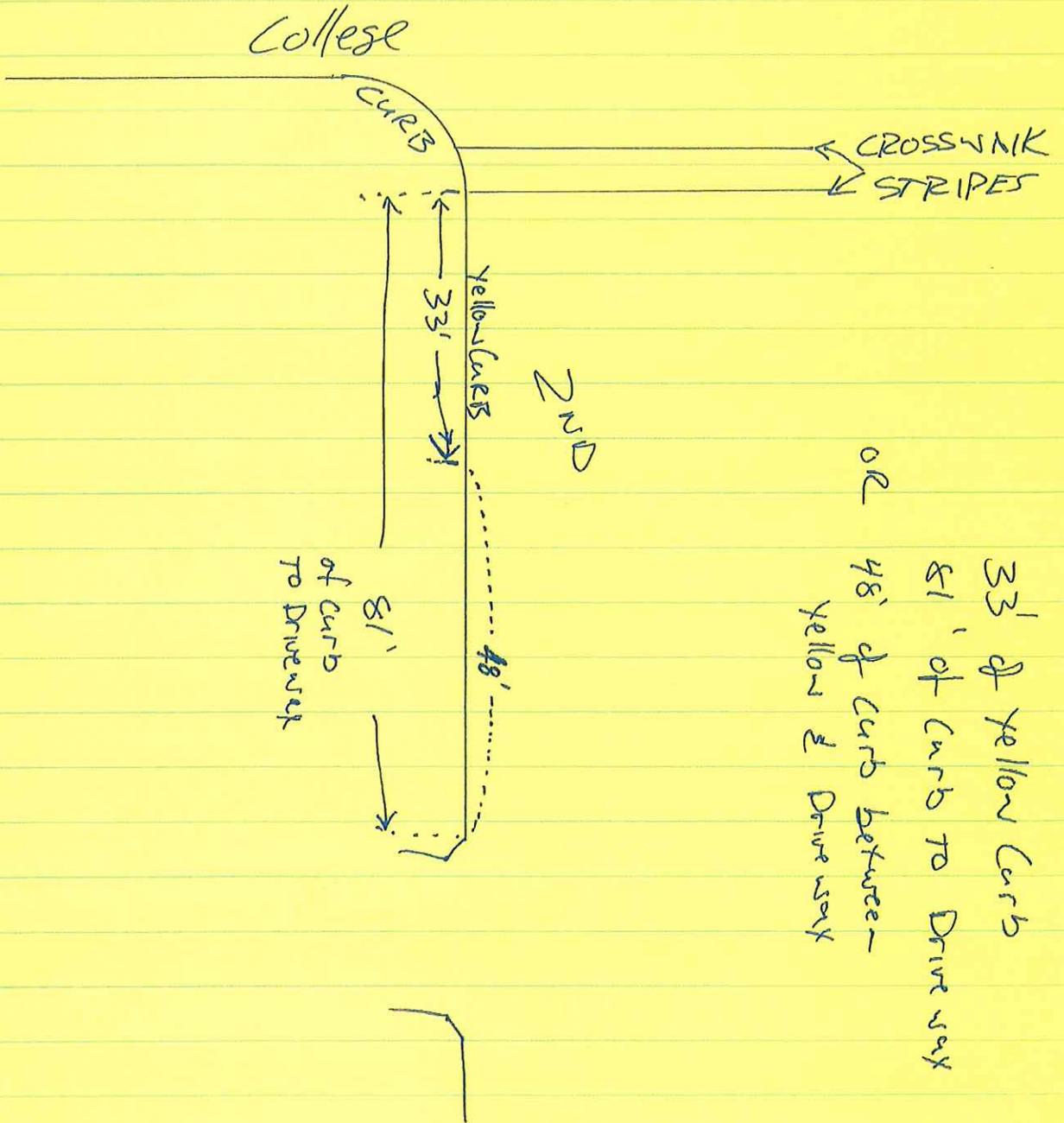
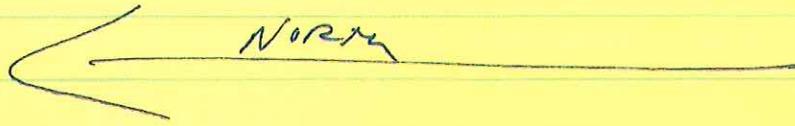
139'

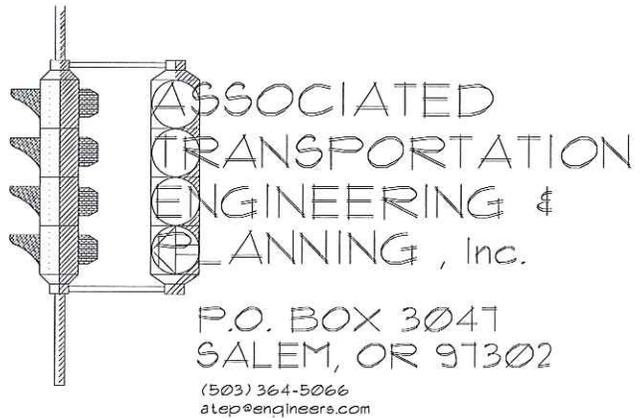
85'

117'

130'







May 14, 2013

Mr. Paul Chiu, P.E.  
Senior Engineer - Newberg Engineering Services Dept.  
414 E. First Street / P O Box 970,  
Newberg, OR 97132

Subject: College St at 2<sup>nd</sup> Street 4 way stop analysis

Dear Mr. Chiu

As you requested ATEP has reviewed the intersection of College St and 2<sup>nd</sup> St located in Newberg, OR. The installation of a Multi-Way Stop applications is governed by the 2009 Manual of Traffic Control Devices (MUTCD) Section 2B.07, Page 52. The comments listed in Italics below are my responses to the MUTCD Requirements for the installation of a multi- way stop

The MUTCD states that "Multi-way stop control can be useful as a safety measure at intersections if certain traffic conditions exist. Safety concerns associated with multi-way stops include pedestrians, bicyclists, and all road users expecting other road users to stop. Multi-way stop control is used where the volume of traffic on the intersecting roads is approximately equal."

The decision to install multi-way stop control should be based on an engineering study.

The following criteria should be considered in the engineering study for a multi-way STOP sign installation:

- A. Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal. *This intersection does not meet the requirements for the installation of a traffic signal as described in the MUTCD in section 4C.01 page 436. The intersection is operating at an acceptable level of service and does not warrant a signal. See Attached*
- B. Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions. *A review of the Oregon Department of Transportation's Accident Analysis section indicate that the intersection had only two accidents in 2011 which is the latest accident data in ODOT's data base.*

C. Minimum volumes:

1. The vehicular volume entering the intersection from the major street approaches ((total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and

College Street Total Entering Volumes				
	Average Hourly Volumes			
	South Bound	North Bound	Total Entering Volumes	Eight Highest Hour
12:00 AM	8	3	11	
1:00 AM	4	3	8	
2:00 AM	3	1	4	
3:00 AM	3	2	5	
4:00 AM	4	4	8	
5:00 AM	15	19	33	
6:00 AM	46	26	71	
7:00 AM	86	67	153	153
8:00 AM	93	61	154	154
9:00 AM	75	48	123	
10:00 AM	71	49	120	
11:00 AM	79	65	144	
12:00 PM	99	57	156	156
1:00 PM	92	55	147	147
2:00 PM	111	59	170	170
3:00 PM	116	85	201	201
4:00 PM	134	77	210	210
5:00 PM	129	76	205	153
6:00 PM	101	67	168	154
7:00 PM	72	56	129	
8:00 PM	55	41	96	
9:00 PM	36	26	61	
10:00 PM	26	12	38	
11:00 PM	<u>12</u>	<u>5</u>	17	
Total	1469	966		

*Item 1 is not met*

2. The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but

2nd Street Total Entering Volumes				
	Average Hourly Volumes		Total Entering Volumes	Eight Highest Hour
	East Bound	West Bound		
12:00 AM	2	5	7	
1:00 AM	1	4	5	
2:00 AM	2	2	4	
3:00 AM	2	1	2	
4:00 AM	6	1	8	
5:00 AM	24	9	32	
6:00 AM	53	18	71	
7:00 AM	68	32	101	101
8:00 AM	68	51	119	119
9:00 AM	56	40	96	
10:00 AM	59	57	116	
11:00 AM	74	64	138	
12:00 PM	73	70	143	143
1:00 PM	75	69	144	144
2:00 PM	67	58	125	125
3:00 PM	68	71	139	139
4:00 PM	75	87	162	162
5:00 PM	76	90	165	165
6:00 PM	73	62	135	135
7:00 PM	48	40	88	
8:00 PM	38	31	69	
9:00 PM	24	24	48	
10:00 PM	12	11	23	
11:00 PM	6	7	12	
Total	1051	903		1954

*Item 2 is not met.*

3. If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2. *85<sup>th</sup> percentile speed is 24 miles per hour. Based on TSC 13-010 3 day Traffic Speed and Volume Data 2013 040204 provided by City of Newberg. Item 3 is not met.*

- D. Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80 percent of the minimum values. Criterion C.3 is excluded from this condition. *Criteria C.1 (300\* .8 = 240) not met. Criteria C.2 (200\*.8 =160) met for 2 hours. Not met.*

Option:

Other criteria that may be considered in an engineering study include :

- A. The need to control left-turn conflicts; *Turn Controls are not needed since 2<sup>nd</sup> St stops for College St.traffic.*
- B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes; *Not Met.*
- C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop; and
- D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operational characteristics of the intersection. *While College and 2<sup>nd</sup> Sts are similar in operation and volumes the delay created by a four way stop will increase. (6.94sec/vehicle to 8.64 sec/vehicle),*

It is my professional opinion that while the intersection of College St and 2<sup>nd</sup> St currently operates at an acceptable level of service and has a low accident rate, I would agree that the intersection sight distance is somewhat limited. I would recommend that one additional parking space be removed from the NW Corner of College /2<sup>nd</sup> Sts and the no parking be extended.

If you have questions or comments please contact me at 503-364-5066

Sincerely,

ASSOCIATED TRANSPORTATION ENGINEERING & PLANNING, Inc.



Richard L. Woelk, P.E., T.E.  
Principal



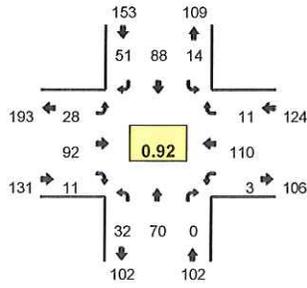
# EXHIBIT A for TSC-13-010 DATA: newberg counts

Type of peak hour being reported: Intersection Peak

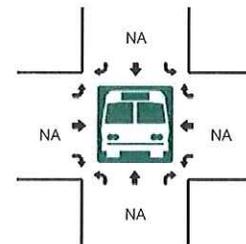
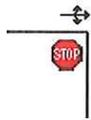
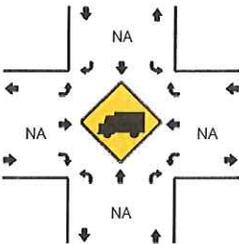
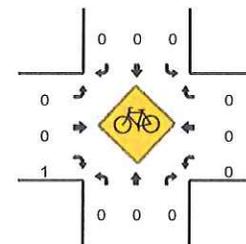
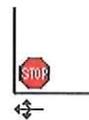
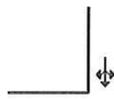
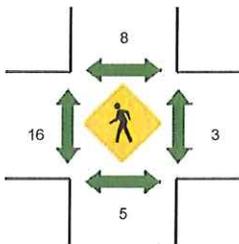
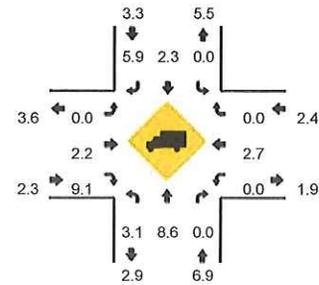
Method for determining peak hour: Total Entering Volume

**LOCATION:** College St -- 2nd St  
**CITY/STATE:** Newberg, OR

**QC JOB #:** 10950801  
**DATE:** Tue, Apr 30 2013



**Peak-Hour: 4:30 PM -- 5:30 PM**  
**Peak 15-Min: 4:30 PM -- 4:45 PM**



5-Min Count Period	College St (Northbound)				College St (Southbound)				2nd St (Eastbound)				2nd St (Westbound)				Total	Hourly Totals	
	Beginning At	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right	U	Left	Thru	Right			U
4:00 PM	1	8	0	0	0	5	3	0	0	1	4	0	0	0	5	1	0	28	
4:05 PM	4	2	0	0	2	5	7	0	0	0	7	0	0	0	10	0	0	37	
4:10 PM	1	3	0	0	2	6	7	0	0	5	9	1	0	1	8	1	0	44	
4:15 PM	3	5	0	0	1	11	5	0	0	0	4	0	0	0	8	0	0	37	
4:20 PM	2	3	0	0	0	8	6	0	0	0	10	3	0	0	10	1	0	43	
4:25 PM	1	1	1	0	1	9	4	0	0	2	4	0	0	0	5	0	0	28	
4:30 PM	3	8	0	0	1	6	3	0	0	2	5	2	0	1	11	1	0	43	
4:35 PM	1	6	0	0	0	3	5	0	0	3	11	0	0	0	9	2	0	40	
4:40 PM	2	7	0	0	3	10	8	0	0	2	8	0	0	0	13	3	0	56	
4:45 PM	2	6	0	0	1	6	5	0	0	1	10	0	0	0	10	1	0	42	
4:50 PM	1	5	0	0	0	8	3	0	0	1	10	2	0	0	6	0	0	36	
4:55 PM	4	6	0	0	0	6	2	0	0	1	9	0	0	1	12	1	0	42	476
5:00 PM	4	7	0	0	1	10	4	0	0	3	7	1	0	0	10	0	0	47	495
5:05 PM	1	4	0	0	1	10	3	0	0	3	7	1	0	0	12	0	0	42	500
5:10 PM	3	4	0	0	6	6	6	0	0	5	4	2	0	0	5	1	0	42	498
5:15 PM	6	6	0	0	0	6	3	0	0	2	6	0	0	0	10	1	0	40	501
5:20 PM	2	4	0	0	0	11	5	0	0	1	6	0	0	0	7	1	0	37	495
5:25 PM	3	7	0	0	1	6	4	0	0	4	9	3	0	1	5	0	0	43	510
5:30 PM	4	6	1	0	1	7	3	0	0	2	2	2	0	0	12	1	0	41	508
5:35 PM	4	4	0	0	1	8	3	0	0	3	10	0	0	0	8	1	0	42	510
5:40 PM	2	4	0	0	2	11	10	0	0	1	6	2	0	0	10	3	0	51	505
5:45 PM	5	5	1	0	0	4	2	0	0	3	9	2	0	0	6	1	0	38	501
5:50 PM	2	4	0	0	0	9	2	0	0	0	6	1	0	1	9	1	0	35	500
5:55 PM	1	3	0	0	2	8	4	0	0	2	4	2	0	0	5	1	0	32	490
Peak 15-Min Flowrates	Northbound				Southbound				Eastbound				Westbound				Total		
All Vehicles	24	84	0	0	16	76	64	0	28	96	8	0	4	132	24	0	556		
Heavy Trucks	0	16	0	0	0	8	4	0	0	4	4	0	0	4	0	0	40		
Pedestrians		12				0				4				0			16		
Bicycles	0	0	0		0	0	0		0	0	0		0	0	0		0		
Railroad																			
Stopped Buses																			

Comments:

## EXHIBIT B for TSC-13-010 DATA: 4-way stop PM Peak Hour

Generated with   
Version 1.10-03

Newberg College and 2nd Sts

5/14/2013

5/14/2013

Newberg College and 2nd Sts

Vistro File:

Scenario: Base Scenario

Report File: F:\...\4 way stop PM Peak Hour.pdf

5/14/2013

### Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	New Intersection	All-way stop	HCM2010	NBT		8.6	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value; for all other control types, they are taken for the whole intersection.

## EXHIBIT B for TSC-13-010 DATA: 4-way stop PM Peak Hour

Generated with **PTV VISTRO**  
Version 1.10-03

Newberg College and 2nd Sts

5/14/2013

5/14/2013

### Intersection Level Of Service Report #1: New Intersection

Control Type: All-way stop  
Analysis Method: HCM2010  
Analysis Period: 15 minutes

Delay (sec / veh): 8.6  
Level Of Service: A

Name	Northbound			Southbound			Eastbound			Westbound		
Approach	Northbound			Southbound			Eastbound			Westbound		
Lane Configuration	⊕			⊕			⊕			⊕		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	yes			yes			yes			yes		

Name	Northbound			Southbound			Eastbound			Westbound		
Base Volume Input [veh/h]	32	70	0	14	88	51	28	92	11	3	110	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	7			3			2			3		
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	70	0	14	88	51	28	92	11	3	110	11
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	18	0	4	22	13	7	23	3	1	28	3
Total Analysis Volume [veh/h]	32	70	0	14	88	51	28	92	11	3	110	11
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

95th-Percentile Queue Length [veh]	0.48	0.71	0.62	0.57
95th-Percentile Queue Length [ft]	12.01	17.72	15.38	14.35
Approach Delay [s/veh]	8.68	8.60	8.68	8.59
Approach LOS	A	A	A	A
Intersection Delay [s/veh]	8.64			
Intersection LOS	A			

PTV VISTRO  
Version 1.10-03  
Copyright © 2003 PTV

Report File: F:\...4 way stop PM Peak Hour.pdf

RL Woelk

## EXHIBIT B for TSC-13-010 DATA: 4-way stop PM Peak Hour

Generated with **PTV VISTRO**

Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

Newberg College and 2nd Sts

Vistro File:

Scenario: Base Scenario

Report File: F:\...\4 way stop PM Peak Hour.pdf

5/14/2013

### Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	New Intersection	32	70	0	14	88	51	28	92	11	3	110	11	510



## EXHIBIT B for TSC-13-010 DATA: 4-way stop PM Peak Hour

Generated with **PTV VISTRO**  
Version 1.10-03

Newberg College and 2nd Sts

5/14/2013

5/14/2013

Newberg College and 2nd Sts

Vistro File:

Scenario: Base Scenario

Report File: F:\...\4 way stop PM Peak Hour.pdf

5/14/2013

### Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	New Intersection	Final Base	32	70	0	14	88	51	28	92	11	3	110	11	510
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		<b>Future Total</b>	<b>32</b>	<b>70</b>	<b>0</b>	<b>14</b>	<b>88</b>	<b>51</b>	<b>28</b>	<b>92</b>	<b>11</b>	<b>3</b>	<b>110</b>	<b>11</b>	<b>510</b>



## EXHIBIT B for TSC-13-010 DATA: 4-way stop PM Peak Hour

Generated with **PTV VISTRO**

Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

Signal Warrants Report For Intersection #1: New Intersection

### Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

### Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

### Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	2	3	2	3
2	2	3	2	3
3	3	5	4	4
4	3	5	4	4
5	4	6	5	5
6	10	15	12	13
7	11	17	14	14
8	20	31	25	26
9	36	54	43	46
10	37	55	45	47
11	37	55	45	47
12	40	60	48	51
13	44	66	53	56
14	46	69	56	59
15	46	69	56	59
16	49	73	60	63
17	61	92	74	79
18	64	96	78	83
19	69	104	84	89
20	78	116	94	100
21	82	122	99	105
22	96	144	117	123
23	98	147	119	126
24	102	153	124	131

## EXHIBIT B for TSC-13-010 DATA: 4-way stop PM Peak Hour

Generated with **PTV VISTRO**  
Version 1.10-03

Newberg College and 2nd Sts

5/14/2013

5/14/2013

### Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	2	5	2	5	No	No	No	No	No	No	No	No	No	No
2	2	5	2	5	No	No	No	No	No	No	No	No	No	No
3	2	8	2	8	No	No	No	No	No	No	No	No	No	No
4	2	8	2	8	No	No	No	No	No	No	No	No	No	No
5	2	10	2	10	No	No	No	No	No	No	No	No	No	No
6	2	25	2	25	No	No	No	No	No	No	No	No	No	No
7	2	28	2	28	No	No	No	No	No	No	No	No	No	No
8	2	51	2	51	No	No	No	No	No	No	No	No	No	No
9	2	90	2	89	No	No	No	No	No	No	No	No	No	No
10	2	92	2	92	No	No	No	No	No	No	No	No	No	No
11	2	92	2	92	No	No	No	No	No	No	No	No	No	No
12	2	100	2	99	No	No	No	No	No	No	No	No	No	No
13	2	110	2	109	No	No	No	No	No	No	No	No	No	No
14	2	115	2	115	No	No	No	No	No	No	No	No	No	No
15	2	115	2	115	No	No	No	No	No	No	No	No	No	No
16	2	122	2	123	No	No	No	No	No	No	No	No	No	No
17	2	153	2	153	No	No	No	No	No	No	No	No	No	No
18	2	160	2	161	No	No	No	No	No	No	No	No	No	No
19	2	173	2	173	No	No	No	No	No	No	No	No	No	No
20	2	194	2	194	No	No	No	No	No	No	No	No	No	No
21	2	204	2	204	No	No	No	No	No	No	No	No	No	No
22	2	240	2	240	No	No	No	No	No	No	No	No	No	No
23	2	245	2	245	No	No	No	No	No	No	No	No	No	No
24	2	255	2	255	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

### Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	8.6	8.7
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]h:mm)	0:17	0:18
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	124	131
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	510	510
Number of Approaches on Intersection	4	4
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
<b>Warrant Met for Intersection</b>	<b>No</b>	

# EXHIBIT B for TSC-13-010 DATA: 4-way stop PM Peak Hour

Generated with **PTV VISTRO**

Newberg College and 2nd Sts

5/14/2013

Version 1,10-03

5/14/2013

Study Intersections

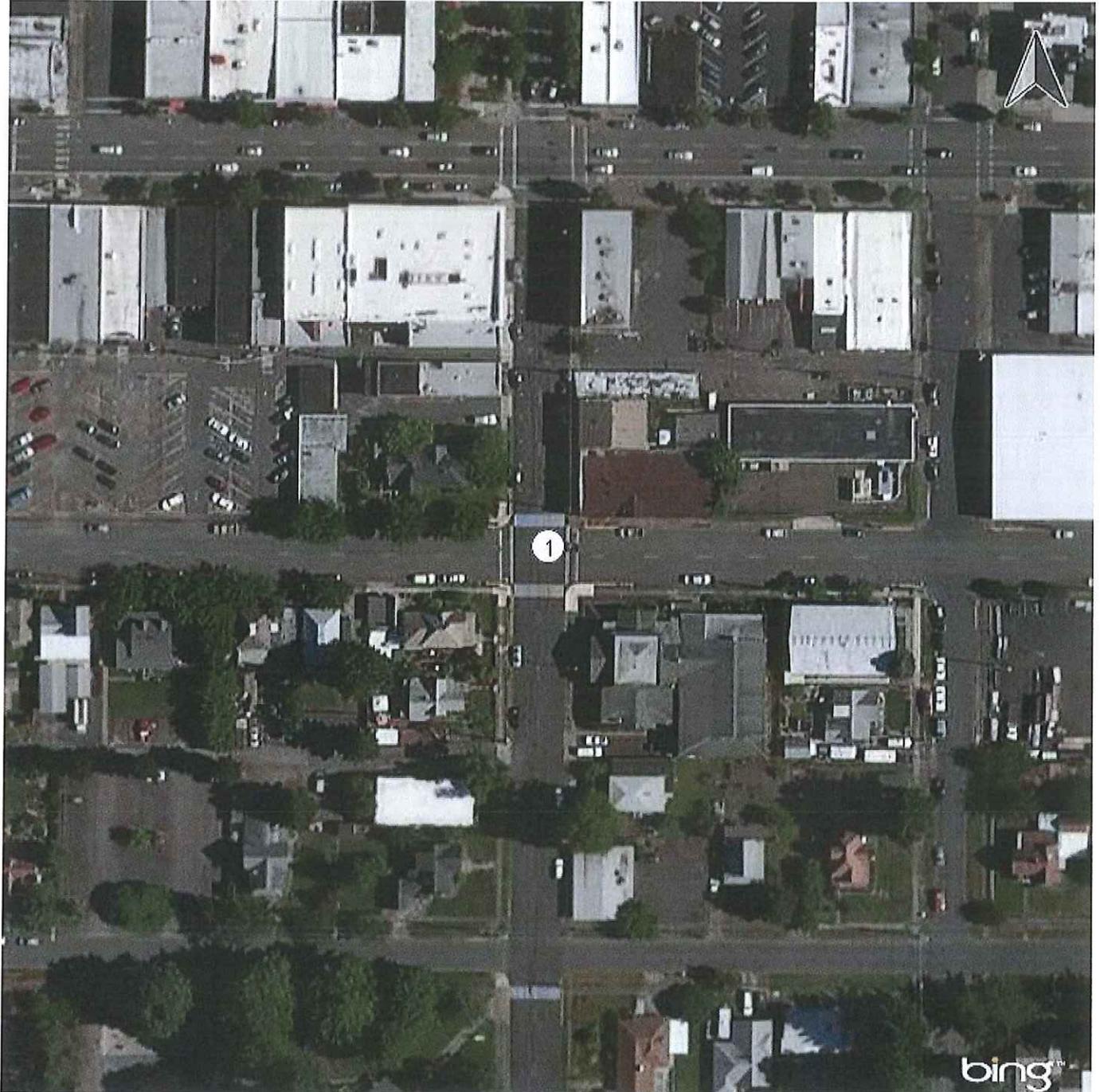


EXHIBIT B for TSC-13-010 DATA: 4-way stop PM Peak Hour

Generated with PTV VISTRO

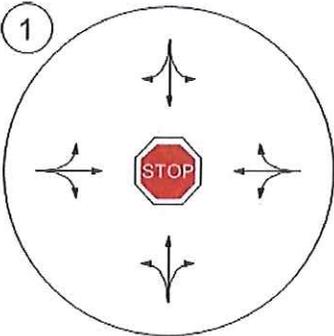
Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

Lane Configuration and Traffic Control



# EXHIBIT B for TSC-13-010 DATA: 4-way stop PM Peak Hour

Generated with **PTV VISTRO**

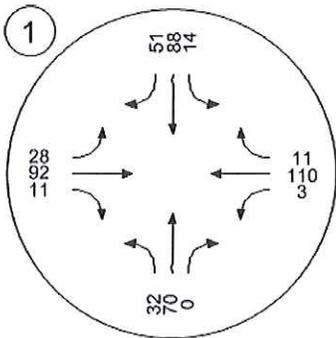
Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

Traffic Volume - Base Volume



# EXHIBIT B for TSC-13-010 DATA: 4-way stop PM Peak Hour

Generated with PTV VISTRO

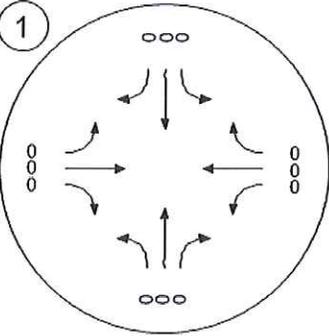
Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

Traffic Volume - In-Process Volume



# EXHIBIT B for TSC-13-010 DATA: 4-way stop PM Peak Hour

Generated with **PTV VISTRO**

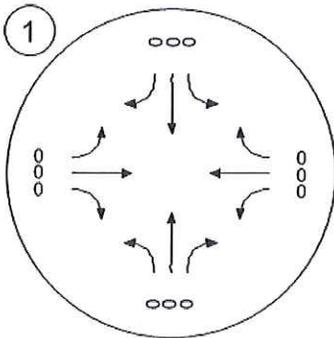
Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

Traffic Volume - Net New Site Trips



# EXHIBIT B for TSC-13-010 DATA: 4-way stop PM Peak Hour

Generated with PTV VISTRO

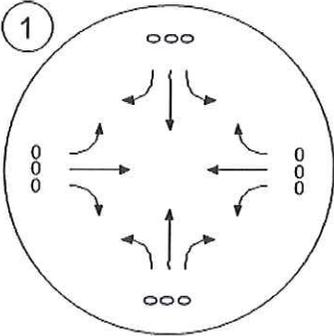
Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

Traffic Volume - Other Volume



# EXHIBIT B for TSC-13-010 DATA: 4-way stop PM Peak Hour

Generated with **PTV VISTRO**

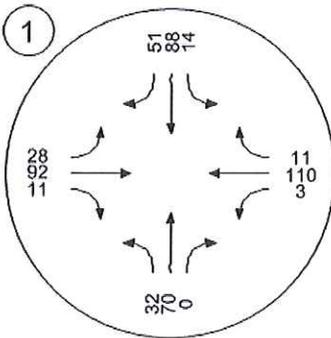
Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

Traffic Volume - Future Total Volume



# EXHIBIT B for TSC-13-010 DATA: 4-way stop PM Peak Hour

Generated with **PTV VISTRO**

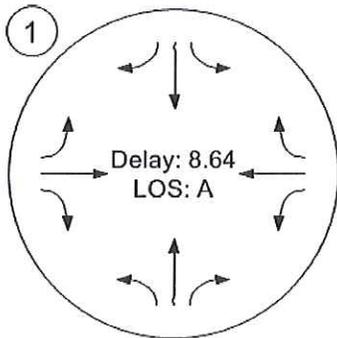
Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

## Traffic Conditions



## EXHIBIT C for TSC-13-010 DATA: Existing PM Peak Hour

Generated with **PTV VISTRO**  
Version 1.10-03

Newberg College and 2nd Sts

5/14/2013

5/14/2013

Newberg College and 2nd Sts

Vistro File:

Scenario: Base Scenario

Report File: F:\...\Existing PM Peak Hour..pdf

5/14/2013

### Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	New Intersection	Two-way stop	HCM2010	EBT	0.151	12.6	B

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value; for all other control types, they are taken for the whole intersection.

## EXHIBIT C for TSC-13-010 DATA: Existing PM Peak Hour

Generated with **PTV VISTRO**  
Version 1.10-03

Newberg College and 2nd Sts

5/14/2013

5/14/2013

### Intersection Level Of Service Report #1: New Intersection

Control Type:	Two-way stop	Delay (sec / veh):	12.6
Analysis Method:	HCM2010	Level Of Service:	B
Analysis Period:	15 minutes	Volume to Capacity (v/c):	0.151

Name	Northbound			Southbound			Eastbound			Westbound		
Approach												
Lane Configuration	⊕			⊕			⊕			⊕		
Turning Movement	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Lane Width [ft]	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00
No. of Lanes in Pocket	0	0	0	0	0	0	0	0	0	0	0	0
Pocket Length [ft]	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Speed [mph]	30.00			30.00			30.00			30.00		
Grade [%]	0.00			0.00			0.00			0.00		
Crosswalk	yes			yes			yes			yes		

Name												
Base Volume Input [veh/h]	32	70	0	14	88	51	28	92	11	3	110	11
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	7			3			2			3		
Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Right-Turn on Red Volume [veh/h]	0	0	0	0	0	0	0	0	0	0	0	0
Total Hourly Volume [veh/h]	32	70	0	14	88	51	28	92	11	3	110	11
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	8	18	0	4	22	13	7	23	3	1	28	3
Total Analysis Volume [veh/h]	32	70	0	14	88	51	28	92	11	3	110	11
Pedestrian Volume [ped/h]	0			0			0			0		
Bicycle Volume [bicycles/h]	0			0			0			0		

Priority Scheme	Free	Free	Stop	Stop
-----------------	------	------	------	------

V/C, Movement V/C Ratio	0.02	0.00	0.00	0.01	0.00	0.00	0.05	0.15	0.01	0.01	0.19	0.01
d_M, Delay for Movement [s/veh]	7.60	0.00	0.00	7.38	0.00	0.00	12.62	12.62	12.62	12.40	12.40	12.40
Movement LOS	A	A	A	A	A	A	B	B	B	B	B	B
d_A, Approach Delay [s/veh]	2.39			0.68			12.62			12.40		
Approach LOS	A			A			B			B		
d_I, Intersection Delay [s/veh]	6.94											



# EXHIBIT C for TSC-13-010 DATA: Existing PM Peak Hour

Generated with **PTV VISTRO**

Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

Intersection LOS	B
------------------	---

## EXHIBIT C for TSC-13-010 DATA: Existing PM Peak Hour

Generated with   
Version 1.10-03

Newberg College and 2nd Sts

5/14/2013

5/14/2013

Newberg College and 2nd Sts

Vistro File:

Scenario: Base Scenario

Report File: F:\...\Existing PM Peak Hour..pdf

5/14/2013

### Turning Movement Volume: Summary

ID	Intersection Name	Northbound			Southbound			Eastbound			Westbound			Total Volume
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	New Intersection	32	70	0	14	88	51	28	92	11	3	110	11	510

## EXHIBIT C for TSC-13-010 DATA: Existing PM Peak Hour

Generated with **PTV VISTRO**  
Version 1.10-03

Newberg College and 2nd Sts

5/14/2013

5/14/2013

Newberg College and 2nd Sts

Vistro File:

Scenario: Base Scenario

Report File: F:\...\Existing PM Peak Hour..pdf

5/14/2013

### Turning Movement Volume: Detail

ID	Intersection Name	Volume Type	Northbound			Southbound			Eastbound			Westbound			Total Volume
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
1	New Intersection	Final Base	32	70	0	14	88	51	28	92	11	3	110	11	510
		Growth Rate	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-
		In Process	0	0	0	0	0	0	0	0	0	0	0	0	0
		Net New Trips	0	0	0	0	0	0	0	0	0	0	0	0	0
		Other	0	0	0	0	0	0	0	0	0	0	0	0	0
		<b>Future Total</b>	<b>32</b>	<b>70</b>	<b>0</b>	<b>14</b>	<b>88</b>	<b>51</b>	<b>28</b>	<b>92</b>	<b>11</b>	<b>3</b>	<b>110</b>	<b>11</b>	<b>510</b>



## EXHIBIT C for TSC-13-010 DATA: Existing PM Peak Hour

Generated with **PTV VISTRO**

Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

### Signal Warrants Report For Intersection #1: New Intersection

#### Warrants Summary

Warrant	Name	Met?
#1	Eight Hour Vehicular Volume	No
#2	Four Hour Vehicular Volume	No
#3	Peak Hour	No

#### Intersection Warrants Parameters

Major Approaches	S, N
Minor Approaches	E, W
Speed > 40mph	No
Population < 10,000	No
Warrant Factor	100%

#### Warrant Analysis Traffic Volumes

Hour	Major Streets		Minor Streets	
	S	N	E	W
1	2	3	2	3
2	2	3	2	3
3	3	5	4	4
4	3	5	4	4
5	4	6	5	5
6	10	15	12	13
7	11	17	14	14
8	20	31	25	26
9	36	54	43	46
10	37	55	45	47
11	37	55	45	47
12	40	60	48	51
13	44	66	53	56
14	46	69	56	59
15	46	69	56	59
16	49	73	60	63
17	61	92	74	79
18	64	96	78	83
19	69	104	84	89
20	78	116	94	100
21	82	122	99	105
22	96	144	117	123
23	98	147	119	126
24	102	153	124	131



## EXHIBIT C for TSC-13-010 DATA: Existing PM Peak Hour

Generated with **PTV VISTRO**

Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

### Warrant Analysis by Hour

Hour	Major Lanes		Minor Lanes		Warrant 1 Condition A				Warrant 1 Condition B				Warrant 2	Warrant 3 Condition B
	Number	Volume	Number	Volume	100%	80%	70%	56%	100%	80%	70%	56%		
1	2	5	2	5	No	No	No	No	No	No	No	No	No	No
2	2	5	2	5	No	No	No	No	No	No	No	No	No	No
3	2	8	2	8	No	No	No	No	No	No	No	No	No	No
4	2	8	2	8	No	No	No	No	No	No	No	No	No	No
5	2	10	2	10	No	No	No	No	No	No	No	No	No	No
6	2	25	2	25	No	No	No	No	No	No	No	No	No	No
7	2	28	2	28	No	No	No	No	No	No	No	No	No	No
8	2	51	2	51	No	No	No	No	No	No	No	No	No	No
9	2	90	2	89	No	No	No	No	No	No	No	No	No	No
10	2	92	2	92	No	No	No	No	No	No	No	No	No	No
11	2	92	2	92	No	No	No	No	No	No	No	No	No	No
12	2	100	2	99	No	No	No	No	No	No	No	No	No	No
13	2	110	2	109	No	No	No	No	No	No	No	No	No	No
14	2	115	2	115	No	No	No	No	No	No	No	No	No	No
15	2	115	2	115	No	No	No	No	No	No	No	No	No	No
16	2	122	2	123	No	No	No	No	No	No	No	No	No	No
17	2	153	2	153	No	No	No	No	No	No	No	No	No	No
18	2	160	2	161	No	No	No	No	No	No	No	No	No	No
19	2	173	2	173	No	No	No	No	No	No	No	No	No	No
20	2	194	2	194	No	No	No	No	No	No	No	No	No	No
21	2	204	2	204	No	No	No	No	No	No	No	No	No	No
22	2	240	2	240	No	No	No	No	No	No	No	No	No	No
23	2	245	2	245	No	No	No	No	No	No	No	No	No	No
24	2	255	2	255	No	No	No	No	No	No	No	No	No	No
Hours Met					0	0	0	0	0	0	0	0	0	0

### Warrant 3 Condition A

Orientation	E	W
Total Stopped Delay Per Vehicle on Minor Approach (s)	12.4	12.6
Number of Lanes on Minor Street Approach	1	1
VehicleHours of Stopped Delay on Minor Approach ([h]:mm)	0:25	0:27
Delay Condition Met	No	No
Volume on Minor Street Approach During Same Hour	124	131
High Minor Volume Condition Met	Yes	Yes
Total Entering Volume on All Approaches During Same Hour	510	510
Number of Approaches on Intersection	4	4
Total Volume Condition Met	No	No
Warrant Met for Approach	No	No
<b>Warrant Met for Intersection</b>	<b>No</b>	

# EXHIBIT C for TSC-13-010 DATA: Existing PM Peak Hour

Generated with **PTV VISTRO**

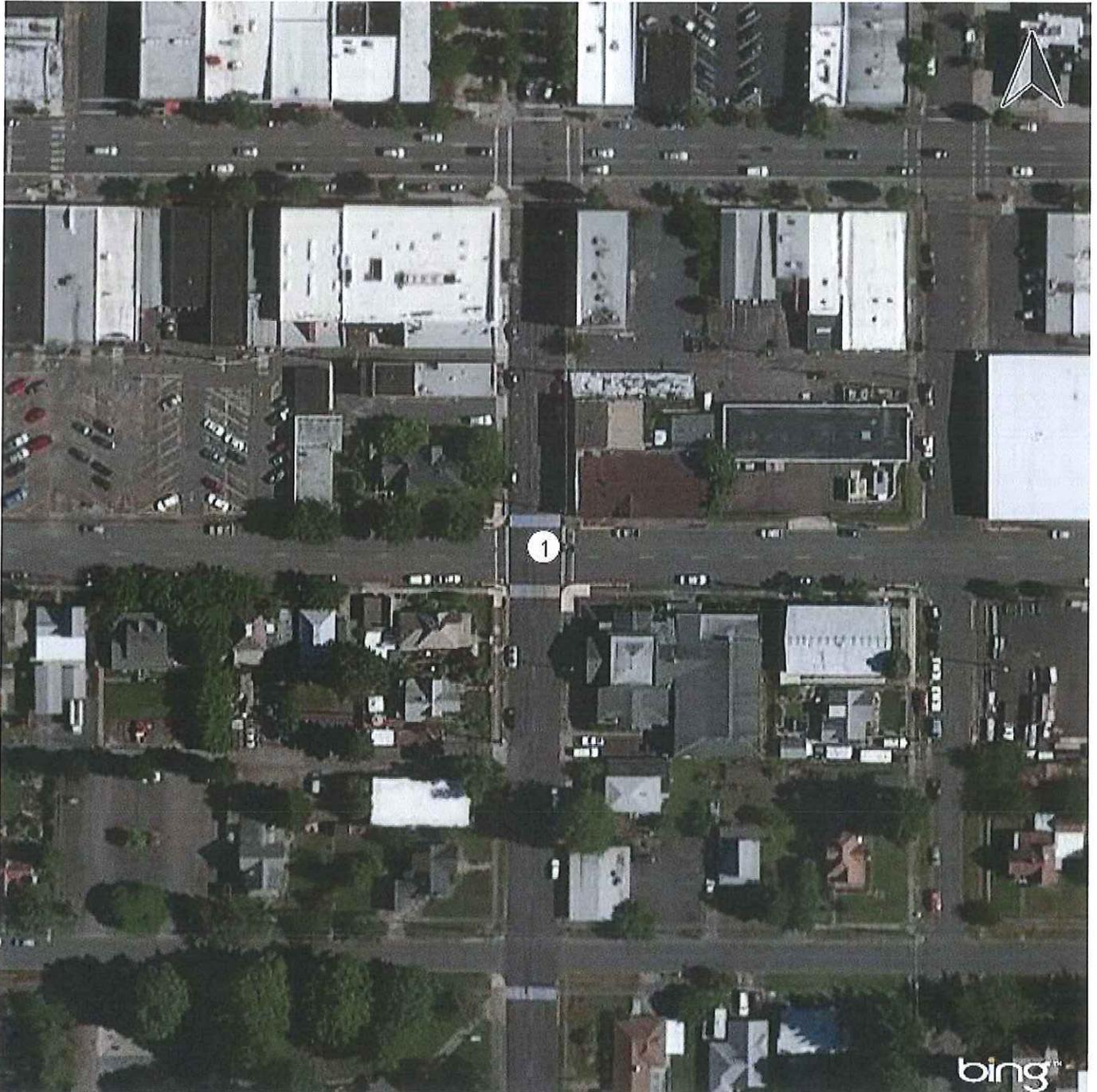
Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

Study Intersections



# EXHIBIT C for TSC-13-010 DATA: Existing PM Peak Hour

Generated with PTV VISTRO

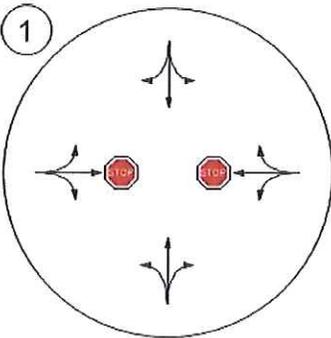
Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

## Lane Configuration and Traffic Control



# EXHIBIT C for TSC-13-010 DATA: Existing PM Peak Hour

Generated with **PTV VISTRO**

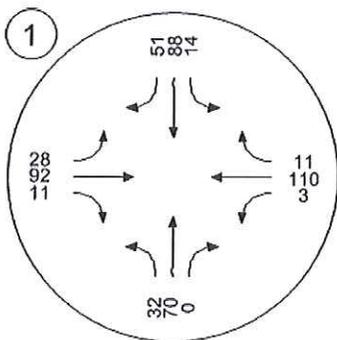
Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

## Traffic Volume - Base Volume



# EXHIBIT C for TSC-13-010 DATA: Existing PM Peak Hour

Generated with **PTV VISTRO**

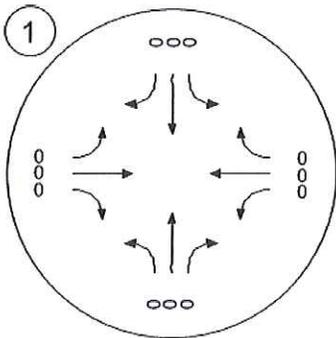
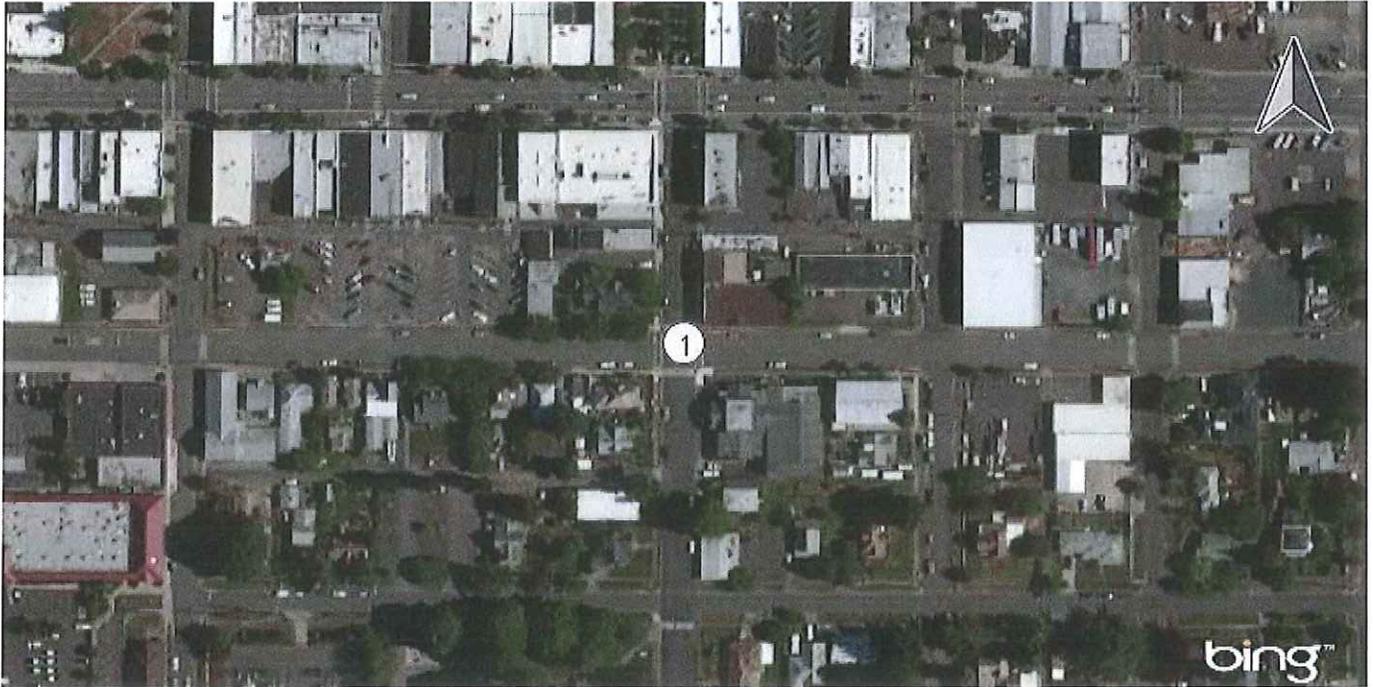
Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

Traffic Volume - In-Process Volume



# EXHIBIT C for TSC-13-010 DATA: Existing PM Peak Hour

Generated with **PTV VISTRO**

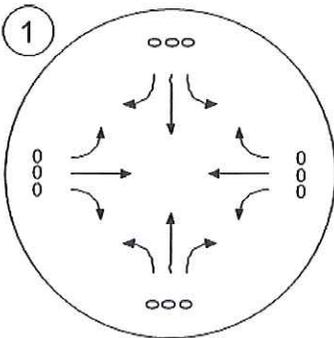
Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

Traffic Volume - Net New Site Trips



# EXHIBIT C for TSC-13-010 DATA: Existing PM Peak Hour

Generated with **PTV VISTRO**

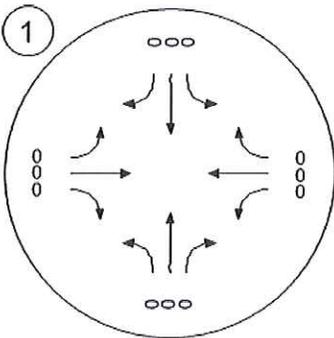
Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

Traffic Volume - Other Volume



# EXHIBIT C for TSC-13-010 DATA: Existing PM Peak Hour

Generated with **PTV VISTRO**

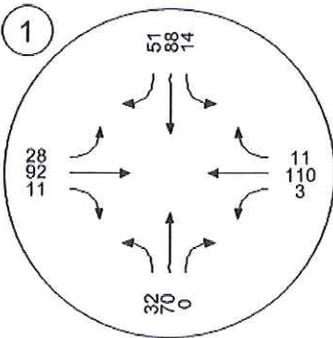
Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

Traffic Volume - Future Total Volume



# EXHIBIT C for TSC-13-010 DATA: Existing PM Peak Hour

Generated with **PTV VISTRO**

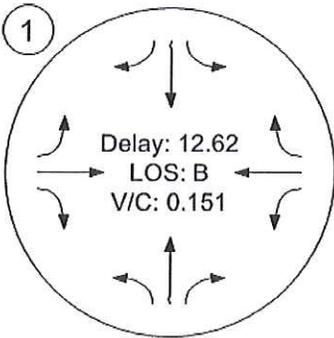
Newberg College and 2nd Sts

5/14/2013

Version 1.10-03

5/14/2013

## Traffic Conditions



Description 1: 2nd St East of College  
 Description 2:  
 Description 3:

Site: 2nd St East of College  
 Tuesday, 04/02/2013, 12:00:00 AM -  
 Thursday, 04/04/2013, 11:59:59 PM

Speed Grand Totals  
 East Bound

mph	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
Total	140.3	641.3	329.0	21.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12:00 AM	1.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 AM	1.3	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 AM	2.3	1.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 AM	1.3	1.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 AM	3.3	2.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5:00 AM	25.7	16.7	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6:00 AM	45.3	26.0	15.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7:00 AM	84.7	43.3	23.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8:00 AM	80.3	45.7	23.7	3.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9:00 AM	58.7	32.7	16.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10:00 AM	61.7	41.0	11.3	1.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11:00 AM	78.7	43.3	21.0	1.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12:00 PM	70.0	40.0	17.7	1.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 PM	85.0	46.7	25.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 PM	76.7	45.0	21.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 PM	83.0	39.7	23.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 PM	93.3	5.0	56.3	30.3	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5:00 PM	91.7	7.0	54.7	28.7	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6:00 PM	75.0	9.0	39.0	24.3	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7:00 PM	48.3	4.0	27.7	16.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8:00 PM	33.3	4.3	19.3	9.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9:00 PM	20.7	2.0	10.3	7.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10:00 PM	7.7	0.7	5.3	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11:00 PM	5.0	0.0	3.0	1.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADT	1134.0	140.3	641.3	329.0	21.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Percentile Speeds (mph)  
 10% 15% 50% 85% 90%  
 14.6 15.4 18.6 21.6 22.3

10 mph Pace Speed Number in Pace  
 13.4 - 23.4  
 3037 (89.3%)  
 Average Minimum Maximum  
 18.5 mph 5.2 mph 32.5 mph

Speeds Exceeded Count  
 55 mph 75 mph  
 0.0% 0.0%  
 0 0

mph	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
Total	421	1924	987	65	5	0	0	0	0	0	0	0	0
East Bound	12.4%	56.6%	29.0%	1.9%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Study Grand Totals



Description 1: 2nd St East of College  
 Description 2:  
 Description 3:

Site: 2nd St East of College  
 Tuesday, 04/02/2013, 12:00:00 AM -  
 Thursday, 04/04/2013, 11:59:59 PM

Speed Grand Totals  
 Combined

mph	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
Total	6.0	2.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12:00 AM	3.3	2.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 AM	5.7	4.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 AM	4.0	2.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 AM	2.0	1.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 AM	4.7	1.3	2.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5:00 AM	34.3	5.3	20.3	8.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6:00 AM	63.7	16.7	31.3	15.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7:00 AM	117.0	38.0	53.7	23.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8:00 AM	131.0	38.3	65.3	23.7	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9:00 AM	98.3	36.3	44.7	16.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10:00 AM	119.0	51.3	55.0	11.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11:00 AM	142.7	57.0	62.3	21.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12:00 PM	140.3	54.7	66.0	17.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 PM	153.7	55.3	72.0	25.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 PM	134.7	51.7	61.0	21.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 PM	154.3	69.3	60.3	23.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 PM	180.3	64.7	83.0	30.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5:00 PM	181.3	64.7	86.3	28.7	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6:00 PM	136.7	47.7	62.0	24.3	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7:00 PM	88.3	29.7	41.7	16.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8:00 PM	64.3	27.3	27.3	9.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9:00 PM	44.7	17.7	18.7	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10:00 PM	18.7	7.0	10.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11:00 PM	11.7	3.3	6.3	1.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADT	2037.3	746.0	936.7	329.7	21.7	2.0	0.3	0.0	0.0	0.0	0.3	0.0	0.7

**Percentile Speeds**  
 (mph) 10% 15% 50% 85% 90%  
 11.8 12.7 16.2 20.4 21.3

**10 mph Pace Speed**  
 Number in Pace 5024 (82.2%)  
 Average Minimum 16.4 mph  
 Maximum 88.8 mph

**Speeds Exceeded**  
 Count 55 mph 65 mph 75 mph  
 0.0% 0.0% 0.0%  
 3 2 2

mph	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
Total	3402	1924	987	65	5	0	0	0	0	0	0	0	0
East Bound	421	12.4%	56.6%	29.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
West Bound	2710	1817	886	2	1	1	0	0	0	0	1	0	2
Combined	6112	2238	2810	65	6	1	0	0	0	0	1	0	2
		36.6%	46.0%	16.2%	1.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

(Data collected by City staff)

EXHIBIT D for TSC-13-010 DATA: Speed & Volume

TSC-13-010 Speed on 2nd St East of College

(Data collected by City staff)

**EXHIBIT D for TSC-13-010 DATA: Speed & Volume**  
**TSC-13-010 Volume on 2nd St East of College**

Description 1: 2nd St East of College  
Description 2:  
Description 3:

Site: 2nd St East of College  
Tuesday, 04/02/2013, 12:00:00 AM -  
Thursday, 04/04/2013, 11:59:59 PM

Volume Grand Totals

<b>Average Hourly Volumes</b>			
	East Bound	West Bound	Combined
12:00 AM	1.0	5.0	6.0
1:00 AM	1.3	4.3	5.7
2:00 AM	2.3	1.7	4.0
3:00 AM	1.3	0.7	2.0
4:00 AM	3.3	1.3	4.7
5:00 AM	25.7	8.7	34.3
6:00 AM	45.3	18.3	63.7
7:00 AM	84.7	32.3	117.0
8:00 AM	80.3	50.7	131.0
9:00 AM	58.7	39.7	98.3
10:00 AM	61.7	57.3	119.0
11:00 AM	78.7	64.0	142.7
12:00 PM	70.0	70.3	140.3
1:00 PM	85.0	68.7	153.7
2:00 PM	76.7	58.0	134.7
3:00 PM	83.0	71.3	154.3
4:00 PM	93.3	87.0	180.3
5:00 PM	91.7	89.7	181.3
6:00 PM	75.0	61.7	136.7
7:00 PM	48.3	40.0	88.3
8:00 PM	33.3	31.0	64.3
9:00 PM	20.7	24.0	44.7
10:00 PM	7.7	11.0	18.7
11:00 PM	5.0	6.7	11.7
ADT	1134.0	903.3	2037.3

<b>Study Grand Totals</b>		
East Bound	West Bound	Combined
3402	2710	6112
55.7 %	44.3 %	

Description 1: 2nd St. West of College  
 Description 2:  
 Description 3:

Site: 2nd St. West of College  
 Tuesday, 04/02/2013, 12:00:00 AM -  
 Thursday, 04/04/2013, 11:59:59 PM

Speed Grand Totals  
 East Bound

mph	Hourly Averages										ADT			
	Total	0 - <15	15 - <20	20 - <25	25 - <30	30 - <35	35 - <40	40 - <45	45 - <50	50 - <55		55 - <60	60 - <65	65 - <70
12:00 AM	1.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 AM	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 AM	2.3	2.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 AM	1.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 AM	6.3	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5:00 AM	23.7	23.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6:00 AM	53.0	52.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7:00 AM	68.3	66.7	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8:00 AM	68.3	67.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9:00 AM	56.3	56.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10:00 AM	58.7	57.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11:00 AM	74.0	72.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12:00 PM	73.0	71.7	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 PM	75.3	74.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 PM	66.7	65.7	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 PM	68.0	67.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 PM	75.3	72.7	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5:00 PM	75.7	74.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6:00 PM	73.3	73.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7:00 PM	47.7	46.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8:00 PM	38.3	37.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9:00 PM	24.3	24.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10:00 PM	12.3	12.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11:00 PM	5.7	5.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADT	1051.0	1033.0	16.0	0.7	0.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Percentile Speeds (mph)  
 10% 8.9  
 15% 9.6  
 50% 11.6  
 85% 13.2  
 90% 13.7

10 mph Pace Speed Number in Pace  
 3120 (99.0%)  
 Average Minimum 11.4 mph  
 Maximum 32.3 mph

Speeds Exceeded Count  
 55 mph 0  
 65 mph 0  
 75 mph 0  
 0.0% 0.0% 0.0%

mph	Study Grand Totals													
	Total	0 - <15	15 - <20	20 - <25	25 - <30	30 - <35	35 - <40	40 - <45	45 - <50	50 - <55	55 - <60	60 - <65	65 - <70	70 - <200
East Bound	3153	3099	48	2	1	3	0	0	0	0	0	0	0	0
		98.3%	1.5%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

(Data collected by City staff)

EXHIBIT D for TSC-13-010 DATA: Speed & Volume

TSC-13-010 Speed on 2nd St West of College

Description 1:  
Description 2:  
Description 3:

Site: 2nd St. West of College  
Tuesday, 04/02/2013, 12:00:00 AM -  
Thursday, 04/04/2013, 11:59:59 PM

Speed Grand Totals  
West Bound

mph	Total	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
12:00 AM	7.3	0.0	4.7	2.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 AM	6.7	0.7	4.7	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 AM	2.7	0.3	0.7	1.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 AM	2.0	0.7	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 AM	2.7	1.0	1.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5:00 AM	15.0	2.7	8.3	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6:00 AM	27.0	3.3	17.0	5.7	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7:00 AM	57.3	13.3	27.7	15.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8:00 AM	86.7	16.0	39.0	29.0	2.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9:00 AM	88.7	17.3	48.0	20.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10:00 AM	98.0	25.7	53.7	17.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3
11:00 AM	121.3	35.0	54.3	28.7	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12:00 PM	122.0	26.0	71.3	21.3	3.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 PM	115.3	29.3	66.7	17.3	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 PM	123.3	37.7	67.7	17.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 PM	145.7	34.0	86.3	23.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 PM	161.7	31.7	94.0	33.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5:00 PM	158.7	25.7	93.3	35.3	4.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6:00 PM	112.0	21.0	67.7	21.3	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7:00 PM	80.3	15.0	48.3	15.7	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8:00 PM	53.7	8.0	31.3	13.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9:00 PM	36.7	4.3	19.7	11.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10:00 PM	21.0	3.3	13.3	4.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11:00 PM	10.7	1.3	5.7	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADT	1656.3	353.3	925.3	342.3	34.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3

**Percentile Speeds**  
(mph) 10% 15% 50% 85% 90%  
13.6 14.3 17.5 21.0 21.9

**10 mph Pace Speed**  
Number in Pace 12.6 - 22.6  
4324 (87.0%)  
Average Minimum Maximum  
17.6 mph 5.1 mph 81.6 mph

**Speeds Exceeded**  
Count 55 mph 65 mph 75 mph  
0.0 % 0.0 % 0.0 %  
1 1 1

mph	Total	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
West Bound	4969	1060	2776	1027	102	3	0	0	0	0	0	0	0	1
		21.3%	55.9%	20.7%	2.1%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Study Grand Totals

EXHIBIT D for TSC-13-010 DATA: Speed & Volume

TSC-13-010 Speed on 2nd St West of College

(Data collected by City staff)



(Data collected by City staff)

**EXHIBIT D for TSC-13-010 DATA: Speed & Volume**  
**TSC-13-010 Volume on 2nd St West of College**

Description 1: 2nd St. West of College  
Description 2:  
Description 3:

Site: 2nd St. West of College  
Tuesday, 04/02/2013, 12:00:00 AM -  
Thursday, 04/04/2013, 11:59:59 PM

**Volume Grand Totals**

<b>Average Hourly Volumes</b>			
	<b>East Bound</b>	<b>West Bound</b>	<b>Combined</b>
12:00 AM	1.7	7.3	9.0
1:00 AM	1.0	6.7	7.7
2:00 AM	2.3	2.7	5.0
3:00 AM	1.7	2.0	3.7
4:00 AM	6.3	2.7	9.0
5:00 AM	23.7	15.0	38.7
6:00 AM	53.0	27.0	80.0
7:00 AM	68.3	57.3	125.7
8:00 AM	68.3	86.7	155.0
9:00 AM	56.3	88.7	145.0
10:00 AM	58.7	98.0	156.7
11:00 AM	74.0	121.3	195.3
12:00 PM	73.0	122.0	195.0
1:00 PM	75.3	115.3	190.7
2:00 PM	66.7	123.3	190.0
3:00 PM	68.0	145.7	213.7
4:00 PM	75.3	161.7	237.0
5:00 PM	75.7	158.7	234.3
6:00 PM	73.3	112.0	185.3
7:00 PM	47.7	80.3	128.0
8:00 PM	38.3	53.7	92.0
9:00 PM	24.3	36.7	61.0
10:00 PM	12.3	21.0	33.3
11:00 PM	5.7	10.7	16.3
ADT	1051.0	1656.3	2707.3

**Study Grand Totals**

<b>East Bound</b>	<b>West Bound</b>	<b>Combined</b>
3153	4969	8122
38.8 %	61.2 %	

Description 1: College North of 2nd St  
 Description 2:  
 Description 3:

Site: College North of 2nd St  
 Tuesday, 04/02/2013, 12:00:00 AM -  
 Thursday, 04/04/2013, 11:59:59 PM

Speed Grand Totals  
 South Bound

mph	Hourly Averages												
	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
Total	8.0	0.0	1.7	5.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12:00 AM	4.3	0.0	2.3	0.7	1.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 AM	3.0	0.0	1.3	1.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 AM	3.0	0.0	0.3	1.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 AM	3.7	0.0	1.0	1.7	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 AM	14.7	0.3	3.3	7.3	2.7	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5:00 AM	45.7	1.7	10.0	24.3	9.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6:00 AM	85.7	4.3	28.7	41.3	9.7	1.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0
7:00 AM	92.7	5.3	46.3	35.3	5.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8:00 AM	75.0	11.3	34.7	27.7	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9:00 AM	71.3	12.7	38.3	19.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10:00 AM	79.0	16.7	36.3	22.3	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11:00 AM	99.0	15.7	50.3	30.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12:00 PM	92.0	20.3	44.0	22.7	4.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 PM	111.0	20.7	51.3	34.3	4.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 PM	116.3	13.7	61.7	36.3	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 PM	133.7	14.7	61.3	47.3	10.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 PM	128.7	15.3	48.3	54.0	10.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5:00 PM	100.7	6.7	34.3	48.7	10.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6:00 PM	72.3	4.3	23.7	36.7	7.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7:00 PM	55.3	2.3	18.0	27.3	7.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8:00 PM	35.7	1.3	10.7	19.3	4.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9:00 PM	26.3	3.3	8.3	10.7	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10:00 PM	12.3	0.7	2.7	7.3	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11:00 PM	1469.3	171.3	619.0	561.7	111.3	5.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0

**Percentile Speeds**  
 (mph) 10% 15% 50% 85% 90%  
 14.6 15.6 19.7 23.7 24.6

**10 mph Pace Speed**  
 Number in Pace 14.8 - 24.8  
 3560 (80.8%)  
 Average Minimum 19.6 mph  
 Maximum 38.6 mph

**Speeds Exceeded**  
 Count 55 mph 65 mph 75 mph  
 0.0 % 0.0 % 0.0 %  
 0 0 0

mph	Study Grand Totals												
	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
Total	514	1857	1685	334	16	2	0	0	0	0	0	0	0
South Bound	11.7%	42.1%	38.2%	7.6%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

(Data collected by City staff)

EXHIBIT D for TSC-13-010 DATA: Speed & Volume

TSC-13-010 Speed on College North of 2nd

Description 1: College North of 2nd St  
 Description 2:  
 Description 3:

Site: College North of 2nd St  
 Tuesday, 04/02/2013, 12:00:00 AM -  
 Thursday, 04/04/2013, 11:59:59 PM

Speed Grand Totals  
 North Bound

mph	Hourly Averages													
	Total	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
12:00 AM	3.7	0.3	0.7	2.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 AM	2.0	0.0	0.3	1.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 AM	2.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 AM	1.3	0.3	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 AM	9.0	0.3	4.0	4.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5:00 AM	16.3	0.7	2.3	9.3	2.7	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6:00 AM	36.7	4.7	17.0	11.3	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7:00 AM	66.3	8.7	29.7	24.7	2.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8:00 AM	74.7	12.3	31.7	26.0	4.0	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9:00 AM	53.3	7.7	28.3	14.7	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10:00 AM	46.7	8.0	27.3	10.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11:00 AM	59.0	9.0	28.3	19.3	2.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12:00 PM	66.3	13.7	34.7	16.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 PM	65.3	15.0	32.0	15.3	2.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 PM	69.3	12.7	33.3	20.0	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 PM	89.0	20.3	44.3	22.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 PM	76.7	12.0	36.7	24.7	3.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5:00 PM	86.7	12.7	39.3	31.3	2.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6:00 PM	61.3	3.0	29.3	25.3	3.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7:00 PM	49.7	4.3	20.0	19.3	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8:00 PM	43.0	3.0	19.7	18.0	2.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9:00 PM	28.7	3.0	11.7	9.7	4.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10:00 PM	12.7	1.3	5.3	5.0	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11:00 PM	5.3	0.3	1.7	2.3	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADT	1025.0	153.3	479.0	334.0	53.3	5.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Percentile Speeds (mph)  
 10% 15% 50% 85% 90%  
 14.0 15.0 19.0 23.0 24.0

10 mph Pace Speed Number in Pace  
 14.1 - 24.1  
 2469 (80.3%)  
 Average Minimum Maximum  
 18.9 mph 5.3 mph 36.7 mph

Speeds Exceeded Count  
 55 mph 75 mph  
 0.0% 0.0%  
 0 0

mph	Study Grand Totals													
	Total	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
North Bound	3075	460	1437	1002	160	15	1	0	0	0	0	0	0	0
	15.0%	46.7%	32.6%	5.2%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

(Data collected by City staff)

EXHIBIT D for TSC-13-010 DATA: Speed & Volume

TSC-13-010 Speed on College North of 2nd

Description 1: College North of 2nd St  
 Description 2: Tuesday, 04/02/2013, 12:00:00 AM -  
 Description 3: Thursday, 04/04/2013, 11:59:59 PM

Site: College North of 2nd St  
 Tuesday, 04/02/2013, 12:00:00 AM -  
 Thursday, 04/04/2013, 11:59:59 PM

Speed Grand Totals  
 Combined

mph	Total	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
12:00 AM	11.7	0.3	2.3	7.3	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 AM	6.3	0.0	2.7	2.0	1.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 AM	5.0	0.0	2.3	2.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 AM	4.3	0.3	0.7	1.3	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 AM	12.7	0.3	5.0	6.3	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5:00 AM	31.0	1.0	5.7	16.7	5.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6:00 AM	82.3	6.3	27.0	35.7	13.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7:00 AM	152.0	13.0	58.3	66.0	12.3	1.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8:00 AM	167.3	17.7	78.0	61.3	9.3	0.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9:00 AM	128.3	19.0	63.0	42.3	4.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10:00 AM	118.0	20.7	65.7	29.3	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11:00 AM	138.0	25.7	64.7	41.7	5.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12:00 PM	165.3	29.3	85.0	46.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 PM	157.3	35.3	76.0	38.0	7.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 PM	180.3	33.3	84.7	54.3	7.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 PM	205.3	34.0	106.0	58.3	7.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 PM	210.3	26.7	98.0	72.0	13.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5:00 PM	215.3	28.0	87.7	85.3	13.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6:00 PM	162.0	9.7	63.7	74.0	14.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7:00 PM	122.0	8.7	43.7	56.0	13.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8:00 PM	98.3	5.3	37.7	45.3	9.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9:00 PM	64.3	4.3	22.3	29.0	8.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10:00 PM	39.0	4.7	13.7	15.7	4.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11:00 PM	17.7	1.0	4.3	9.7	2.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADT	2494.3	324.7	1098.0	895.7	164.7	10.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Percentile Speeds (mph)  
 10% 15% 50% 85% 90%  
 14.3 15.3 19.4 23.4 24.4

10 mph Pace Speed Number in Pace  
 14.7 - 24.7  
 6015 (80.4%)  
 Average Minimum Maximum  
 19.3 mph 5.1 mph 38.6 mph

Speeds Exceeded Count  
 55 mph 75 mph  
 0.0% 0.0%  
 0 0

mph	Total	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
South Bound	4408	514	1857	1685	334	16	2	0	0	0	0	0	0	0
North Bound	3075	460	1437	1002	160	15	1	0	0	0	0	0	0	0
Combined	7483	974	3294	2687	494	31	3	0	0	0	0	0	0	0
		13.0%	44.0%	35.9%	6.6%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

EXHIBIT D for TSC-13-010 DATA: Speed & Volume

TSC-13-010 Speed on College North of 2nd

(Data collected by City staff)

(Data collected by City staff)

**EXHIBIT D for TSC-13-010 DATA: Speed & Volume**  
**TSC-13-010 Volume on College St North of 2nd**

Description 1: College North of 2nd St  
Description 2:  
Description 3:

Site: College North of 2nd St  
Tuesday, 04/02/2013, 12:00:00 AM -  
Thursday, 04/04/2013, 11:59:59 PM

Volume Grand Totals

<b>Average Hourly Volumes</b>			
	South Bound	North Bound	Combined
12:00 AM	8.0	3.7	11.7
1:00 AM	4.3	2.0	6.3
2:00 AM	3.0	2.0	5.0
3:00 AM	3.0	1.3	4.3
4:00 AM	3.7	9.0	12.7
5:00 AM	14.7	16.3	31.0
6:00 AM	45.7	36.7	82.3
7:00 AM	85.7	66.3	152.0
8:00 AM	92.7	74.7	167.3
9:00 AM	75.0	53.3	128.3
10:00 AM	71.3	46.7	118.0
11:00 AM	79.0	59.0	138.0
12:00 PM	99.0	66.3	165.3
1:00 PM	92.0	65.3	157.3
2:00 PM	111.0	69.3	180.3
3:00 PM	116.3	89.0	205.3
4:00 PM	133.7	76.7	210.3
5:00 PM	128.7	86.7	215.3
6:00 PM	100.7	61.3	162.0
7:00 PM	72.3	49.7	122.0
8:00 PM	55.3	43.0	98.3
9:00 PM	35.7	28.7	64.3
10:00 PM	26.3	12.7	39.0
11:00 PM	12.3	5.3	17.7
ADT	1469.3	1025.0	2494.3

<b>Study Grand Totals</b>		
South Bound	North Bound	Combined
4408	3075	7483
58.9 %	41.1 %	



Description 1: College South of 2nd St  
 Description 2: Tuesday, 04/02/2013, 12:00:00 AM -  
 Description 3: Thursday, 04/04/2013, 11:59:59 PM

Site: College South of 2nd St  
 Tuesday, 04/02/2013, 12:00:00 AM -  
 Thursday, 04/04/2013, 11:59:59 PM

Speed Grand Totals  
 North Bound

(Data collected by City staff)

EXHIBIT D for TSC-13-010 DATA: Speed & Volume

TSC-13-010 Speed on College South of 2nd

mph	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
Total	3.3	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 AM	3.3	1.3	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 AM	1.0	0.3	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 AM	2.3	1.3	0.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 AM	4.0	0.7	2.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5:00 AM	18.7	2.0	9.3	5.3	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6:00 AM	25.7	1.0	6.7	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7:00 AM	67.3	11.0	22.7	7.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8:00 AM	61.3	7.0	20.0	6.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9:00 AM	48.3	8.3	21.7	4.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10:00 AM	48.7	12.7	14.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11:00 AM	65.3	10.0	29.7	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12:00 PM	57.0	9.3	25.7	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 PM	55.3	13.3	20.7	18.3	2.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 PM	59.0	8.3	27.7	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 PM	85.0	22.0	38.3	21.7	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 PM	76.7	4.0	33.7	34.0	4.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5:00 PM	76.3	6.7	27.3	35.3	6.7	0.0	0.3	0.0	0.0	0.0	0.0	0.0	0.0
6:00 PM	67.3	5.0	25.3	30.7	6.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7:00 PM	56.3	3.0	20.3	23.3	9.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8:00 PM	41.0	3.3	15.7	19.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9:00 PM	25.7	2.0	9.7	4.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10:00 PM	12.0	0.0	4.7	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11:00 PM	5.0	0.0	0.3	0.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADT	966.0	128.3	378.7	372.3	82.0	4.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0

Percentile Speeds  
 (mph) 10% 15% 50% 85% 90%  
 14.1 15.5 19.8 23.9 24.8

10 mph Pace Speed  
 Number in Pace 15.4 - 25.4  
 2271 (78.4%) Average Minimum Maximum  
 19.6 mph 5.0 mph 35.1 mph

Speeds Exceeded  
 Count 55 mph 65 mph 75 mph  
 0.0 % 0.0 % 0.0 %  
 0 0 0

mph	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
Total	385	1136	1117	246	13	1	0	0	0	0	0	0	0
North Bound	13.3%	39.2%	38.5%	8.5%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Study Grand Totals

Description 1: College South of 2nd St  
 Description 2:  
 Description 3:

Site: College South of 2nd St  
 Tuesday, 04/02/2013, 12:00:00 AM -  
 Thursday, 04/04/2013, 11:59:59 PM

Speed Grand Totals  
 Combined

mph	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
Total	9.3	1.0	4.7	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12:00 AM	0.7	2.0	3.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 AM	0.7	2.0	3.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 AM	0.3	0.7	1.7	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 AM	5.3	0.0	1.7	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 AM	7.0	0.0	4.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5:00 AM	30.3	1.0	4.0	12.7	10.0	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6:00 AM	73.7	2.7	17.0	30.3	21.7	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7:00 AM	126.3	18.3	34.7	52.3	19.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8:00 AM	131.3	11.0	40.3	60.0	19.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9:00 AM	94.0	12.7	38.3	31.0	11.3	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10:00 AM	97.0	18.3	36.7	33.0	9.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11:00 AM	131.0	14.7	52.7	51.0	12.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12:00 PM	122.7	15.0	47.0	47.0	13.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1:00 PM	111.3	19.7	39.0	40.0	11.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2:00 PM	128.7	16.0	45.7	53.7	12.0	1.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3:00 PM	159.7	35.0	60.0	53.7	10.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4:00 PM	167.7	7.0	54.0	71.7	32.0	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5:00 PM	163.3	11.3	44.7	66.7	37.3	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6:00 PM	163.7	10.0	51.0	65.7	34.3	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7:00 PM	114.0	6.3	29.0	49.7	26.3	2.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8:00 PM	89.7	4.7	26.3	39.0	18.3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9:00 PM	54.7	2.7	17.0	19.7	13.0	2.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10:00 PM	35.0	1.3	9.7	15.0	8.7	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11:00 PM	16.0	0.0	2.3	7.3	5.7	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0
ADT	2042.7	209.3	655.7	813.7	334.3	29.0	0.7	0.0	0.0	0.0	0.0	0.0	0.0

**Percentile Speeds**  
 (mph) 10% 15% 50% 85% 90%  
 14.9 16.1 20.9 25.4 26.3

**10 mph Pace Speed**  
 Number in Pace 16.0 - 26.0  
 4550 (74.2%)  
 Average Minimum Maximum  
 20.8 mph 5.0 mph 36.0 mph

**Speeds Exceeded**  
 Count 55 mph 65 mph 75 mph  
 0.0 % 0.0 % 0.0 %  
 0 0 0

mph	0 - < 15	15 - < 20	20 - < 25	25 - < 30	30 - < 35	35 - < 40	40 - < 45	45 - < 50	50 - < 55	55 - < 60	60 - < 65	65 - < 70	70 - < 200
Total	3230	831	1324	757	74	1	0	0	0	0	0	0	0
South Bound	243	7.5%	41.0%	23.4%	2.3%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
North Bound	2898	385	1136	1117	245	1	0	0	0	0	0	0	0
Combined	6128	13.3%	39.2%	38.5%	8.5%	0.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	6128	10.2%	1967	2441	1003	2	0	0	0	0	0	0	0
		32.1%	39.8%	16.4%	1.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

(Data collected by City staff)

EXHIBIT D for TSC-13-010 DATA: Speed & Volume

TSC-13-010 Speed on College South of 2nd

(Data collected by City staff)

**EXHIBIT D for TSC-13-010 DATA: Speed & Volume**  
**TSC-13-010 Volume on College St South of 2nd**

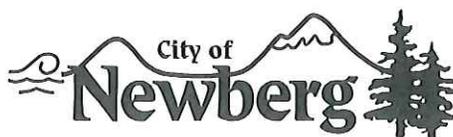
Description 1: College South of 2nd St  
Description 2:  
Description 3:

Site: College South of 2nd St  
Tuesday, 04/02/2013, 12:00:00 AM -  
Thursday, 04/04/2013, 11:59:59 PM

Volume Grand Totals

<b>Average Hourly Volumes</b>			
	South Bound	North Bound	Combined
12:00 AM	6.0	3.3	9.3
1:00 AM	4.0	3.3	7.3
2:00 AM	2.7	1.0	3.7
3:00 AM	3.0	2.3	5.3
4:00 AM	3.0	4.0	7.0
5:00 AM	11.7	18.7	30.3
6:00 AM	48.0	25.7	73.7
7:00 AM	59.0	67.3	126.3
8:00 AM	70.0	61.3	131.3
9:00 AM	45.7	48.3	94.0
10:00 AM	48.3	48.7	97.0
11:00 AM	65.7	65.3	131.0
12:00 PM	65.7	57.0	122.7
1:00 PM	56.0	55.3	111.3
2:00 PM	69.7	59.0	128.7
3:00 PM	74.7	85.0	159.7
4:00 PM	91.0	76.7	167.7
5:00 PM	87.0	76.3	163.3
6:00 PM	96.3	67.3	163.7
7:00 PM	57.7	56.3	114.0
8:00 PM	48.7	41.0	89.7
9:00 PM	29.0	25.7	54.7
10:00 PM	23.0	12.0	35.0
11:00 PM	11.0	5.0	16.0
ADT	1076.7	966.0	2042.7

<b>Study Grand Totals</b>		
South Bound	North Bound	Combined
3230	2898	6128
52.7 %	47.3 %	



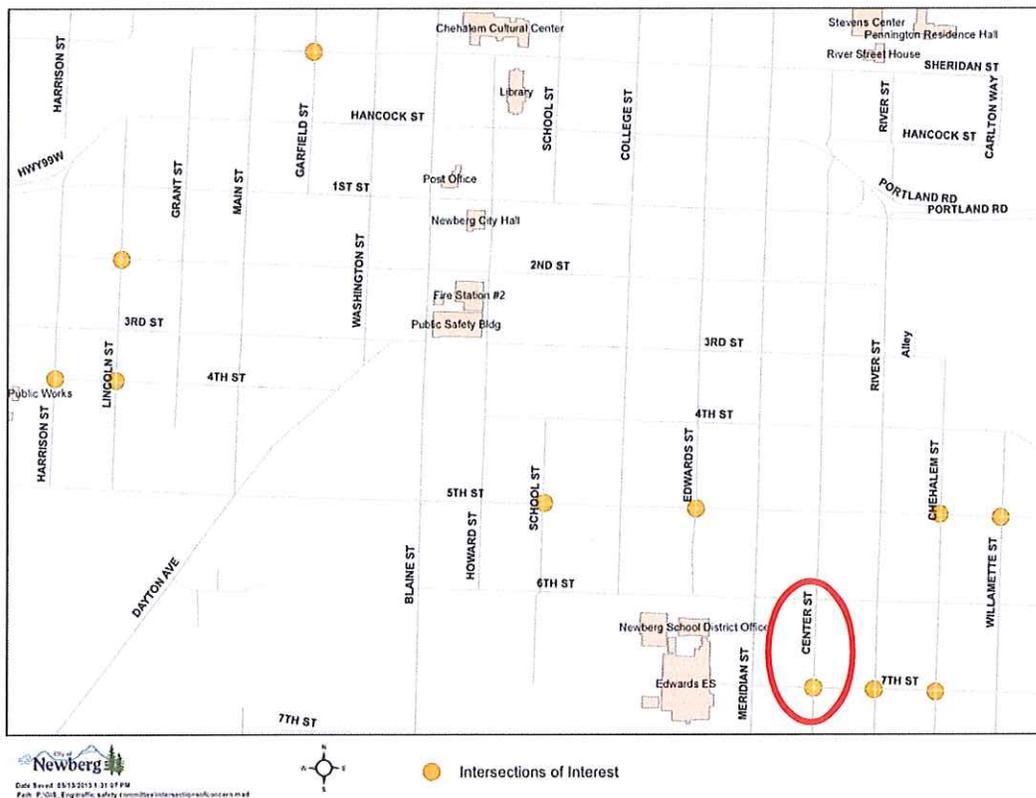
## MEMORANDUM

PUBLIC WORKS DEPARTMENT  
Engineering Division  
P.O. Box 970 • 414 E. First Street • Newberg, Oregon 97132  
Tel 503.537.1240 • Fax 503.537.1277

July 31, 2013

**To:** Newberg Traffic Safety Commission  
**Cc:** Dain Eichel, Interim PW Director; Jay Harris, PE, City Engineer; Brian Casey, PD Chief; Mary Newell, PD Support Services Manager  
**From:** Paul Chiu, PE, Senior Engineer *Paul Chiu*  
**RE:** TSC-13-014 \Stop Sign Request at Center and 7th Street

On April 27, 2013, Mr. Jose Saavedra, wrote a letter to the Newberg Traffic Safety Commission (TSC) and listed 11 street intersections that have no stop signs or crosswalks (see the map below and the list on the next page). Mr. Saavedra asked TSC to consider the installation of stop signs at these intersections and he believed that the stop signs may reduce speeds and prevent collisions.



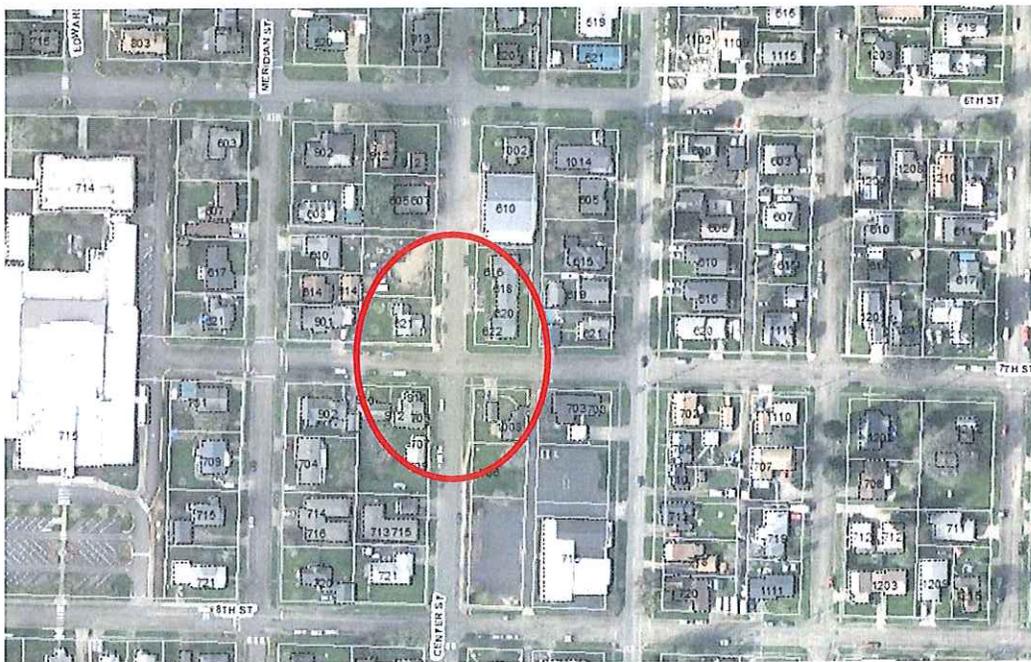
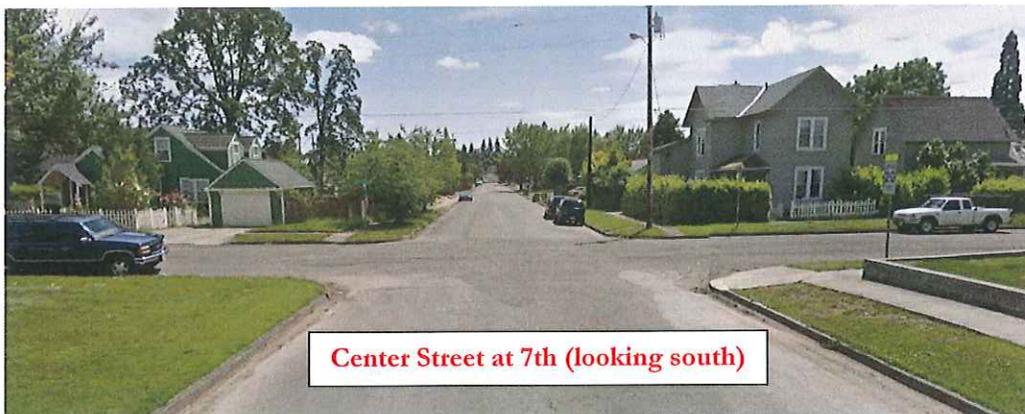
**“Working Together for a Better Community – Serious About Service”**

**“Traffic Safety Mission Statement: To give the citizens of Newberg a forum to voice traffic safety concerns, evaluate related issues, provide a liaison with the City and promote traffic safety within the community.”**

## STREET INTERSECTIONS WITH NO STOP SIGNS

- \*E Sheridan St. and N Garfield St.
- \*W 2nd St. and S Lincoln St.
- \*W 4th St. and S Lincoln St.
- \*W 4th St. and S Harrison St.
- \*S Center St. and E 7th St.
- \*S River St. and E 7th St.
- \*E 7th St. and S Chehalem St.
- \*E 5th St. and S Chehalem St.
- \*E 5th St. and S Willamette St.
- \*E 5th St. and Edwards St.
- \*E 5th St. and S School St.

On May 13, 2013, TSC requested a traffic study on 7<sup>th</sup> Street and Center after learning that the other intersections have no crash data or no pedestrian related crashes.



### **“Working Together for a Better Community – Serious About Service”**

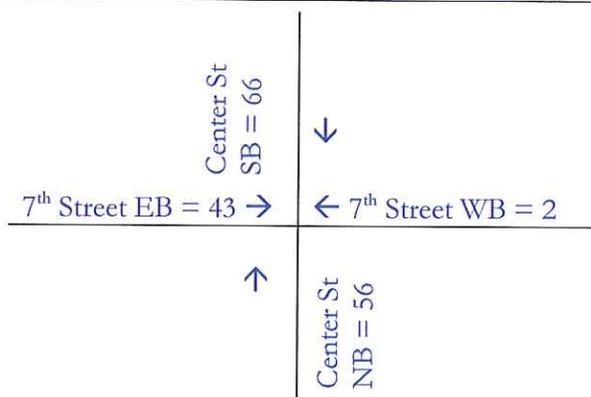
**“Traffic Safety Mission Statement: To give the citizens of Newberg a forum to voice traffic safety concerns, evaluate related issues, provide a liaison with the City and promote traffic safety within the community.”**

In response, staff collected traffic data on May 21<sup>st</sup> thru 23<sup>rd</sup>, 2013 for a stop warrant analysis. The traffic data was summarized as follow:

Traffic Data on Center Street				
Block	between 6th & 7th		between 7th & 8th	
85% Speed	Southbound	Northbound	Southbound	Northbound
	21.6 MPH	23.0 MPH	21.3 MPH	21.2 MPH
ADT =	66 (47%)	75 (53%)	85 (60%)	56 (40%)
AM Peak =	3	6	4	5
PM Peak =	10	7	11	6

Traffic Data on 7th Street				
Block	between Meridian & Center		between Center & River	
85% Speed	Westbound	Eastbound	Westbound	Eastbound
	21.1 MPH	17.5 MPH	21.4 MPH	21.2 MPH
ADT =	55 (56%)	43 (44%)	2 (22%)	6 (78%)
AM Peak =	3	4	1	1
PM Peak =	7	8	1	1

Vehicle Crash Data in Last Five (5) Years			
Incident Date	Motor Vehicle Crash	Comment	Injury
12/14/2012 (Fri)	1	Vehicle on fire	0



Upon review, the traffic volume is very low and not balanced in each direction especially on 7<sup>th</sup> Street where the westbound traffic towards the Center/7<sup>th</sup> intersection is at only 1% of its total ADT. The eastbound traffic towards the same intersection is at 26% of its total ADT. The 85 percentile speed did not exceed 23 MPH in all directions near that intersection. The legal speed is 25 MPH in residential areas except 20 MPH for the west leg of the Center/7<sup>th</sup> intersection during school days (the 85<sup>th</sup> percentile for the westbound traffic was averaged at 21.1 MPH.)

Center Street carries about 74% of the traffic that enters the intersection while 7<sup>th</sup> Street carries 26%. There are no known pedestrian issues near the intersection although it is two (2) blocks away from Edwards Elementary School. Crash data in the last five (5) years did not reveal any major concerns at the intersection.

Although Center Street carries a much higher traffic than 7<sup>th</sup> Street, stop signs are not warranted at this time. Please contact me if you have any questions. Thank you.

**“Working Together for a Better Community – Serious About Service”**

“Traffic Safety Mission Statement: To give the citizens of Newberg a forum to voice traffic safety concerns, evaluate related issues, provide a liaison with the City and promote traffic safety within the community.”

**Section 2B.07 Multi-Way Stop Applications**

**Support:**

- 01 Multi-way stop control can be useful as a safety measure at intersections if certain traffic conditions exist. Safety concerns associated with multi-way stops include pedestrians, bicyclists, and all road users expecting other road users to stop. Multi-way stop control is used where the volume of traffic on the intersecting roads is approximately equal.
- 02 The restrictions on the use of STOP signs described in Section 2B.04 also apply to multi-way stop applications.

**Guidance:**

- 03 *The decision to install multi-way stop control should be based on an engineering study.*
- 04 *The following criteria should be considered in the engineering study for a multi-way STOP sign installation:*
- A. *Where traffic control signals are justified, the multi-way stop is an interim measure that can be installed quickly to control traffic while arrangements are being made for the installation of the traffic control signal.*
  - B. *Five or more reported crashes in a 12-month period that are susceptible to correction by a multi-way stop installation. Such crashes include right-turn and left-turn collisions as well as right-angle collisions.*
  - C. *Minimum volumes:*
    - 1. *The vehicular volume entering the intersection from the major street approaches (total of both approaches) averages at least 300 vehicles per hour for any 8 hours of an average day; and*
    - 2. *The combined vehicular, pedestrian, and bicycle volume entering the intersection from the minor street approaches (total of both approaches) averages at least 200 units per hour for the same 8 hours, with an average delay to minor-street vehicular traffic of at least 30 seconds per vehicle during the highest hour; but*
    - 3. *If the 85<sup>th</sup>-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants are 70 percent of the values provided in Items 1 and 2.*
  - D. *Where no single criterion is satisfied, but where Criteria B, C.1, and C.2 are all satisfied to 80-percent of the minimum values. Criterion C.3 is excluded from this condition.*

**Option:**

- 05 Other criteria that may be considered in an engineering study include:
- A. The need to control left-turn conflicts;
  - B. The need to control vehicle/pedestrian conflicts near locations that generate high pedestrian volumes;
  - C. Locations where a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop; and
  - D. An intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where multi-way stop control would improve traffic operational characteristics of the intersection.

**“Working Together for a Better Community – Serious About Service”**

“Traffic Safety Mission Statement: To give the citizens of Newberg a forum to voice traffic safety concerns, evaluate related issues, provide a liaison with the City and promote traffic safety within the community.”