



CLARK COUNTY-SPRINGFIELD  
**TRANSPORTATION COORDINATING COMMITTEE**

**TRANSPORTATION COORDINATING COMMITTEE**  
**FRIDAY, NOVEMBER 5, 2010**  
**10:30 A.M.**  
**SPRINGVIEW GOVERNMENT CENTER**  
**3130 EAST MAIN STREET**  
**PLANNING CONFERENCE ROOM**

**Chairman Emeritus**  
John W. Sessler

**Chairman**  
Robert A. Warren

**Vice Chairmen**  
Kent Sherry  
John Burr  
Leo Shanayda

**Members**  
Elmer Beard  
Nancy Brown  
Dana Bumgardner  
James Campbell  
Joyce Chilton  
John Detrick  
Kathy Estep  
Jay Flax  
William George  
Herbert Greer  
David Hartley  
Tim Hines  
Kimberly Jones  
Tom Junk  
Toni Keller  
Gene Kelly  
Brad Lightle  
Jim Mann  
Kevin O'Neill  
Timothy Smith  
Geoff Steele  
Roger Tackett  
Alan Thompson  
Clifford Vernon  
Richard Zsambok

**Transportation Director**  
Scott Schmid

**AGENDA**

- I. ROLL CALL**
- II. MINUTES** (Attached) **Action**
- III. FINANCIAL REPORTING**
  - a. Budget Status & Cash on Hand Report (Attached) **Action**
  - b. Summary of Expenses (Attached) **Action**
- IV. TRANSPORTATION PLANNING UPDATE**
  - a. FY08-FY11 Transportation Improvement Program
    - i. Resolution 2010-LL (Attached) **Action**  
*Board of Developmental Disabilities JARC project*
  - b. Springfield City-Wide Signals Study Evaluation (Attached) **Discussion**
  - c. Go OHIO Transportation Futures Plan **Discussion**
  - d. Other
- V. TRANSPORTATION POLICY BOARD UPDATE**
  - a. Highway
    - i. Federal Highway Administration, ODOT Central Office, ODOT District 7, Clark County ODOT Garage, County Engineer & City Engineer **Discussion**
  - b. Transit
    - i. City of Springfield & SCAT **Discussion**
  - c. Railroad
    - i. TCC Staff & WESTCO **Discussion**
  - d. Trails
    - i. National Trails Parks and Recreation District & TCC Staff **Discussion**
  - e. Officials and Others
    - i. Federal, State, County Commission, Cities (Springfield & New Carlisle), Villages, Townships and Others **Discussion**

**CC-STCC CASH on HAND & BUDGET STATUS Reports - FY11**

as of October 31, 2010

	<i>General</i>	<i>Restricted</i>	<i>TOTAL</i>
<b>Beginning Balance</b>	\$ 44,138.93	\$ 68,688.21	\$ 112,827.14
<b>Total Expenses</b>			\$ 53,404.88
<b>Total Receipts</b>			\$ 9,826.71
<b>Ending Balance</b>	\$ 5,470.61	\$ 63,778.36	\$ 69,248.97

<i>Work Elements</i>	<i>Total Budget</i>	<i>Balance</i>	<i>Percent Expended</i>	<i>Monthly Expense</i>	<i>YTD Expenses</i>
601.1 Short Range Planning	\$ 145,000.00	\$ 90,312.95	38%	\$ 15,162.46	\$ 54,687.05
601.2 Springfield City-Wide Signal Study (fy10)	\$ 97,984.62	\$ 1,127.48	99%	\$ 12,220.92	\$ 96,857.14
601.3 Land Use Planning Coordination	\$ 10,000.00	\$ 10,000.00	0%		\$ 0.00
601.4 Northridge Sub Study	\$ 52,194.00	\$ 52,194.00	0%		\$ 0.00
601.5 Lower Valley Pike Byway Marketing	\$ 6,000.00	\$ 0.00	100%		\$ 6,000.00
601.6 Safe Routes to School Program	\$ 4,000.00	\$ 4,000.00	0%		\$ 0.00
601.7 Spfld Streets Conversion Study (fy10)	\$ 60,000.00	\$ 60,000.00	0%		\$ 0.00
601.71 Spfld Streets Conversion Study	\$ 97,806.00	\$ 97,806.00	0%		\$ 0.00
602.1 Transportation Improvement Program	\$ 35,000.00	\$ 35,000.00	0%		\$ 0.00
602.11 Trans. Improvement Program (fy10)	\$ 25,000.00	\$ 6,002.36	76%	\$ 3,008.20	\$ 18,997.64
605.1 Surveillance	\$ 95,000.00	\$ 66,421.39	30%	\$ 7,392.55	\$ 28,578.61
610.1 Long Range Planning	\$ 12,000.00	\$ 8,844.54	26%		\$ 3,155.46
665.1 Air Pollution Advisory Program	\$ 72,227.05	\$ 62,349.00	14%	\$ 4,174.31	\$ 9,878.05
667.1 Rideshare Program	\$ 68,025.56	\$ 60,671.46	11%	\$ 1,697.78	\$ 7,354.10
674.1 Paratransit Planning	\$ 12,000.00	\$ 12,000.00	0%		\$ 0.00
674.2 FTA Transit Planning	\$ 74,000.00	\$ 49,917.12	33%	\$ 7,031.58	\$ 24,082.88
674.3 Consolidated Transit Planning	\$ 15,000.00	\$ 13,174.34	12%	\$ 367.39	\$ 1,825.66
682.1 OPWC Infrastructure Support Program	\$ 65,000.00	\$ 58,298.36	10%	\$ 331.33	\$ 6,701.64
682.2 WESTCO Rail Freight Administration	\$ 100,000.00	\$ 77,434.95	23%	\$ 6,125.54	\$ 22,565.05
682.3 Clean Ohio Support Program	\$ 13,848.99	\$ 13,520.87	2%		\$ 328.12
682.4 ONRA Coordination Services	\$ 8,249.98	\$ 3,821.04	54%	\$ 410.34	\$ 4,428.94
682.41 ONRA Marketing Project	\$ 63,666.04	\$ 57,033.52	10%	\$ 3,825.65	\$ 6,632.52
682.42 ONRA Signage Project	\$ 181,586.51	\$ 172,917.31	5%	\$ 5,390.51	\$ 8,669.20
682.43 ONRA Gateway Project	\$ 13,125.00	\$ 13,125.00	0%		\$ 0.00
682.5 SR794 (W. Blee Road) Plan	\$ 58,461.70	\$ 49,827.49	15%		\$ 8,634.21
697.1 Public Involvement	\$ 36,167.50	\$ 18,316.27	49%	\$ 2,818.57	\$ 17,851.23
	<b>\$ 1,421,342.95</b>	<b>\$ 1,094,115.45</b>	<b>23%</b>	<b>\$69,957.13</b>	<b>\$327,227.50</b>

**TCC Chairman**

**Date**

Summary of Expenditures  
Area Transportation Trust Fund  
October 2010

	Description	Pd By	TCC	CPG	ODOT	FTA	Springfield	CLEAN	ODOT	Local	TOTAL				
					CPG	SR794	5307	FTAS307	CMAQ	OPWC	WESTCO	OHIO	ONRA	ONRA	
<b>SALARIES</b>															
Transportation Study	10/04 - 10/17/10	# 08	4,862.79	3,704.30	463.04	0.00	1,311.55	163.94	564.68	84.90	1,195.20	0.00	167.76	41.94	12,560.10
Transportation Study	10/18 - 10/31/10	# 09	3,354.52	4,762.97	595.37	0.00	1,266.72	158.34	267.48	67.92	1,568.70	0.00	444.86	111.22	12,598.10
			8,217.31	8,467.27	1,058.41	0.00	2,578.27	322.28	832.16	152.82	2,763.90	0.00	612.62	153.16	25,158.20
<b>OFFICE SUPPLIES</b>															
Garrigans	Misc. office supplies	15108	78.08												78.08
Pitney Bowes	Postage meter supplies	15113	86.48												86.48
<b>OTHER EXPENSES</b>															
PERS	Oct-10		3,500.87												3,500.87
CEBCO Medical Insurance	Oct-10		5,735.33												5,735.33
State Mutual	Oct-10		13.30												13.30
Superior Dental	Oct-10		127.54												127.54
Medicare	Oct-10		280.55												280.55
Tetra Tech	Finish Signal Study	14936	1,222.09	9,776.74	1,222.09										12,220.92
Interpretive Graphics	4 ONRA Signs	14975											3,200.00	800.00	4,000.00
MH Corbin	3 Traffic counters	15092	336.54	2,692.35	336.54										3,365.43
Louis Agresta	Sept. mileage	15097	3.36	26.88	3.36								84.48	21.12	139.20
Cincinnati Bell	Oct. office phone	15098	94.10												94.10
EventBrite	ONRA Dinner sales	15099											5.96	1.49	7.45
Cyndie Gerken	ONRA Dinner promos	15100											466.91	116.73	583.64
Cox OH Publishing	Newspaper ads	15101	180.00	1,440.00	180.00										1,800.00
SCAT	Sept. Bikes on Buses	15102							102.00						102.00
Cincinnati Bell	Sept. long distance	15104	15.05												15.05
Pitney Bowes	Postage meter rental	15105	301.00												301.00
City Springfield	3rd Q 1st Comm	15106	3.76												3.76
City Springfield	Aug. fax line service	15107	18.47												18.47
Holmes Printing	ONRA Fall newsletters	15109											1,385.89	346.47	1,732.36
WKSJ.FM	Sept. Ozone radio ads	15110							1,452.00						1,452.00
Gayle Holton Design	ONRA Traveler's Guide	15111											1,055.20	263.80	1,319.00
City Springfield	Sept. fax line service	15112	18.42												18.42
Scott Schmid	Oct. mileage & parking	15116	11.20	@@	89.60	11.20									112.00
WKSJ.FM	June Ozone radio ads	15117							1,452.00						1,452.00
WROU.FM	June Ozone radio ads	15118							975.00						975.00
Sylvia Miller	14 ONRA Tour CD sets	15119											112.00	28.00	140.00
Lamar Daniel	Oct. mileage & parking	15120	11.00	@@	88.00	11.00			86.88						196.88
Glen Massie	Oct. mileage	15121	4.61		36.86	4.61		35.32	4.42	4.42					90.24
Louis Agresta	Oct. mileage & postage	15122											62.53	15.63	78.16
OTEC	Meeting registration	15123	22.00	@@	176.00	22.00									220.00
Zach Balassone	Oct. mileage & parking	15124	11.47		91.78	11.47					93.64				208.36
			11,910.66	14,418.21	1,802.27	0.00	35.32	4.42	4,072.30	0.00	93.64	0.00	6,372.97	1,593.24	40,467.59
<b>TOTAL AMOUNT SUBMITTED</b>			<b>20,206.05</b>	<b>22,885.48</b>	<b>2,860.68</b>	<b>0.00</b>	<b>2,613.59</b>	<b>326.70</b>	<b>4,904.46</b>	<b>152.82</b>	<b>2,857.54</b>	<b>0.00</b>	<b>6,985.59</b>	<b>1,746.40</b>	<b>65,625.79</b>
@	Includes indirect labor related costs to be distributed among all funding sources based on indirect costs rate.														
@@	Prior Approved.														

Approved November 05, 2010  
Clark County - Springfield Transportation Coordinating Committee

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Director

Summary of Expenditures  
Area Transportation Trust Fund  
September 2010

	Description	Pd By	TCC	CPG	CPG	SR794	FTA 5307	Springfield FTA5307	CMAQ	OPWC	WESTCO	CLEAN OHIO	ODOT ONRA	Local ONRA	TOTAL
<b>SALARIES</b>															
Transportation Study	08/23 -09/05/10	# 05	3,292.56	4,552.14	569.02	0.00	1,124.80	140.60	594.40	636.18	1,220.10	0.00	420.67	105.17	12,655.64
Transportation Study	09/06 - 09/19/10	# 06	5,096.82	3,858.70	482.34	0.00	711.36	88.92	534.96	696.18	647.40	0.00	187.97	46.99	12,351.64
Transportation Study	09/20 - 10/03/10	# 07	3,730.71	4,106.14	513.27	0.00	1,371.31	171.41	832.16	93.39	1,095.60	0.00	425.69	106.42	12,446.10
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			12,120.09	12,516.98	1,564.63	0.00	3,207.47	400.93	1,961.52	1,425.75	2,963.10	0.00	1,034.33	258.58	37,453.38
<b>OFFICE SUPPLIES</b>															
Garrigans	Ink cartridges & misc.	15085	109.85												109.85
<b>OTHER EXPENSES</b>															
PERS	Sep-10		3,501.01												3,501.01
CEBCO Medical Insurance	Sep-10		5,735.33												5,735.33
State Mutual	Sep-10		13.30												13.30
Superior Dental	Sep-10		127.54												127.54
Medicare	Sep-10		280.57												280.57
Tetra Tech	Signal Study	14936	1,937.64	15,501.15	1,937.64										19,376.43
Tetra Tech	Signal Study	14936	528.95	4,231.56	528.95										5,289.46
Clark County Engineer	SR794 Study	14999				4,388.03									4,388.03
Cox OH Advertising	CAC info meeting ads	15078	165.00	1,320.00	165.00										1,650.00
WROU.FM	Aug. Ozone radio ads	15079							975.00						975.00
WKSJ.FM	Aug. Ozone radio ads	15080							1,452.00						1,452.00
Cincinnati Bell	Aug. long distance	15081	14.60												14.60
Cincinnati Bell	July / Aug office phone	15082	188.20												188.20
Louis Agresta	Aug. ONRA mileage	15083											76.03	19.01	95.04
SCAT	July / Aug Bikes Buses	15084							365.00						365.00
Monk's Copy Shop	ONRA invitations	15086											574.33	143.58	717.91
Leadership Clark Co	Leadership Academy	15087	850.00												850.00
Zach Balassone	Sept. mileage	15088	14.59	@@	116.74	14.59					28.80				174.72
Glen Massie	Sept. mileage	15089	2.98				23.80	2.98							29.76
WROU.FM	Sept. Ozone radio ad	15090							75.00						75.00
Holmes Printing	TCC Fall newsletters	15093	188.14	1,505.09	188.14										1,881.37
CPMM Services	ONRA Dinner mailing	15094											198.21	49.55	247.76
Cox OH Advertising	ONRA TG RFP ad	15095											105.93	26.48	132.41
Lamar Daniel	Sept mileage & postage	15096	9.41	75.28	9.41				50.40						144.50
			13,557.26	22,749.81	2,843.73	4,388.03	23.80	2.98	2,917.40	0.00	28.80	0.00	954.50	238.62	47,814.78
<b>TOTAL AMOUNT SUBMITTED</b>			<b>25,787.20</b>	<b>35,266.79</b>	<b>4,408.36</b>	<b>4,388.03</b>	<b>3,231.27</b>	<b>403.91</b>	<b>4,878.92</b>	<b>1,425.75</b>	<b>2,991.90</b>	<b>0.00</b>	<b>1,988.83</b>	<b>497.20</b>	<b>85,268.16</b>
@	Includes indirect labor related costs to be distributed among all funding sources based on indirect costs rate.														
@@	Prior Approved.														

Approved October 08, 2010  
Clark County - Springfield Transportation Coordinating Committee

  
Director

**RESOLUTION 2010-LL  
OF THE  
CLARK COUNTY-SPRINGFIELD  
TRANSPORTATION COORDINATING COMMITTEE  
TO AMEND THE  
FY 2008 – 2011 TRANSPORTATION IMPROVEMENT PROGRAM**

**WHEREAS**, the Clark County-Springfield Transportation Coordinating Committee (TCC) is designated the Metropolitan Planning Organization for area-wide transportation planning in Clark County by the Governor of the State of Ohio in accordance with the regulations of the United States Department of Transportation; and

**WHEREAS**, the TCC is responsible for maintaining the area's Transportation Improvement Program (TIP), in cooperation with local governments, transportation providers and the Ohio Department of Transportation; and

**WHEREAS**, the TIP is prepared in cooperation with local governments, operators and publicly –owned transit and rail freight systems, the Ohio Department of Transportation and the U.S. Department of Transportation; and

**WHEREAS**, the Clark County Board of Developmental Disabilities desires to make the following fiscally constrained purchases and/or improvements: Purchase of two (2) light duty vehicles. Aforementioned fiscally constrained purchases shall not exceed \$81,840. In addition, Clark County Board of Developmental Disabilities desires to utilize \$105,367 in Job Access Reverse Commute funding for the purpose of FY2011 operating assistance; and

**WHEREAS**, the next Transportation Improvement Program update will not occur until FY2012.

**BE IT THEREFORE RESOLVED:**

That the members of the Clark County-Springfield Transportation Coordinating Committee approve the amendment to the FY2008 – 2011 Transportation Improvement Program as shown on the reverse side of this resolution.

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Robert A. Warren  
TCC Chairman

November 5, 2010

**OHIO DEPARTMENT OF TRANSIT - OFFICE OF TRANSIT  
TRANSIT TIP TABLE AMENDMENT FORM  
RESOLUTION 2010-LL**

Delete	Modify	Add	T #	MPO Name	Transit System Name	FTA ALI Code	Project Description	PID Number	Qty.	Expansion or Replacement	Accessible	Air Quality	Type	State FY	Fiscally Constrained	Federal Funding \$	Federal Funding Source	State Funding \$	State Funding Source	Local Funding \$	Local Funding Source	Total Project Cost \$
<b>Adding new Project</b>																						
		X		CCSTCC	CCBDD	11.13.04	Light Transit Vehicles		2	Expansion	Y	Exempt	Capital	2011	Yes	\$ 81,840	JARC	\$0		\$20,460		\$ 102,300
		X		CCSTCC	CCBDD	30.09.00	Operating Assistance		1	Expansion	Y	Exempt	Operating	2011	Yes	\$ 105,367	JARC	\$0		\$105,367		\$ 210,734

JARC-Job Access Reverse Commute

# **Springfield City-Wide Signals Evaluation EXECUTIVE SUMMARY**

**City of Springfield, Ohio**

**Prepared For:**



**3130 E. Main Street, Suite 2A  
Springfield, Ohio 45505**

**Prepared by:**



**Tetra Tech  
136 Mill Street, Suite 230  
Gahanna, Ohio 43230  
614-944-4332**

**Submitted:**

**September 2010**

The Springfield City-wide Signals Evaluation Study is a comprehensive study of 52 intersections (51 signalized and 1 unsignalized) within the City of Springfield, Ohio. The study is split into two components, a data collection and inventory component and an operations analysis/study component with the purpose of collecting recent traffic and equipment data and assessment of the current condition and operations of the intersections.

The Springfield City-wide Signals Evaluation Study is comprised of two documents, the *Equipment Inventory Report* and this *Operations Report*.

## OPERATIONS REPORT

The operations study includes analyses of signal warrants, intersection sight distance, safety data, Americans with Disabilities Act (ADA) compliance, intersection capacity, traffic queuing and turn lane storage, clearance times, and general observations.

The data collection component includes such activities as intersection turning movement counts, 24-hour machine traffic counts, intersection inventories, and field observations/inspections.

Turning movement and 24-hour machine count volumes were collected for the study in the fall of 2009. Traffic volume counts were taken between October 28 and November 19, 2009 at and around all 52 intersections. Volumes were counted primarily on Tuesdays and Thursdays with a few exceptions as weather and holidays became a schedule constraint in late November.

The data collected through these efforts for use in this study was submitted for review in January 2010 as Appendix A – Traffic Data.

During peak hours of operation, data regarding the function of the traffic signals was recorded. The type of data recorded included:

- Approximate cycle length;
- Phasing;
- “Walk” and “Flashing Don’t Walk” phases were timed and observed.

Each of the intersections studied was inventoried through photos, field measurements and observations. Some of the data collected included:

- Photos of each intersection approach and angle;
- Photos of the controller cabinets and electronics;
- Functionality of the equipment including pedestrian activation buttons and pedestrian signal heads (if present);
- Measurements were taken at the intersection in regard to crossing distance and intersection width;
- Turn lane storage lengths were recorded when possible;
- Observations and photos taken in regard to ADA compliance

This data will be summarized in the intersection *Equipment Inventory Report*, which is a separate document from this operations report. However, some of the data collected will be utilized and referenced by this report.



As part of the intersection inventories and development of the Synchro traffic analysis model, field observation was conducted to match reality as closely as possible to the study conditions being generated. General observations included:

- Functionality of turn lanes and the capacity of those turn lanes;
- Pedestrian activity or lack of;
- Signs of pedestrian activity in areas not equipped to handle pedestrians (i.e. no side walk);
- Signs of geometric deficiencies that could lead to safety concerns such as vehicles riding over the curb due to deficient curb radii.

The existing conditions were analyzed utilizing the data collected. This analysis was performed in order to assess the current level of operations at each of the studied intersections and to identify any current needs or deficiencies. The conditions represented are as close to the average day to day conditions experienced at the studied intersections as possible.

This analysis will also establish a baseline to measure the effectiveness of any proposed alternatives.

Traffic signal warrants were performed for all of the studied signalized intersections and the unsignalized intersection of Villa Road and Red Coach. Table 1, in the Tables section of this report summarizes the results by intersection and applicable traffic signal warrant.

The existing condition capacity analyses for the studied intersections show no areas of concern for congestion in any of the three peak periods analyzed. Level of service worse than C is considered congested. None of the intersections operate below an overall LOS C. Tables 2-4, in the Tables section are a summary of the Synchro results for the AM, Midday and PM peak hours.

As a general observation the traffic signals in the City of Springfield seem to do a very efficient job of managing the traffic demand. The systems are set up for short, responsive phasing and timings. There is little pedestrian activity at the majority of the intersections studied; therefore, the traffic signals can run very short splits and cycles, yielding a LOS much better than could be modeled.

One reason for this may be that the majority of the traffic signals studied were found to have insufficient volume to warrant being signalized based on traffic volume.

Many of the needs found during the studied involved curb ramps and the ADA compliance of pedestrian features such as push buttons and signal heads. These items will be detailed more in the *Equipment Inventory Report*. For the most part, the items found were maintenance related such as pedestrian signals that did not light and pushbuttons that did not work or were stuck.

Capacity related issues were limited to two turn lanes that exceed capacity in the peak hour. However, this condition does not appear to cause any safety or operational issues when observed in the field.

Crash data for intersections in the study area that experienced more than 10 crashes over the previous three year period was provided by the TCC. The purpose of the crash data review was to identify any trends or safety concerns that might point toward operational deficiencies in regard to the traffic signals or support for meeting a traffic signal warrant. After reviewing the supplied data, it

was determined that over the previous three year period an insufficient number of crashes had occurred at each intersection studied to form a trend or pattern that would suggest a safety issue at any particular intersection (typically 9 crashes per year of the same correctable crash type indicates a trend).

Much of the traffic signal equipment was in average or better condition. The only pieces that seemed to be routinely out of date and would benefit from an upgrade would be the pedestrian push buttons. Some intersections had as many as three different types of buttons. As it appeared they had been updated at various times and each time a new preference installed.

A few intersections had different types of pedestrian signal heads at the same intersection and some of the intersections need the heads realigned as they are not visible from the curb/crosswalk.

Overall, there seem to be few major (added capacity or safety related) needs at the intersections studied. The largest challenge will be handling the traffic signals identified that do not meet traffic signal warrants.

The remaining "need" items related to intersection equipment will be more appropriately described in the *Equipment Inventory Report*. However, recommendations will be made in the recommendations section of this report in regard to the items described in the *Equipment Inventory Report* so there is a single source document for all recommendations related to the intersections studied.

Recognizing that 20 out of 42 signalized intersections studied for operations did not meet a traffic signal warrant based on traffic volume (more will likely meet other specialized warrants after further detailed engineering study is performed); decisions regarding unwarranted traffic signals will likely be the key element to come out of this report. Therefore, the following is a summary of the advantages and disadvantages of a traffic signal. This is taken from the Ohio Manual of Uniform Traffic Control (OMUTCD), pages 4B-2, 4B-3.

### Section 4B.03 Advantages and Disadvantages of Traffic Control Signals

Support:

When properly used, traffic control signals are valuable devices for the control of vehicular and pedestrian traffic. They assign the right-of-way to the various traffic movements and thereby profoundly influence traffic flow.

Traffic control signals that are properly designed, located, operated, and maintained will have one or more of the following advantages:

- A. They provide for the orderly movement of traffic.
- B. They increase the traffic-handling capacity of the intersection if:
  1. Proper physical layouts and control measures are used, and
  2. The signal operational parameters are reviewed and updated (if needed) on a regular basis (as engineering judgment determines that significant traffic flow and/or land use changes have occurred) to maximize the ability of the traffic control signal to satisfy current traffic demands.
- C. They reduce the frequency and severity of certain types of crashes, especially right-angle collisions.

- D. They are coordinated to provide for continuous or nearly continuous movement of traffic at a definite speed along a given route under favorable conditions.
- E. They are used to interrupt heavy traffic at intervals to permit other traffic, vehicular or pedestrian, to cross.

Traffic control signals are often considered a panacea for all traffic problems at intersections. This belief has led to traffic control signals being installed at many locations where they are not needed, adversely affecting the safety and efficiency of vehicular, bicycle, and pedestrian traffic.

Traffic control signals, even when justified by traffic and roadway conditions, can be ill-designed, ineffectively placed, improperly operated, or poorly maintained. Improper or unjustified traffic control signals can result in one or more of the following disadvantages:

- A. Excessive delay;
- B. Excessive disobedience of the signal indications;
- C. Increased use of less adequate routes as road users attempt to avoid the traffic control signals;
- D. Significant increases in the frequency of collisions (especially rear-end collisions).

#### **Section 4B.04 Alternatives to Traffic Control Signals**

Guidance:

Since vehicular delay and the frequency of some types of crashes are sometimes greater under traffic signal control than under STOP sign control, consideration should be given to providing alternatives to traffic control signals even if one or more of the signal warrants has been satisfied.

Option:

These alternatives may include, but are not limited to, the following:

- A. Installing signs along the major street to warn road users approaching the intersection;
- B. Relocating the stop line(s) and making other changes to improve the sight distance at the intersection;
- C. Installing measures designed to reduce speeds on the approaches;
- D. Installing a flashing beacon at the intersection to supplement STOP sign control;
- E. Installing flashing beacons on warning signs in advance of a STOP sign controlled intersection on major-and/or minor-street approaches;
- F. Adding one or more lanes on a minor-street approach to reduce the number of vehicles per lane on the approach;
- G. Revising the geometrics at the intersection to channelize vehicular movements and reduce the time required for a vehicle to complete a movement, which could also assist pedestrians;
- H. Installing roadway lighting if a disproportionate number of crashes occur at night;
- I. Restricting one or more turning movements, perhaps on a time-of-day basis, if alternate routes are available;
- J. If the warrant is satisfied, installing multiway STOP sign control;
- K. Installing a roundabout intersection; and
- L. Employing other alternatives, depending on conditions at the intersection.

## EQUIPMENT INVENTORY

An overall condition rating was assigned to each of the 51 intersections inventoried. The categories were assigned relative to other intersections in the study and around the City. Criteria included such things as condition of the equipment and need for upgrades related to deficiencies or ADA requirements. If an intersection had equipment that appeared to be new and all ADA elements were observed to be current then that intersection would be put into the highest established rating category – Excellent. An example of an “Excellent” intersection would be the intersection of Yellow Springs and W. Pleasant, which was not included in our list of intersections inventoried.

### Category – Excellent

An intersection with this condition rating would have new poles and equipment and up to date ADA elements; such as audible push buttons, pedestrian heads with “Hand/Person” symbols, push button signage with symbols, and curb ramps with truncated domes.

None of the intersections inventoried for this report met this standard.

### Category – Good

An intersection with this condition rating would have recently upgraded equipment and a majority of up to date ADA elements; such as audible push buttons, pedestrian heads with “Hand/Person” symbols, push button signage with symbols, and curb ramps with truncated domes.

11 intersections inventoried for this report met this standard. Most of the intersections in this category lacked the “Hand/Person” pedestrian heads and poles appeared somewhat faded or weathered. The intersections below received an overall condition rating of “Good”:

- Burnett & Lexington
- Lagonda & Columbia
- Plum & McCreight
- Columbia & Center
- Columbia & Fountain
- Columbia & Limestone
- Columbia & Western
- North & Fountain
- North & Limestone
- North & Western
- North & Yellow Springs

### Category – Above Average

An intersection with this condition rating would have new to slightly weathered equipment and a few up to date ADA elements (usually including curb ramps with truncated domes); such as audible push buttons, pedestrian heads with “Hand/Person” symbols, push button signage with symbols, and curb ramps with truncated domes.

12 intersections inventoried for this report met this standard. Most of the intersections in this category lacked the “Hand/Person” pedestrian heads, audible buttons with symbol signage. The intersections below received an overall condition rating of “Above Average”:

- St. Paris/First & McCreight
- Belmont & Home
- Belmont & Lagonda
- Burnett & High
- Derr & Northland Plaza
- Harding & Fountain
- Harding & Plum
- Harding & St. Paris
- Pleasant & Dayton
- Selma & Linden
- Selma & Tibbetts
- Columbia & Yellow Springs

### Category – Average

An intersection with this condition rating would have weathered equipment and out dated but present ADA elements; such as push buttons, pedestrian heads, push button signage, and curb ramps without truncated domes.

11 intersections inventoried for this report met this standard. Most of the intersections in this category lacked the “Hand/Person” pedestrian heads, audible buttons with symbol signage or curb ramps without truncated domes. The intersections below received an overall condition rating of “Average”:

- Belmont & Columbus
- Belmont & James
- Belmont & Mitchell
- Burnett & Columbus
- Derr & Home
- Derr & Villa
- East & Harrison
- East & Kenton
- High & York
- Middle Urbana & Emmanuel
- Middle Urbana & Villa

### Category – Needs Upgrades

An intersection with this condition rating would have heavily weathered or rusted equipment, span wire, poles that are wooden or used for utilities and out dated or missing ADA elements; such as push buttons, pedestrian heads, push button signage, and curb ramps without truncated domes.

17 intersections inventoried for this report met this standard. Most of the intersections in this category were span wire installations with wooden poles, some of which doubled as utility poles. Almost all had out dated or missing ADA elements. The intersections below received an overall condition rating of “Needs Upgrades”:

- Bechtle & Main
- Belmont & Hillside
- Burnett & Kenton
- Burnett & Hillside
- Burnett & Sunset
- Derr & Providence
- Fair & Yellow Springs
- High & Bechtle/Dayton
- High & East
- Home & Northmoor
- Lagonda & Sherman
- Main & Western
- Pleasant & Montgomery
- Pleasant & Western
- Selma & East
- Selma & Kenwood
- Selma & Sunset