ITEM #16
BOMA
08/28/2012

ORDINANCE 2012-47

TO BE ENTITLED: "AN ORDINANCE TO ESTABLISH _____ _____ CONTROL AT THE INTERSECTION OF McEWEN DRIVE AND OXFORD GLEN DRIVE"

WHEREAS, the Board of Mayor and Aldermen of the City of Franklin, Tennessee passed unanimously Ordinance 2012-31, An Ordinance to Establish a Two-Way Stop Sign Control At The Intersection Of McEwen Drive and Oxford Glen Drive, on June 12, 2012, and

WHEREAS, the Board of Mayor and Aldermen of the City of Franklin, Tennessee desire additional improvements at the intersection of McEwen Drive and Oxford Glen Drive to further reduce the delay of traffic, and

WHEREAS, field observations, traffic counts and an Engineering Study has been performed that indicate a basis for the _____ control imposed herein, and

NOW THEREFORE:

SECTION I: BE IT ORDAINED by the Board of Mayor and Aldermen of the City of Franklin, Tennessee, that motor vehicles approaching the intersection of McEwen Drive and Oxford Glen Drive shall obey the _____ at said intersection.

SECTION II: BE IT FURTHER ORDAINED by the Board of Mayor and Aldermen of the City of Franklin, Tennessee, the Director of the Streets Department shall be, and is hereby, authorized to install the proper signs to notify the general public of this revision.

SECTION III: BE IT FURTHER ORDAINED by the Board of Mayor and Aldermen of the City of Franklin, Tennessee, that all violations of the Ordinance shall be enforced in accordance with Title 15 of the Franklin Municipal Code or in accordance with any pertinent provisions of the Tennessee Code Annotated

SECTION IV: BE IT FINALLY ORDAINED by the Board of Mayor and Aldermen of the City of Franklin, Tennessee, that this Ordinance shall take effect from and after its passage on second reading, the health, safety, and welfare of the citizens requiring it.

ATTEST

By: _____
ERIC S. STUCKEY
City Administrator

CITY OF FRANKLIN, TENNESSEE

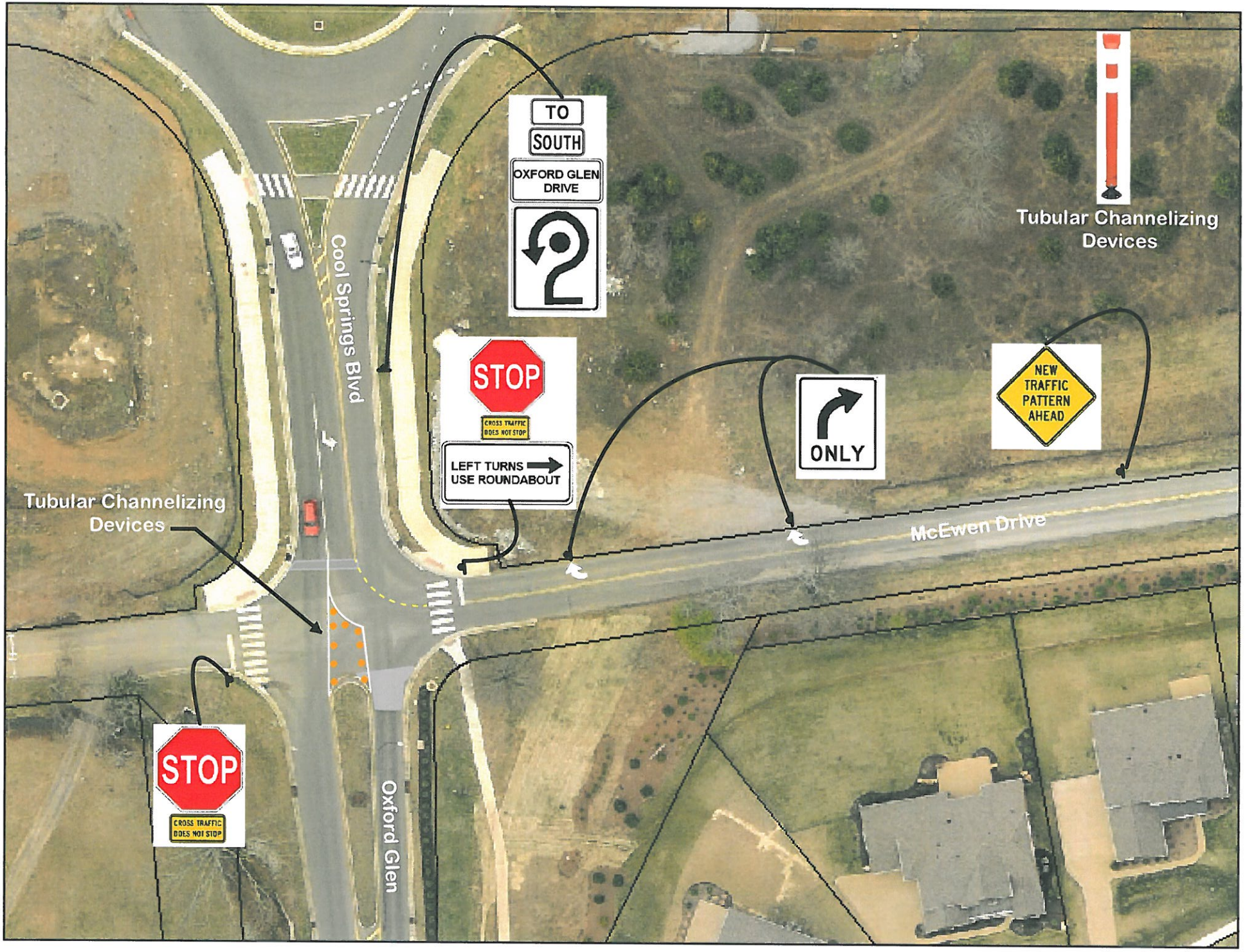
By: _____
DR KEN MOORE
Mayor

Approved as to Form

By: _____
Shauna R. Billingsley
City Attorney

PASSED FIRST READING: _____

PASSED SECOND READING: _____


TO
SOUTH
OXFORD GLEN
DRIVE
Tubular Channelizing
Devices
Cool Springs Blvd
STOP
CROSS TRAFFIC
DOES NOT STOP
LEFT TURNS
USE ROUNDABOUT
ONLY
NEW
TRAFFIC
PATTERN
AHEAD
Tubular Channelizing
Devices
McEwen Drive
STOP
CROSS TRAFFIC
DOES NOT STOP
Oxford Glen

MEASURES OF EFFECTIVENESS

	4 - Way Stop		2 - Way Stop		Signal	
	AM LOS/Queue	PM LOS/Queue	AM LOS/Queue	PM LOS/Queue	AM LOS/Queue	PM LOS/Queue
Westbound McEwen Drive	LOS F / unknown	LOS B/ unknown	LOS F / 800'	LOS B / 50'	*LOS C / 400'	*LOS A/ 50'
Northbound Oxford Glen	LOS F / unknown	LOS B / unknown	LOS A/ 0'	LOS A / 0'	*LOS C / 400'	*LOS B / 125'
Southbound Oxford Glen	LOS B / unknown	LOS F / unknown	LOS B / 25'	LOS B / 125'	*LOS A / 25'	*LOS A / 100'

* Estimated Based on Traffic Model.

COUNT COMPARISON TABLES

AM Peak Hour

Turning movement	WBR	NBT	NBR	SBL	SBT	Total
4-way Stop count (4/23/12)	693	518	50	73	119	1403
2-way Stop count (7/31/12)	514	656	39	82	95	1265
Difference	-26%	27%	-22%	12%	-20%	-10%

PM Peak Hour

Turning movement	WBR	NBT	NBR	SBL	SBT	Total
4-way Stop count (4/23/12)	219	123	105	603	781	1831
2-way Stop count (7/31/12)	226	141	112	725	574	1778
Difference	3%	15%	7%	20%	-26%	-3%

HISTORIC
FRANKLIN
TENNESSEE

ITEM #12
WRKS 08/28/2012

MEMORANDUM

August 6, 2012

TO: Board of Mayor and Aldermen

FROM: Eric Stuckey, City Administrator
David Parker, City Engineer/CIP Executive
Paul Holzen, Interim Director of Engineering
Carl Baughman, Traffic/Transportation Engineer
Jonathan Marston, Staff Engineer 2

SUBJECT: Discussion of Additional Improvements/Traffic Pattern Alterations at the Intersection of McEwen Drive and Oxford Glen Drive

Purpose

The purpose of this memorandum is to provide the Board of Mayor and Aldermen (BOMA) with information to consider additional improvements/traffic pattern alterations at the Intersection of McEwen Drive and Oxford Glen Drive.

Background

The intersection of McEwen Drive and Oxford Glen Drive operated under All-Way Stop Control since the 2007 opening of Oxford Glen Drive, between McKay's Mill and the Cool Springs Boulevard roundabout. The west leg of this intersection was closed in 2008 to enable earthwork for the Avalon Squared site and the McEwen Drive Phase 3 Project. Since 2007 traffic volumes on Cool Springs Boulevard / Oxford Glen Drive and McEwen Drive have grown substantially. With the April 13, 2012 opening of McEwen Drive Phase 3 Project the City has received complaints about extreme traffic delays at the intersection of McEwen Drive and Oxford Glen Drive. Counts taken in April 2012 after the opening of McEwen Phase 3 revealed that the All-Way Stop Control results in failed Levels of Service (LOS F) during both the morning and afternoon peak hours. This finding prompted the Engineering Department to seek alternatives for traffic control at this intersection until the McEwen Drive Temporary Connector road can be completed.

On June 12, 2012, the BOMA approved Ordinance 2012-31, which converted this intersection from a four-way stop control to a two-way stop control. Specifically, vehicles travelling on Cool Springs Boulevard/Oxford Glen Drive would no longer be required to stop. The intersection modifications were installed by City staff and went into effect on July 24, 2012. City Engineering and Police Department staff was on-site, during peak hours, for approximately a week after installation, to monitor the changing traffic patterns. Specific items of interest are as follows:

Morning Peak – Approximately 07:20 to 08:30 a.m. (±10 min.)

- Westbound McEwen Drive – Typical queue length between Conservatory Drive and Players Mill Road (i.e. 700 – 1400 FT); Estimated Level of Service F
- Northbound Oxford Glen Drive – No queue length, Estimated Level of Service A
- Southbound Oxford Glen Drive – Negligible queue length, Estimated Level of Service A

Evening Peak – Approximately 17:10 (5:10 PM) to 18:00 (6:00 PM) (±10 min.)

- Westbound McEwen Drive – Negligible queue length, Estimated Level of Service B
- Northbound Oxford Glen Drive – No queue length, Estimated Level of Service A
- Southbound Oxford Glen Drive – Negligible queue length; Delay now caused by vehicles entering roundabout instead of the intersection; Estimated Level of Service B

As the results above show, the modification of the intersection to two-way stop control had mixed results. Staff was able to significantly decrease, if not eliminate, queues during morning and evening peak for Oxford Glen Drive in all directions. However, motorists on westbound McEwen Drive are still experiencing a high level of delay during the morning peak, which was predicted by the model. Another caveat to consider is the timing and implementation of the various studies and modifications. A brief timeline of events is as follows:

- April 13, 2012 – Opening of McEwen Drive Phase 3
- Late April 2012 – Initial traffic counts at intersection (during school year)
- May 22, 2012 – Ordinance 2012-31 to establish two-way stop condition passed 1ST BOMA reading
- June 12, 2012 – Ordinance 2012-31 passed 2ND and Final BOMA reading
- July 24, 2012 – Two-Way Stop Control at intersection goes into effect
- July 30 & August 1, 2012 – Follow-up traffic counts taken at intersection (during school summer break)
- August 9, 2012 – Franklin Special School District Start (Full Day)
- August 10, 2012 –Williamson County Schools Start (Half Day)
- August 13, 2012 – 1ST Full Day of WCS Schools

The Engineering Department has received several complaints from motorists traveling westbound on McEwen Drive in the morning. The ultimate purpose of this memo is to present the BOMA with several options for this intersection, moving forward.

1. No Change (i.e. leave two-way stop control in place)
    a. With Police Officer Control during Morning Peak – $10.5k (excl. school holidays) OR $12.2k (incl. school holidays)
    Pro(s) – Officer can step-in to alleviate back-up on westbound McEwen Drive; No additional work is required to implement this option.
    Con(s) – An off-duty officer would be required (2-hour min.) to prevent removing an officer from normal service. Off-duty officers at paid at $30 per hour.
    b. Without Police Officer Control during Morning Peak
    Pro(s) – No changes necessary, motorists are becoming more accustomed to the newly modified intersection. Most directions show significant signs of improvement.
    Con(s) – Motorists can continue to expect traffic delays on westbound McEwen Drive, during the Morning Peak.

2. Signalize Intersection
    a. Temporary Traffic Signal – Wood Poles
    Pro(s) – Timing of the traffic signal can be adjusted for morning AND afternoon conditions; Some of the parts could be re-used on future temporary projects; Some of the parts can be obtained from surplus materials, which are already owned by the City of Franklin.
    Con(s) – The expected cost of this signal is approximately $50,000.
    b. Temporary Traffic Signal – Signal Trailer
    Pro(s) – Timing of the traffic signal can be adjusted for morning AND afternoon conditions; The City already owns two trailer units (a minimum of 3 would be needed for this intersection; These units can be used in the future to respond quickly to a downed signal.
    Con(s) – The City would be required to purchase at least 1 additional trailer unit, as a minimum of 3 units would be required to control the intersection (Unit Cost is Approximately $75k to $80k); This particular situation would require use of ALL the City owned traffic trailers for the duration of the signal's life (i.e. quick response to a future downed signal would be gone).

3. Four-Way Stop Control (Original Condition)
    Pro(s) – Delay/Queue length on McEwen Drive will decrease to original levels.
    Con(s) – Delay/Queue on southbound Cool Springs Boulevard (Evening Peak) will return. Upon completion of the Temporary Connector Project, this intersection will again be converted to a two-way stop control (i.e. no stop on Oxford Glen).

It is also important to note that the McEwen Drive Temporary Connector Project is in the midst of design and right-of-way acquisition. Staff anticipates bidding this project in fall 2012, with a construction time of 9 – 12 months.

Financial Impact
The financial impacts vary depending upon the solution chosen.

Recommendation
At the current time, staff recommends no change to the intersection configuration. When schools return to session, staff will continue to monitor peak hour traffic at this intersection to determine the best possible solution to decrease overall delay. Staff will report results at the next regularly scheduled BOMA meeting on August 28th.