



# City of Norman, OK

Municipal Building  
Council Chambers  
201 West Gray  
Norman, OK 73069

## Master

**File Number: R-1415-33**

**File ID:** R-1415-33

**Type:** Resolution

**Status:** Consent Item

**Version:** 1

**Reference:**

**In Control:** City Council

**Department:** Public Works  
Department

**Cost:** \$60,500.00

**File Created:** 09/19/2014

**File Name:** Resolution for the appropriation of funds from the  
Capital Fund Balance

**Final Action:**

**Title:** RESOLUTION NO. R-1415-33: A RESOLUTION OF THE COUNCIL OF THE CITY OF NORMAN, OKLAHOMA, APPROPRIATING \$60,500 FROM THE CAPITAL FUND BALANCE TO BE USED TO FULLY FUND AND IMPLEMENT AN ADAPTIVE SIGNAL SYSTEM ON STATE HIGHWAY 9 BETWEEN 24TH AVENUE S.W. AND JENKINS AVENUE.

**Notes:** ACTION NEEDED: Motion to adopt or reject Resolution No. R-1415-33.

ACTION TAKEN: \_\_\_\_\_

**Agenda Date:** 10/14/2014

**Agenda Number:**

**Attachments:** R-1415-33.pdf, Location Map, Econolite Adaptive  
Quote, Quotation from Econolite for Radar Detectors

**Project Manager:** David Riesland, Traffic Engineer

**Entered by:** michelle.rudder@NormanOK.gov

**Effective Date:**

### History of Legislative File

Ver- sion:	Acting Body:	Date:	Action:	Sent To:	Due Date:	Return Date:	Result:
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### Text of Legislative File R-1415-33

Body

**BACKGROUND:** The Traffic Control Division manages traffic signal timing in a variety of ways. The simplest is an isolated traffic signal, such as the one located at the intersection of 12th Avenue NE and Franklin Road. Traffic signals such as this one operate in response to the traffic demand independent of the operation of other nearby traffic signals. In situations where the City has a series of traffic signals along a busy arterial roadway and in close proximity to each other, it becomes desirable to coordinate the operation of the signals. This is done by physically interconnecting each signal with fiber optic cable or copper wire cable to assure that the beginning and end of the green interval from one signal to the next is programmed in a way that facilitates the flow of traffic along the more heavily travelled roadway. An example of this is the ten signalized intersections on Robinson Street, between 36th Avenue NW and Porter Avenue.

Over the years, City staff has work diligently to modernize the traffic control equipment used at intersections along coordinated corridors. This effort has allowed the City to begin considering the use of higher-level systems such as "adaptive control". This modernization effort has included using fiber optic cable to

interconnect intersections, using video to detect vehicular traffic rather than in-pavement loop detection, and using the most modern traffic signal controllers.

A project was requested as part of the FYE 2015 Budget to implement a higher-level, traffic signal adaptive control system for State Highway 9, between 24th Avenue SW and Jenkins Avenue. This corridor was chosen because of heavy use during special events at the University of Oklahoma. See attached location map. Conventional signal systems, such as the one on Robinson Street, use pre-programmed daily signal timing schedules. Adaptive signal control technology constantly adjusts the timing of red, yellow, and green lights to accommodate changing traffic patterns to ease traffic congestion while maintaining coordination for good traffic flow along the major street during all hours of the day. The main benefits of adaptive signal control technology over conventional coordinated signal systems are that it can:

- ☐ Continuously distribute green light time equitably for all traffic movements,
- ☐ Improve travel time reliability by progressively moving vehicles through green lights,
- ☐ Reduce congestion by creating smoother flow, and
- ☐ Prolong the effectiveness of traffic signal timing.

**DISCUSSION:** Since November of 2009, City staff has had access to a computerized traffic signal management system called Centracs. Traffic signals with fiber optic interconnect are included in the Centracs system. Currently, 75 of our 143 traffic signals are on the Centracs Traffic Signal Management System. The adaptive traffic signal control system offered by our supplier, Econolite Control Products, is a module that can work within the existing Centracs system. For this reason, a quotation was sought from Econolite to implement this system on State Highway 9. This original quotation in the amount of \$44,500 was used in the development of the project request for the FYE 2015 Budget which is included as an attachment.

With the approval of the Budget and the start of the City's fiscal year on July 1, 2014, City staff began to work on the final specifications for the purchase of the adaptive control system module in consultation with representatives of Econolite. During these preliminary discussions, it became evident that company representatives had failed to include in their original project scope the cost of a radar vehicle detection system that is critical for the operation of the system. Therefore, additional funds in the amount of \$60,500 are needed to procure the Advance+ radar detection unit component of the State Highway 9 Adaptive Control System. A quotation from Econolite is included as an attachment.

The original funds budgeted for the project included the necessary software for the central system (Centracs), as well as the intersection traffic controllers. The additional funds, quoted at \$60,500, will cover the cost and setup of the radar detection devices needed to allow the adaptive system to measure traffic approaching intersections in order to optimize the time at which the signal changes to green. If approved, the total project cost will be \$105,000.

**RECOMMENDATION:** Staff recommends approval of a \$60,500 appropriation of funds from the Capital Fund Balance (050-0000-253.20-00) to Account No. 050-9080-431.61-01, Project No. TC-0040 (Traffic Signal Adaptive Control System). These funds will be used to fully fund and implement an adaptive signal system on State Highway 9, between 24th Avenue SW and Jenkins Avenue, utilizing the original quotation from Econolite Control Products as well as the subsequent quotation for the radar detection devices. If approved, this project will be completed by the end of December 2014, which will allow the system to be utilized for the majority of the University of Oklahoma basketball season as well as Commencement activities in the spring of 2015.