



MEMORANDUM

Date: September 29, 2015

To: Grayson Bottom

From: Joe Davis 

Re: Garth Brooks Blvd. Corridor Review 2015 Traffic Count

Triad has received the raw traffic counts for the I-40 and Frisco Road Interchange study. Included in the count intersection locations on Garth Brooks was 10th Street, Target Drive, Health Center Parkway, East I-40 ramp, West I-40 ramp, Andrew Drive, and Vandament Avenue. Traffic count collections began on August 27, 2015. Attached in Table 1 is the raw traffic data for the corridor.

The traffic data verifies the congestion on Garth Brooks with an average daily traffic (ADT) count of approximately 25,000 vehicles. A closer evaluation of each individual intersection shows that many of the intersections have met or exceeded their original design parameters. Of specific note are the turning movements for peak hours at 10th Street, Health Center Parkway, East I-40 ramp, West I-40 ramp, Andrew Dr., and Vandament Avenue intersections.

Turning movement guidelines are provided by the Federal Highway Administration (FHWA). Their guidelines are aimed at identifying safety and operational deficiencies including vehicle and pedestrian accidents plus excessive delays. Applying FHWA's guidelines to the Garth Brooks corridor show that during peak hour operations the left turning movements at westbound and southbound 10th Street, southbound East I-40 ramp, westbound West I-40 ramp and westbound Vandament Avenue are approaching levels for consideration of dual left turn lanes. FHWA recommends dual left turn lanes be considered when left turn volumes exceed 300 vehicles per hour.

FHWA recommends evaluating the street functional classification, prevailing approach speeds, capacity of the intersection, proportion of approach vehicles turning left, volumes of opposing through vehicles, design conditions, and crash history when determining the addition of a single left turn lane. In the corridor, eastbound Health Center Parkway and westbound Andrew Drive should be considered for a dedicated left turn lane.

The analysis and modifications to a single intersection in a congested corridor overly simplifies needed improvements. Recognizing that intersections are dependent in a corridor, software allows the engineer to model the improvements and analyze the effect of the modifications. Triad is moving forward with developing the computer model and evaluating changes. Triad will be looking at existing conditions and also look at the impacts of future development.

Field observations of the corridor show long delays as vehicles are traveling on Garth Brooks. Additionally, the current traffic patterns are not providing many gaps for vehicles entering Garth Brooks. Issues to be investigated include interconnecting all signals from 10th Street to Vandament Avenue. With signals interconnected, vehicles can travel orderly with minimum delays from one intersection

through the next signalized intersection. For unsignalized intersections and driveways, the signals can be timed to provide significant gaps and allow access to Garth Brooks. Additionally, turn prohibitions will be explored. Currently, right turn on red is allowed. By allowing this movement, current gaps in traffic are being filled with right turn on red. Of special note is the westbound West I-40 right turn movements.

Lastly, lane additions on Garth Brooks will be analyzed. Of special note will be the addition of a new southbound lane from north of I-40 proceeding south to Health Center Parkway. At Health Center Parkway, the new lane would be a right turn only to Health Center Parkway.

Execution of a corridor improvement plan must be developed to insure that the sequenced projects do not worsen the congestion in the corridor. Computer analysis will be performed to prioritize projects based on decreasing delays and improving safety on Garth Brooks. With I-40 being the central hub, an initial reaction would be that improvements begin around I-40 and radiate out. Ultimately, the analysis will dictate the project phasing.

For discussion purposes, Triad has sketched the proposed improvements on aerials. Based on these sketches, Triad developed conceptual cost opinions so a magnitude of cost could be identified. These cost opinions are presented in Table 2. Refined cost opinions will be developed as the design progress is initiated.

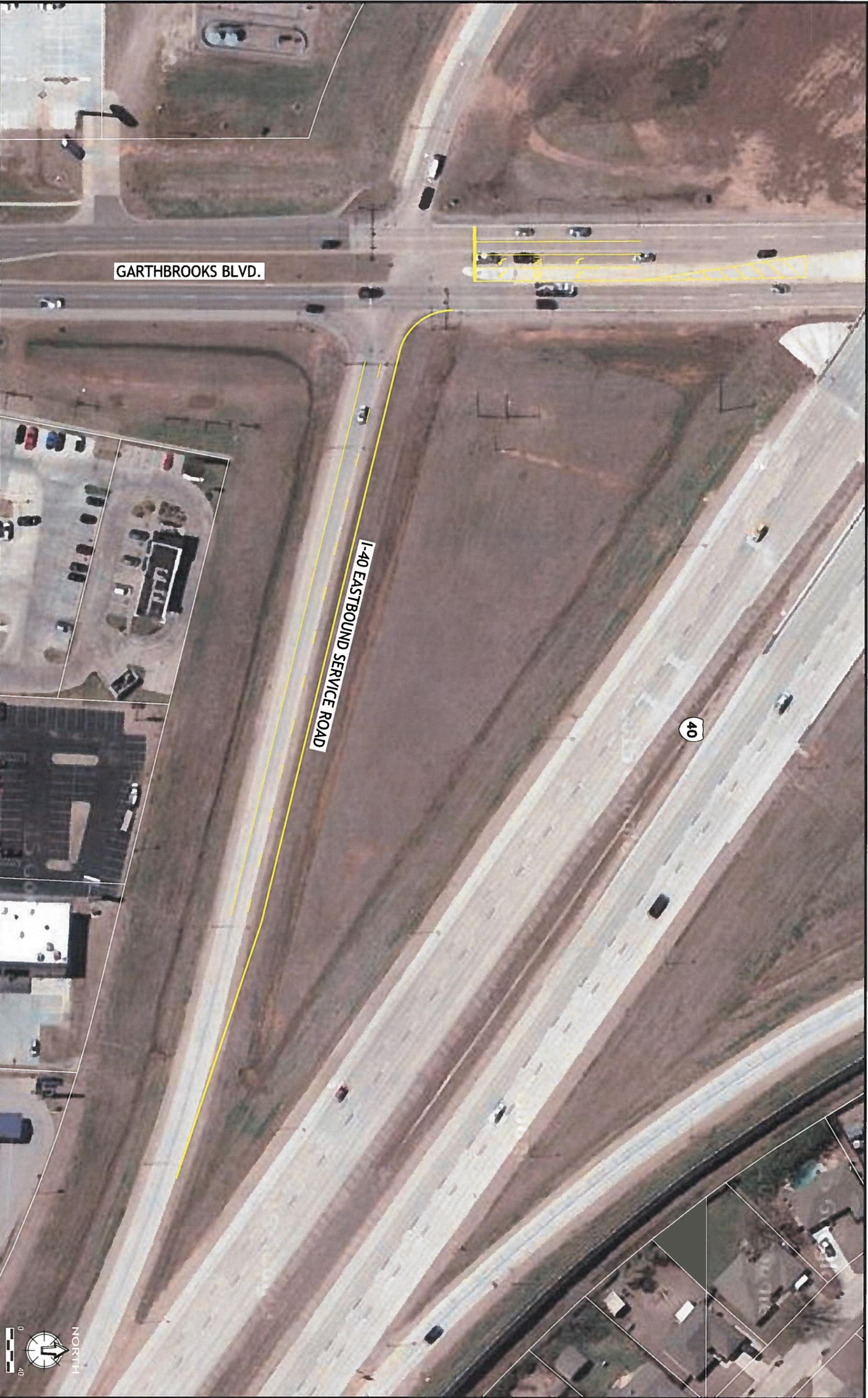
Table 2) Garth Brooks Blvd. Corridor Improvements

Project Location	Description	Conceptual Cost Opinion*
East I-40	Construct southbound dual left on Garth Brooks w/additional ramp lane	\$550,000
Signal Interconnect	Replace controllers and provide signal interconnects in corridor	\$150,000
West I-40	Construct westbound dual left on ramp and extend right only ramp lane	\$380,000
Health Center Parkway	Construct dedicated left turn lanes for both eastbound and westbound	\$320,000
Southbound Lane Addition	Construct southbound Garth Brooks lane from north of I-40 to Health Center Parkway	\$1,150,000
Andrew Drive	Construct dedicated left turn lane	\$50,000
10 th Street	Construct westbound and southbound dual left turn lanes	\$470,000
Vandament Avenue	Construct westbound dual left turn lanes	\$400,000

* Cost Opinions will be revised when design services are initiated

Table 1) 2015 Garth Brooks Blvd. Raw Traffic Data

Location	AM Peak Hour									PM Peak Hour														
	Northbound			Westbound			Southbound			Eastbound			Northbound			Westbound			Southbound			Eastbound		
	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT	LT	THRU	RT
10 th Street	45	655	180	78	65	145	77	208	13	19	40	12	24	459	114	313	72	269	245	574	26	40	77	47
Target Drive	30	720	20	7	2	10	15	266	60	34	3	24	158	601	31	21	15	49	75	669	118	99	15	157
Health Center Parkway	64	680	47	14	15	115	113	344	163	60	4	20	27	678	52	34	23	134	208	772	127	173	21	71
East I-40		542	316				307	499		90	0	131		755	225				247	912		94	4	214
West I-40	127	507		148	0	247		642	109				137	720		354	0	444		799	148			
Andrew Drive	56	661	39	29	5	15	18	667	9	9	1	24	55	1001	115	30	4	46	24	854	27	9	3	37
Walmart																								
Vandament Ave.	82	383	97	166	86	277	138	392	44	44	69	83	94	442	254	223	143	179	129	334	63	82	168	98



CITY OF YUKON

GARTHBOOKS BLVD.

I-40 EASTBOUND SERVICE ROAD

40

DATE: 09-28-2015
SCALE: AS SHOWN
DRWN BY: MTD

SITE PLAN
I-40 EASTBOUND SERVICE ROAD

ROADWAY IMPROVEMENTS AT GARTHBOOKS BLVD.
AND I-40 EASTBOUND SERVICE ROAD
YUKON, OKLAHOMA



FIGURE 1



CITY OF YUKON

DATE: 09-28-2015
SCALE: AS SHOWN
DRWN BY: MTD

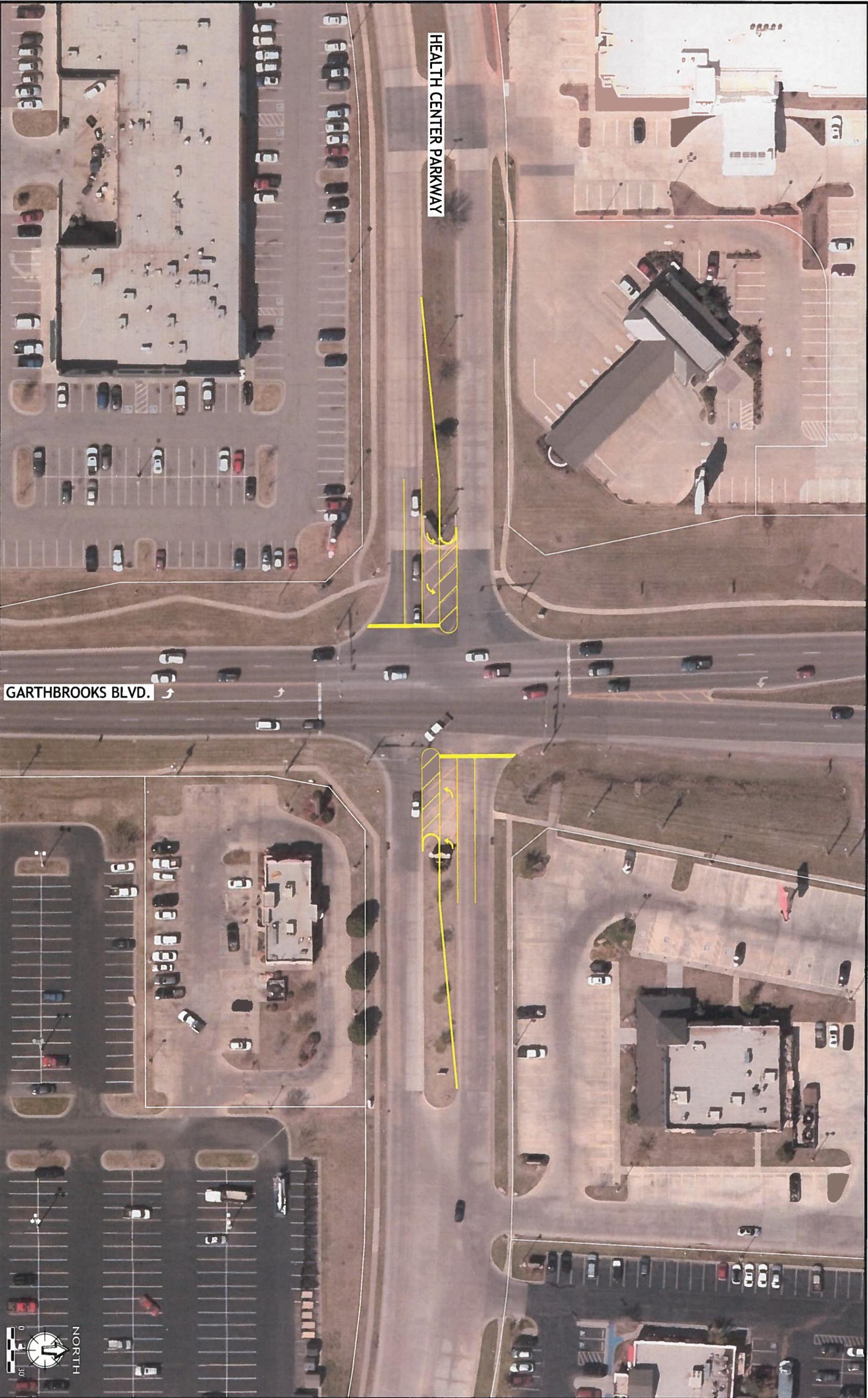
SITE PLAN
I-40 WESTBOUND SERVICE ROAD

ROADWAY IMPROVEMENTS AT GARTH BROOKS BLVD.
AND I-40 WESTBOUND SERVICE ROAD
YUKON, OKLAHOMA



FIGURE 2





HEALTH CENTER PARKWAY

GARTH BROOKS BLVD.

CITY OF YUKON

DATE: 09-28-2015
SCALE: AS SHOWN
DRWN BY: WTD

SITE PLAN
HEALTH CENTER PARKWAY

ROADWAY IMPROVEMENTS AT GARTH BROOKS BLVD.
AND HEALTH CENTER PARKWAY
YUKON, OKLAHOMA



FIGURE 3



CITY OF YUKON

DATE: 09-28-2015
SCALE: AS SHOWN
DRWN BY: MTD

SITE PLAN
SOUTHBOUND GARTH BROOKS BLVD.

ROADWAY IMPROVEMENTS ALONG
GARTH BROOKS BLVD.
YUKON, OKLAHOMA



FIGURE 4



CITY OF YUKON

I-40 WESTBOUND SERVICE ROAD

BRAUMS

GARTH BROOKS BLVD.

ANDREWS DRIVE

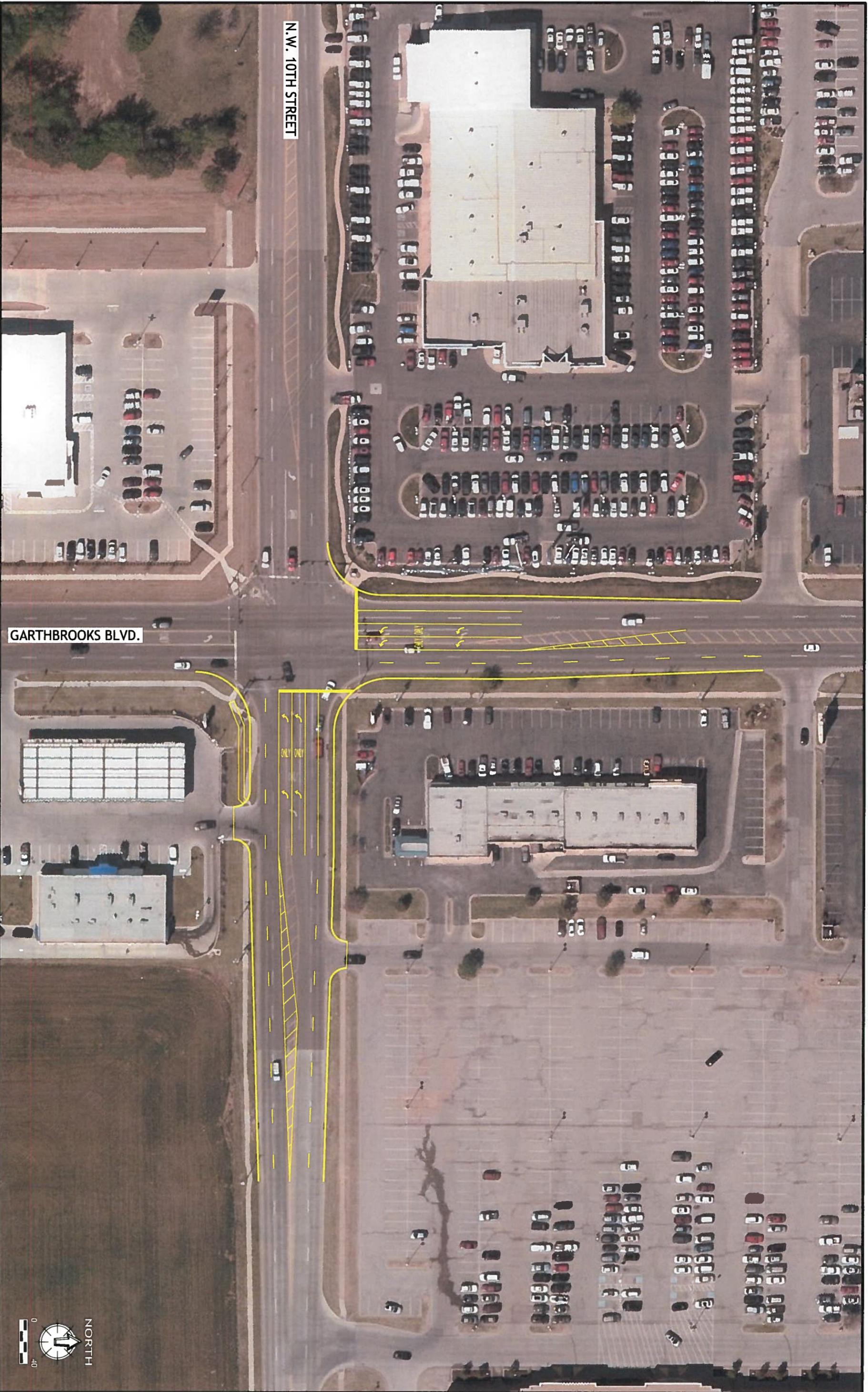
DATE: 09-28-2015
SCALE: AS SHOWN
DRAWN BY: MTD

SITE PLAN
ANDREWS DRIVE

ROADWAY IMPROVEMENTS
AT GARTH BROOKS BLVD. AND ANDREWS DRIVE
YUKON, OKLAHOMA



FIGURE 5



N.W. 10TH STREET

GARTHBROOKS BLVD.

CITY OF YUKON

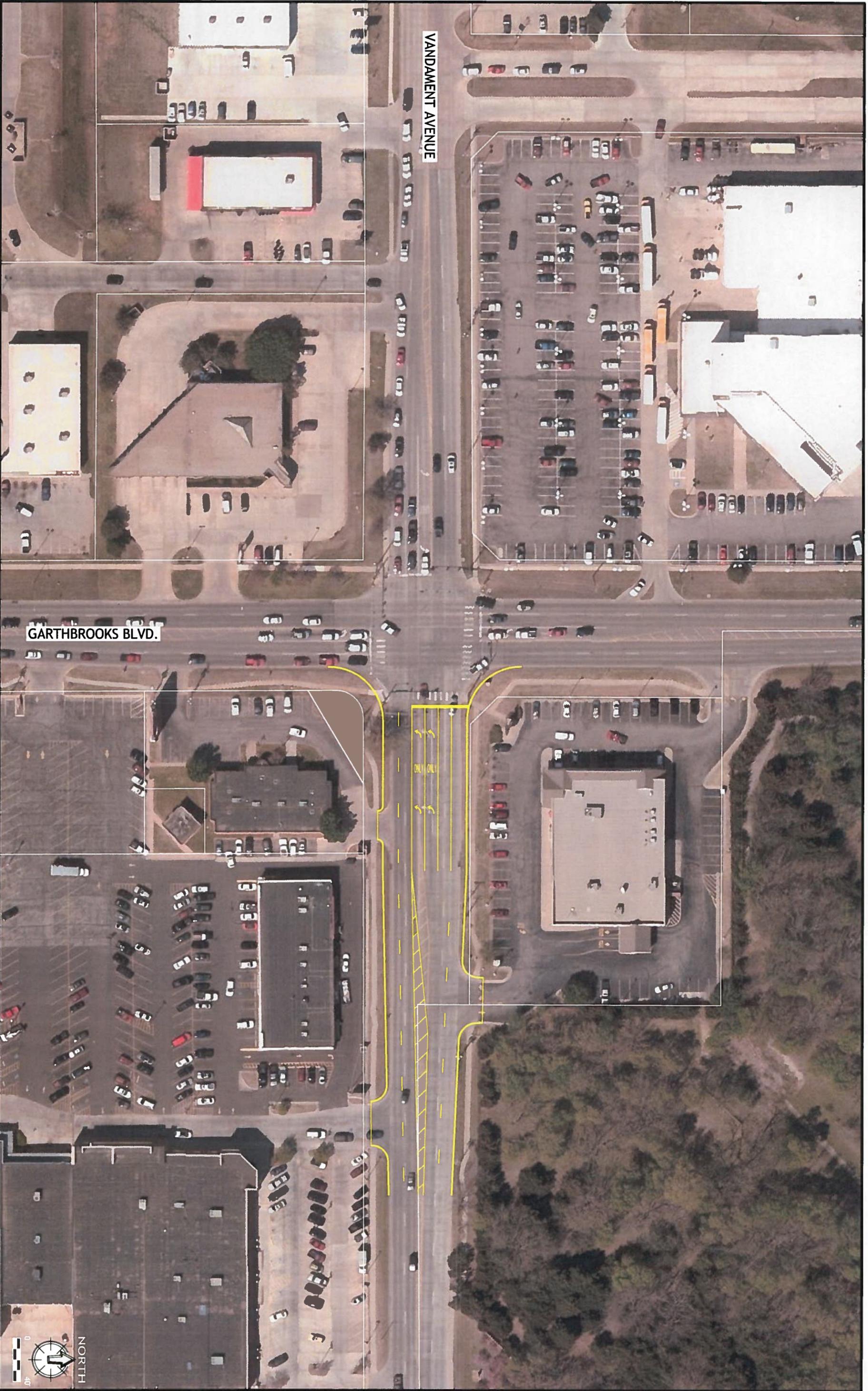
DATE: 09-28-2015
SCALE: AS SHOWN
DRWN BY: MTD

SITE PLAN
N.W. 10TH STREET

ROADWAY IMPROVEMENTS AT
GARTHBROOKS BLVD. AND N.W. 10TH STREET
YUKON, OKLAHOMA



FIGURE 6



VANDAMENT AVENUE

GARTHBOOKS BLVD.

CITY OF YUKON

DATE: 09-28-2015
SCALE: AS SHOWN
DRWN BY: MTD

SITE PLAN
VANDAMENT AVENUE

ROADWAY IMPROVEMENTS
AT GARTHBOOKS BLVD. AND VANDAMENT AVENUE
YUKON, OKLAHOMA



FIGURE 7

