

MEMORANDUM

TO: Donna Barron, City Manager
FROM: David Salmon, P.E., City Engineer
VIA: Eric Ferris, Deputy City Manager
DATE: October 1, 2018

SUBJECT: Approval of an Amendment to the TxDOT Type R Maintenance Agreement for the Installation and Reimbursement for the Operation and Maintenance of Traffic Signals Within a Municipality by Adding the Traffic Signal at the Interchange of Garden Ridge Boulevard and Interstate Highway 35E (IH 35E) and Adjusting the Reimbursement Amount for the Signal at FM 407 and Interstate 35E (IH 35E) Due to Modification of the Signal Type; and Authorizing the City Manager to Execute the Agreement.

BACKGROUND

Texas Transportation Commission Minute Order No. 85777 authorizes TxDOT to maintain all traffic signals on state highways within any municipality less than 50,000 population (latest Federal Census). The order also requires TxDOT to maintain all traffic signals on controlled access highways (frontage roads at freeway interchanges) regardless of the population.

Municipalities automatically assume maintenance of traffic signals on non-controlled access highways without reimbursement when the urban population reaches 50,000. Other maintenance agreements between TxDOT and the local agency must be approved separately.

Traffic signal maintenance on state highways in Lewisville is defined by the following:

1. Texas Transportation Commission Minute Order No. 85777 - The City of Lewisville is over 50,000 population and must maintain traffic signals on all non-controlled access highways within the City limits (FM 407, FM 1171, FM 3040, SH121 Business).
2. **Type R Agreement** for the Operation and Maintenance of Traffic Signals Within a Municipality - This agreement transferred the responsibility of signal maintenance on controlled access highways (such as interchanges on IH35E, Sam Rayburn Tollway) from TxDOT to the City when its population exceeded 50,000 and provides for reimbursement.

The history of traffic signal maintenance (Type R) Agreement with TxDOT is as follows:

- 1996 – TxDOT notifies staff to prepare to take over traffic signal maintenance within the City limits under Order No. 85777 when the population census exceeds 50,000

- 97/1998 –City approves annual budget to maintain 31 TxDOT signals inside Lewisville including three signals along I-35E (Type R Agreement).
- 2009 – TxDOT submits new Type R agreement with a revised location list and increased reimbursement rates due to the addition of SH 121 Tollway.
- 2018 – New total number of Type R signals requires supplemental agreement.

As part of the I-35Express project, TxDOT redesigned the interchange at Garden Ridge Boulevard and constructed a traffic signal to provide traffic control on the bridge deck. Because State Law requires that cities with populations greater than 50,000 take responsibility for the operation and maintenance of the traffic signals on all controlled access on-system highways within their limits, the City of Lewisville assumes the responsibility of the maintenance and operation of the traffic signal at the Garden Ridge Boulevard interchange. TxDOT will provide an annual reimbursement of \$3,153 to the City of Lewisville.

ANALYSIS

I. Garden Ridge Blvd Interchange at IH-35E

TxDOT conducted a signal warrant study post-installation of the traffic signal and found that the interchange did not meet the traffic signal warrants at the time. Hence, TxDOT decided to operate the traffic signal at the Garden Ridge Boulevard interchange in flashing mode with a flashing red indication on all approaches. The intersection operates as an all-way stop controlled intersection with flashing red signals on all approaches. Even though, the traffic signal is operating in flashing mode, the City is still responsible for maintaining the LED indications, traffic signal heads, signage and responding to citizen complaints.

The City will periodically (once every 6 months) collect the traffic signal counts and accident records to determine if warrants are met in order to eventually put the signals in normal mode of operation. All the traffic signal equipment including the traffic signal controller, controller cabinet, video detection system, conflict monitor etc. are already in place. Because of this reason, once the intersection meets the warrants, the traffic signal can easily be switched to normal mode of operation.

The annual reimbursement for the Garden Ridge Blvd diamond interchange equipped with one (1) controller will be **\$3,153**.

II. Modifications to the FM 407 Interchange:

With the I-35Express project, the interchange at FM 407/Lake Park Road was completely reconstructed. The traffic signals at the IH 35E and FM 407/Lake Park Road interchange were modified from two separate fully actuated traffic signals with two (2) controllers to a diamond interchange with one (1) controller.

The annual reimbursement rate for the FM 407 and IH-35E interchange before and after the I-35Express project are as follows:

Annual Reimbursement Before the I-35Express project:

IH 35E NB Frontage Road at Lake Park Rd (fully actuated signal):	\$2,460
IH 35E SB Frontage Road at FM 407 (fully actuated signal):	\$2,460

Annual Reimbursement After the I-35Express project:

IH 35E Frontage Roads at FM 407 Interchange: (diamond interchange with one (1) controller)	\$3,153
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Change in annual reimbursement for the FM 407/Lake Park Rd interchange at IH 35E:
$$= - \$2,460 - \$2,460 + \$3,153 = - \$1,767$$

So, for the FM 407 and IH 35 Interchange, there will be a net reduction in the annual reimbursement by \$1,767 due to the improvements made by the I-35Express project.

III. Annual Reimbursement for the Type R Agreement:

- Garden Ridge Blvd interchange at IH 35E (diamond with 1 controller): \$3,153
- Net change in reimbursement for the FM 407 at IH 35E interchange: -\$1,767

Net change in annual reimbursement due to this supplemental agreement is:
$$+\$3,153 - \$1,767 = +\$1,386$$

Therefore, the change in annual reimbursement from TxDOT for the Type R Agreement is a net increase of \$1,386.

Previous maximum amount payable per year under the Type R Agreement: \$32,051.05

Subject: Type R Maintenance Agreement – Garden Ridge Blvd at IH-35E Interchange
Oct 1, 2018
Page 4

Amount of this Supplemental Agreement:	\$ 1,386.00
Revised maximum amount payable per year under the Type R Agreement:	\$33,437.05

This item is considered an administrative action and was not presented to the Transportation Board.

RECOMMENDATION

It is City staff's recommendation that the City Council approve the amendment as set forth in the caption above.