# City of San Antonio

## Legislation Details (With Text)

**File #:** 15-1688

**Type:** Capital Improvements

**In control:** City Council A Session

**On agenda:** 4/30/2015

**Title:** An Ordinance for vehicle detection equipment at signalized intersections along major corridors authorizing the execution of an Advance Funding Agreement with the Texas Department of Transportation for acceptance up to $728,000.00 to fund 22 intersections and authorizing $10,511.00 payment to TxDOT for state oversight. [Peter Zanoni, Deputy City Manager; Mike Frisbie, Director, Transporation & Capital Improvements]

**Sponsors:**

**Indexes:**

**Code sections:**

**Attachments:** 1. Draft AFA, 2. Location Map for Agreement 0915-12-541, 3. Draft Ordinance, 4. Ordinance 2015-04-30-0339

| Date | Ver. | Action By | Action | Result |
|---|---|---|---|---|
| 4/30/2015 | 1 | City Council A Session | adopted | Pass |

**DEPARTMENT:** Transportation & Capital Improvements

**DEPARTMENT HEAD:** Mike Frisbie, P.E.

**COUNCIL DISTRICTS IMPACTED:** City Wide

**SUBJECT:**

Advance Funding Agreement with TxDOT for Citywide Intersection Improvements

**SUMMARY:**

An ordinance for radar-based vehicle detection equipment at signalized intersections along major corridors, and authorizing the execution of an Advance Funding Agreement with the Texas Department of Transportation (TxDOT) for acceptance of up to $728,000.00 to fund 22 intersections and authorizing $10,511.00 payment to TxDOT for state oversight.

**BACKGROUND INFORMATION:**

The ITS Operational Improvement Project covered by this Agreement will provide for the purchase and installation of radar-based vehicle detection equipment to be installed at approximately 22 intersections

throughout the City. This equipment will provide real-time information about traffic volumes and vehicle arrivals to determine if intersections are operating at their highest level of efficiency and to alert operators in the Traffic Management Center (TMC) when there is a drop in traffic signal performance. The alerts will enable staff to proactively respond to unexpected traffic conditions thereby reducing delays and travel time. The installation of this equipment builds upon the communications network and traffic management infrastructure implemented by the Traffic Signal System Modernization Program, thereby continuing the maximum use and benefit of this investment.

This agreement allows for eighty percent (80%) of eligible expenses to be reimbursed using Category 7 - Surface Transportation Program - Metropolitan Mobility (STP-MM) that were distributed to the City of San Antonio by the the Alamo Area Metropolitan Planning Organization (MPO) in 2007. Since 2007, several ITS related projects have been completed using these funds. Such projects include a school flasher communications upgrade, the purchase and installation of midblock radar vehicle count equipment at 40 locations located throughout the City, and minor intersection improvements at five signalized intersections.

The ITS Operational Improvement Project is expected to begin upon receipt of the equipment and installation should take 90 days.

**ISSUE:**

This ordinance authorizes for the installation of radar-based vehicle detection equipment at 22 signalized intersections along major corridors, and authorizes the execution of an Advance Funding Agreement with the Texas Department of Transportation (TxDOT) for acceptance of up to $728,000.00 or eighty percent (80%) of eligible expenses associated with the purchase and installation of the radar based vehicle detection equipment to be installed at approximately 22 City intersections. The City must provide funding for the the remaining $182,000.00 or twenty percent (20%) which is available from the Advanced Transportation District (ATD) FY 2015 Detection Project and available in the FY 2015 - FY 2020 Capital Improvement Program. Additionally, $10,511.00 will be paid to TxDOT for state oversight.

Currently the City's traffic signal system utilizes Video Imaging Video Detection Systems (VIVDS) to detect vehicles at most of the signalized intersections. The VIVDS units use cameras to detect when vehicles are waiting for a green signal. This type of detection may perform poorly during sunrise and dusk conditions, during fog and rain events, and when there is poor pavement contrast. In addition, the VIVDS devices are not well suited to identifying each individual vehicle that approaches an intersection.

The radar based vehicle detection units are more consistent regardless of the brightness or weather conditions. Furthermore, these units are able to accurately measure each vehicle separately. The more accurate data provided by the radar based equipment can be utilized to ensure that the intersections are operating at their highest level of efficiency by not displaying a green light when no traffic is present on minor streets and to alert operators in the Traffic Management Center (TMC) when more vehicles are having to stop at a traffic signal than anticipated. In addition, since every vehicle is accurately accounted for, the detectors can collect traffic volume data at intersections so changes in traffic volume overtime can be monitored and the signal timings can be adjusted accordingly as volumes change. Over the past two years, the radar based vehicle detection units have been transitioned into all new traffic signal installations with the City of San Antonio.

While some of the roadways currently are maintained by the State, all of the traffic signals listed are owned, operated, and maintained by the City of San Antonio because they are not at freeway interchanges. State law requires cities with populations of over 50,000 to be responsible for all traffic signals within their city limits

except those at freeway frontage roads. The detection will be directly supporting the operation of the traffic signals and the flow of traffic through the City traffic signals.

The Broadway, Nacogdoches, San Pedro, and Huebner locations were prioritized based on the high volume of traffic and the high number of signals within a short distance. The additional data and higher accuracy of detection provided by this project will have the greatest positive impact on corridors with high traffic volumes and a high signal density. The other locations (#1, #19, #20, #21, and #22) are the previously identified locations as part of the 5 year IMP program that are included as the City's portion of the funding for this project.

**ALTERNATIVES:**

City Council could choose not to approve this ordinance. However the City would lose the opportunity to receive reimbursement from TxDOT on this Project. City Council also could choose not to accept these funds; however, additional funding for the ITS Operational Improvement Project would need to be identified.

**FISCAL IMPACT:**

This is a one time capital expenditure and funds in the amount of $192,511.00 are available from the Advanced Transportation District (ATD) FY 2015 Detection Project and available in th FY 2015 - FY 2020 Capital Improvement Program. Of the $192,511.00, $182,000.00 is a local match for TxDOT funding and $10,511.00 is payment to TxDOT for oversight. The total estimated construction cost of the ITS Equipment Project is $910,000.00, with $728,000.00 (80%) coming from TxDOT as a federal contribution and $182,000.00 (20%) coming from the City as a local match.

**RECOMMENDATION:**

Staff recommends approval of this ordinance allowing for the execution of an Advance Funding Agreement with TxDOT and the acceptance of Federal Highway Administration funds for the Intelligent Transportation System (ITS) Operational Improvements Project.