



2020-8493

Approve an agreement with Kimley-Horn for
Professional Engineering Services of Phase 1
Priority 1 Traffic Signal Capital Improvement
Projects



Project Background

- 2018: Brought Kimley-Horn on Board to facilitate discussions TxDOT and assess City's current signal system
- June 2020: City Council Presentation of Assessment and Improvements Plan
- July 2020: Discussions with other jurisdictions and companies
- August 2020: Move forward with design of Phase 1 Improvements



PFLUGERVILLE SIGNAL SYSTEM ASSESSMENT & IMPROVEMENTS PLAN

Prepared by
Kimley»Horn
Expect More. Experience Better.



CITY OF PFLUGERVILLE TXDOT SIGNALS UPGRADE SUMMARY



● TxDOT Mast Arm
 ● TxDOT Span Wire
 ● Pflugerville Signals

Upgrades

Key

A. Upgrade Existing Span Wire signal to Mast-Arm Signal

B. New Span-Wire Signal

C. Convert EB-WB Left-Turns to Flashing Yellow Arrow Display

D. Convert NB-SB Left-Turns to Flashing Yellow Arrow Display

E. Change MMU to be Compatible with FYA Operations

F. Provide Battery Back-Up Unit (Pending Justification Report)

G. Provide Working Wireless Comm. Radio (OR GPS Clock)

H. Change High Pressure Sodium lights to LED Luminaires

I. Replace ITS+ Video Detection Camera with ITERIS Camera

J. Add No-Ped Crossing Sign

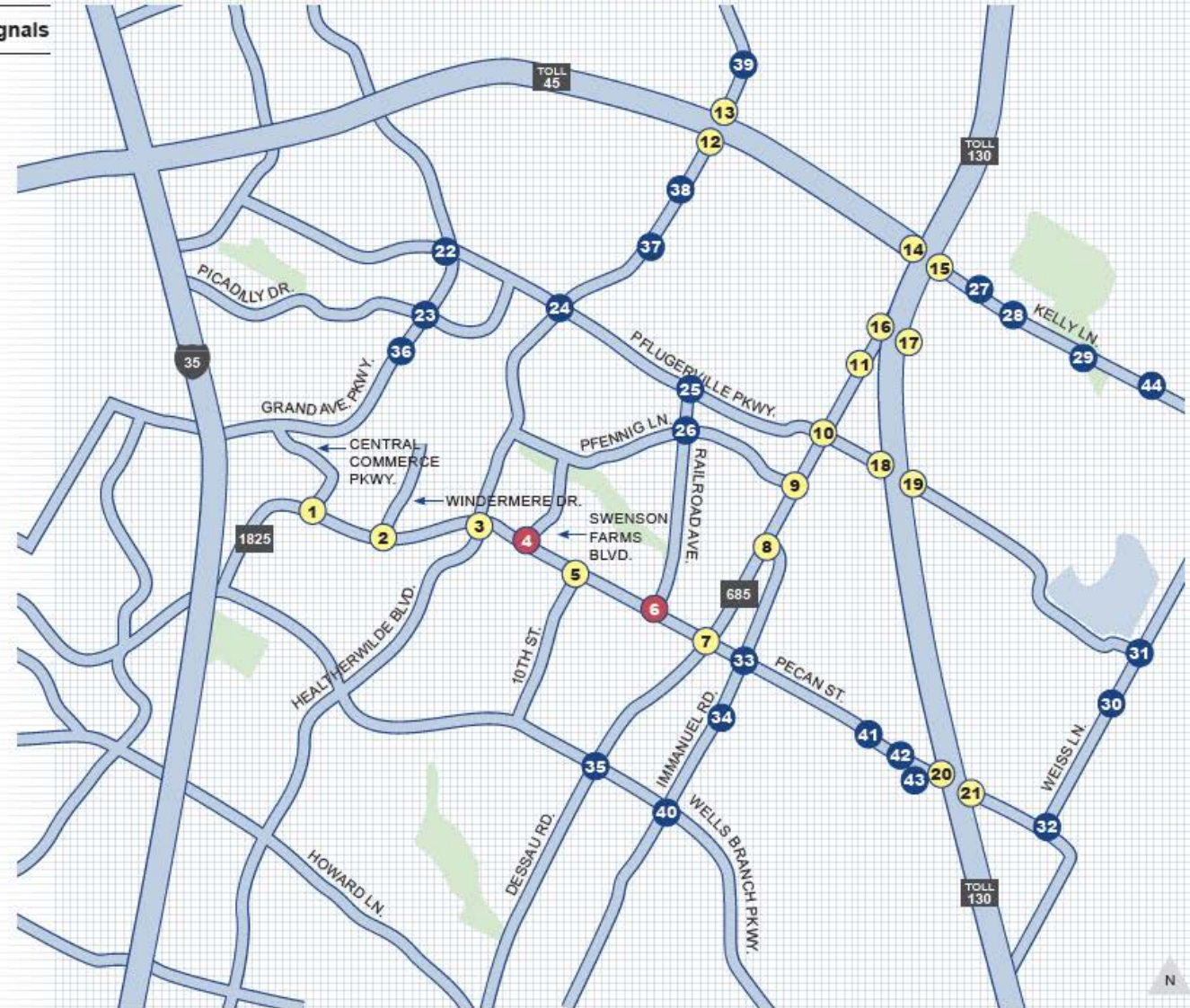
K. Replace TV Monitor inside Cabinet with LCD Monitor

L. Repair Ped Equipment (Displays, Push-Buttons, Signs)

M. Corridor Signal Re-timing

Note: Operations and Maintenance at existing signals along toll roads SH 45 and SH 130 (#12-21) shall remain with TxDOT

- 1 **C|F|G|H|K|L|M**
FM 1825 & Central Commercial
- 2 **C|E|G|H|K|L|M**
FM 1825 & Windermere Drive
- 3 **C|F|G|H|I|L|M**
FM 1825 & Heatherwilde Blvd
- 4 **A|F|G|H|M**
FM 1825 & Swenson Farms Blvd
- 5 **C|E|G|H|L|M**
FM 1825 & Meadows Lane
- 6 **B|F|G|H|M**
FM 1825 & Railroad Ave
- 7 **C|D|F|G|H|M**
FM 1825 & FM 685 Dessau
- 8 **G|H|J|M**
FM 685 & Old Austin Hutto Road
- 9 **C|D|E|F|G|H|M**
FM 685 & Pfennig Lane
- 10 **D|E|F|G|H|K|M**
FM 685 & Pflugerville Parkway
- 11 **E|G|H|M**
FM 685 & Town Center Drive
- 12 SH45 EBFR & Heatherwilde Blvd
- 13 SH45 WBFR & Heatherwilde Blvd
- 14 SH130 SBFR & Kelly Lane/45
- 15 SH130 NBFR & Kelly Lane/45
- 16 SH 130 SBFR & 685
- 17 SH 130 NBFR & 685
- 18 SH 130 SBFR & Pflugerville Parkway
- 19 SH 130 NBFR & Pflugerville Parkway
- 20 FM 1825 & SH 130 SBFR
- 21 FM 1825 & SH 130 NBFR



TxDOT Signals Repairs & Improvements Summary



CITY OF PFLUGERVILLE CITY SIGNALS UPGRADE SUMMARY

- TxDOT Mast Arm
- TxDOT Span Wire
- City Signals
- City Span Wire

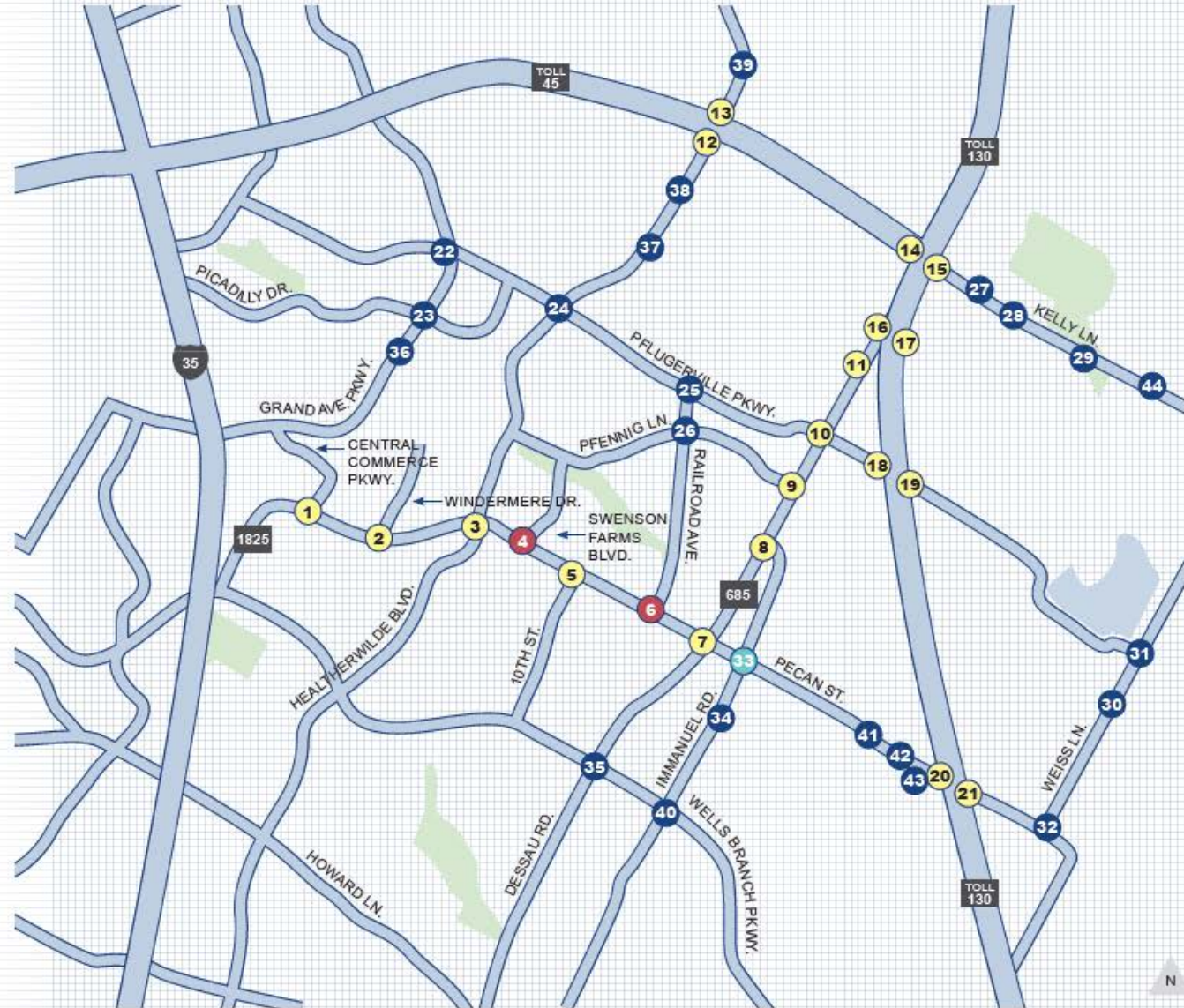
Upgrades

Key

- A.** Upgrade Existing Span Wire signal to Mast-Arm Signal
- B.** New Span-Wire Signal
- C.** Convert EB-WB Left-Turns to Flashing Yellow Arrow Display
- D.** Convert NB-SB Left-Turns to Flashing Yellow Arrow Display
- E.** Change MMU to be Compatible with FYA Operations
- F.** Provide Battery Back-Up Unit (Pending Justification Report)
- G.** Provide Working Wireless Comm. Radio (OR GPS Clock)
- H.** Change High Pressure Sodium lights to LED Luminaires
- I.** Add APS Pedestrian Units with Countdown Heads
- J.** Update Pedestrian ramps & Pole access to be ADA Compliant
- K.** Replace TV Monitor inside Cabinet with LCD Monitor
- L.** Repair Ped Equipment (Displays, Push-Buttons, Signs)
- M.** Corridor/Intersection Signal Re-timing
- N.** Repair Cabinet Components
- O.** Add ILSN Signs

Note: B is not used on this map.

- 22** C|D|E|F|G|I|J|K|L|M|O
Pflugerville Pkwy & Grand Avenue Pkwy
- 23** C|D|E|F|G|I|J|M|O
Picadilly Drive & Grand Avenue Pkwy
- 24** C|D|E|F|G|I|L|M|N|O
Pflugerville Pkwy & Heatherwilde Blvd
- 25** C|E|G|I|J|K|L|M|N|O
Pflugerville Pkwy & Railroad Avenue
- 26** F|G|L|M|N|O
Pfennig Lane & Railroad Avenue
- 27** E|F|L|M|O
Kelly Lane & Colorado Sands Drive
- 28** F|J|L|M|N|O
Kelly Lane & Kennemer Drive
- 29** F|J|M|O
Kelly Lane & Falcon Pointe Blvd
- 30** F|G|M|O
Weiss Lane & Wolf Pack Drive
- 31** F|G|J|M|O
Pflugerville Pkwy & Weiss Lane
- 32** C|F|G|I|J|M|O
Pecan Street & Weiss Lane
- 33** A|C|D|E|F|G|H|I|J|K|M|O
Pecan Street & Old Austin-Hutto Immanuel Rd
- 34** D|E|F|G|I|J|M|N|O
Immanuel Road & Oxford Drive
- 35** C|E|F|G|I|J|K|L|M|O
Wells Branch & Dessau Lane
- 36** M
Grand Ave Pkwy at Black Locust Dr
- 37** M|O
Heatherwilde Blvd at Kingston Lacy Blvd
- 38** M
Heatherwilde Blvd at New Meister Lane
- 39** M
Heatherwilde Blvd at Cheyenne Valley Dr
- 40** Wells Branch at Immanuel Road
- 41** Pecan Street at Pfennig Lane
- 42** Pecan Street at Project Charm Dwy
- 43** Pecan Street at Biltmore Ave
- 44** Kelly Lane at Hidden Lake Dr-Jakes Hill Rd



City Signals Repairs & Improvements Summary

Phase 1 Priority 1 Traffic Signal Capital Improvement Projects

Signal Repairs	Span-Wire to /Mast-Arm Upgrade	Priority 1	\$450,000.00
	Replace 5-Sec P+P to 4-Sec FYA (Intersection)	Priority 1	\$48,000.00
	Repair & Upgrade PED PBs to APS Units (Intersection	Priority 1	\$60,000.00
	MISC Repair Items (Inside Cabinet Equipment)	Priority 1	\$35,000.00
ITS Communication Infrastructure	Dual Band Wireless Ethernet Radio (Off-System)	Priority 1	\$103,500.00
	Dual Band Wireless Ethernet Radio (Off-System)	Priority 1	\$54,000.00
	Hardened Ethernet Switch (Field)	Priority 1	\$61,250.00
	Ethernet Switch (Layer 3) (TMC/BTMC)	Priority 1	\$14,000.00
	Network Firewall	Priority 1	\$2,500.00
	Wireless Backhaul Link	Priority 1	\$12,000.00
ATMS	Advanced Traffic Management System (CENTRACS or Equipment)	Priority 1	\$190,000.00
	CCTV Module	Priority 1	\$20,000.00

Subtotal Costs* \$1,050,250.00

* Add Contingency % + Engineering = \$1,388,955.63



Staff recommends approving an Agreement
with Kimley-Horn for Professional
Engineering Services of Phase 1 Priority 1
Traffic Signal Capital Improvement Projects