Existing LOS for Burnet Road and North Lamar are summarized in **Tables F-1** and **F-2** for all the signalized intersections along Burnet Road and North Lamar Boulevard. Along Burnet Road, the intersections with the worst LOS are Koenig Lane, US 183, Braker Lane, and Kramer Lane, which operate at LOS E or F during one or both peak hours. Along North Lamar Boulevard, the intersections at Rundberg Lane, Braker Lane, Parmer Lane and IH 35 operate at LOS E or F during one or both peak hours.

Table F-1: Burnet Road Existing Intersection Level-Of-Service

INTERSECTION	AM Peak Hour LOS		PM Peak Hour LOS	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Burnet Road at Allandale Rd/Koenig Ln	63.0	E	59.6	E
Burnet Road at Romeria Dr	2.5	A	4.5	A
Burnet Road at White Horse Trail	9.7	A	8.1	A
Burnet Road at Justin Ln/Pegram Ave	7.7	A	15.4	B
Burnet Road at Greenlawn Pkwy	3.2	A	3.8	C
Burnet Road at Richcreek Rd	4.5	A	3.9	A
Burnet Road at Northcross Dr/St. Joseph Boulevard	13.1	B	11.1	B
Burnet Road at W. Anderson Ln	37.5	D	54.2	D
Burnet Road at Steck Ave	15.0	B	25.3	C
Burnet Road at Buell Ave/Ohlen Rd	11.0	B	18.0	B
Burnet Road at Rockwood Ln	5.0	A	15.2	B
Burnet Road at US 183 EB Frtg Rd	155.3	F	143.9	F
Burnet Road at US 183 WB Frtg Rd	39.9	D	106.1	F
Burnet Road at Waterford Centre Boulevard	8.1	A	8.7	A
Burnet Road at Longhorn Boulevard	9.1	A	12.3	B
Burnet Road at Rutland Dr	19.0	B	34.1	C
Burnet Road at Braker Ln	87.0	F	67.7	E
Burnet Road at Kramer Ln/Alterra Pkwy	20.3	C	24.8	F
Burnet Road at Esperanza Crossing	6.4	A	5.4	A
Burnet Road at IBM Dwy/Palm Way	2.0	A	3.0	A
Burnet Road at Gault Ln	4.8	A	25.4	C

Table F-2: North Lamar Boulevard Existing Intersection Level-Of-Service

INTERSECTION	AM Peak Hour LOS		PM Peak Hour LOS	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
North Lamar Boulevard (SB) at US 183 EB Frtg Rd	35.8	D	11.3	B
North Lamar Boulevard (NB) at US 183 EB Frtg Rd	16.0	B	21.1	C
North Lamar Boulevard (NB) at US 183 WB Frtg Rd	17.0	B	13.4	B
North Lamar Boulevard (SB) at US 183 WB Frtg Rd	11.7	B	17.6	B
North Lamar Boulevard at Thurmond St	6.9	A	8.0	A
North Lamar Boulevard at Payton Gin Rd	19.7	C	21.4	B
North Lamar Boulevard at Rundberg Ln	41.1	D	183.0	F
North Lamar Boulevard at Rutland Dr	20.7	C	32.9	C
North Lamar Boulevard at W. Longspur Boulevard	8.0	B	18.8	B
North Lamar Boulevard at Masterson Pass	31.2	C	22.0	B
North Lamar Boulevard at Meadows Dr	7.1	A	8.3	A
North Lamar Boulevard at Kramer Ln	21.0	B	35.7	C
North Lamar Boulevard at Braker Ln	63.1	E	62.1	E
North Lamar Boulevard at Bend Dr	3.2	A	11.3	A
North Lamar Boulevard at Yager Ln	12.7	B	13.3	C
North Lamar Boulevard at Parmer Ln	65.9	E	112.7	F
Howard Ln at IH 35 SB Frtg Rd	90.5	F	71.8	E
Howard Ln at IH 35 NB Frtg Rd	60.5	E	62.1	E

Several short-term intersection improvements were recommended as a result of the intersection analysis and field observations to facilitate better vehicular flow.

VEHICULAR TIMING PARAMETERS

This plan recommends that in the short term, traffic signals along both Burnet Road and North Lamar Boulevard be retimed to provide better vehicular traffic coordination and flow. For example, public input was received about the section of North Lamar Boulevard from Rundberg Lane to Rutland Drive where drivers experience numerous stops due to poor signal coordination. Retiming these signals would improve traffic flow. Traffic signals that are in close proximity to each other benefit from being interconnected so they work together as a coordinated system. Traffic signals such as those along North Lamar Boulevard at Rundberg Lane and Rutland Drive could be interconnected to better facilitate optimized follow of traffic. Based on the analysis conducted for these corridors using Synchro, optimized signal timing without any other improvements could reduce intersection delay by up to 27 percent on Burnet Road during the PM peak hour and up to 11 percent during the AM peak hour. On North Lamar, improvements are as much as 49 percent during the PM peak hour and 48 percent during the AM peak hour. **Tables F-3** and **F-4** summarize average vehicular delay and LOS assuming traffic signal optimization as a stand-alone project.

Traffic signal timing parameters are dependent on factors such as traffic volume and speed. As traffic volumes change along Burnet Road and North Lamar Boulevard due to traffic growth and redistribution, it will be necessary to retime traffic signals regularly to maintain optimum traffic flow and operation.

Table F-3: Burnet Road Existing Intersection Delay and LOS with Signal Optimization

INTERSECTION	AM Peak Hour LOS		PM Peak Hour LOS	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Burnet Road at Allandale Rd/Koenig Ln	60.1	E	59.9	E
Burnet Road at Romeria Dr	2.5	A	4.5	A
Burnet Road at White Horse Trail	9.5	A	8.9	A
Burnet Road at Justin Ln/Pegram Ave	7.7	A	15.1	B
Burnet Road at Greenlawn Pkwy	3.2	A	4.2	A
Burnet Road at Richcreek Rd	4.5	A	3.6	A
Burnet Road at Northcross Dr/St. Joseph Boulevard	13.1	B	9.8	A
Burnet Road at W. Anderson Ln	34.3	C	53.1	D
Burnet Road at Steck Ave	14.5	B	24.8	C
Burnet Road at Buell Ave/Ohlen Rd	10.6	B	16.8	B
Burnet Road at Rockwood Ln	4.9	A	15.5	B
Burnet Road at US 183 EB Frtg Rd	138.2	F	125.5	F
Burnet Road at US 183 WB Frtg Rd	36.4	D	93	F
Burnet Road at Waterford Centre Boulevard	7.6	A	6.5	A
Burnet Road at Longhorn Boulevard	9.4	A	9.4	A
Burnet Road at Rutland Dr	19	B	30.1	C
Burnet Road at Braker Ln	78.7	E	65.8	E
Burnet Road at Kramer Ln/Alterra Pkwy	19.3	B	18	B
Burnet Road at Esperanza Crossing	2	A	5.6	A
Burnet Road at IBM Dwy/Palm Way	2	A	3.2	A
Burnet Road at Gault Ln	4.8	A	26	C

Table F-4: North Lamar Boulevard Existing Intersection Delay and LOS with Signal Optimization

INTERSECTION	AM Peak Hour LOS		PM Peak Hour LOS	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
North Lamar Boulevard (SB) at US 183 EB Frtg Rd	35.8	D	11.3	B
North Lamar Boulevard (NB) at US 183 EB Frtg Rd	16	B	21.1	C
North Lamar Boulevard (NB) at US 183 WB Frtg Rd	17	B	13.4	B
North Lamar Boulevard (SB) at US 183 WB Frtg Rd	11.7	B	17.6	B
North Lamar Boulevard at Thurmond St	6.9	A	6.9	A
North Lamar Boulevard at Payton Gin Rd	19.8	B	19.1	B
North Lamar Boulevard at Rundberg Ln	34.9	C	92.9	F
North Lamar Boulevard at Rutland Dr	20.7	C	32.5	C
North Lamar Boulevard at W. Longspur Boulevard	8.1	A	16.8	B
North Lamar Boulevard at Masterson Pass	16.3	B	13.4	B
North Lamar Boulevard at Meadows Dr	5.6	A	7	A
North Lamar Boulevard at Kramer Ln	17.2	B	29.1	C
North Lamar Boulevard at Braker Ln	58.2	E	56.8	E
North Lamar Boulevard at Bend Dr	3.2	A	10.8	B
North Lamar Boulevard at Yager Ln	12.8	B	11.7	B
North Lamar Boulevard at Parmer Ln	65.7	E	96.4	F
Howard Ln at IH 35 SB Frtg Rd	53	D	45.3	D
Howard Ln at IH 35 NB Frtg Rd	33.4	C	49.7	D

INTERSECTION IMPROVEMENTS

The following short-term intersection improvements are recommended to improve traffic operations for vehicles.

Burnet Road and Koenig Lane

- Provide right-turn bays for the eastbound and westbound approaches – Currently, the high right-turning traffic on the eastbound and westbound approaches share a lane with through traffic. The delay experienced by both traffic movements can be mitigated with right-turn bays.

Burnet Road and Braker Lane

- Provide dual left-turn lanes for the eastbound and westbound approaches – Currently the eastbound and westbound approaches have single left-turn lanes which have exceeded their capacity, carrying up to 425 vehicles per hour (vph) during peak hours. The relatively high vehicular delay and queues observed in the field and in the traffic analysis results can be mitigated by additional left-turn capacity.
- Provide a right-turn bay for the eastbound approach – Currently, the high right-turning traffic on the eastbound approach shares a lane with through traffic. The delay experienced by both traffic movements can be mitigated with right-turn bays.

North Lamar Boulevard and US 183 Frontage Road

- Change lane configuration for the eastbound US 183 frontage road approach at North Lamar Boulevard – It is recommended that the eastbound approach at this intersection be re-striped to provide one through lane, one through/right-turn lane, and one exclusive right-turn lane. The existing lane configuration is one right-turn lane and two through lanes. The additional right-turn capacity better serves the heavy right-turning traffic at the intersection.

North Lamar Boulevard and Rundberg Lane

- Provide dual left-turn lanes for the eastbound and westbound approaches – Currently the eastbound and westbound approaches have single left-turn lanes which have exceeded their capacity, carrying up to 145 vehicles per hour (vph) during peak hours. The relatively high vehicular delay and queues observed in the field and in the traffic analysis results can be mitigated by additional left-turn capacity.

North Lamar Boulevard and Braker Lane

- Provide right-turn bays for the northbound, southbound and westbound approaches – Currently, the high right-turning traffic on these approaches share lanes with the through traffic. The delay experienced by both traffic movements can be mitigated with right-turn bays.
- Provide dual left-turn lanes for the eastbound and westbound approaches – Currently the eastbound and westbound approaches have single left-turn lanes which have exceeded their capacity, carrying up to 273 vehicles per hour (vph) during peak hours. The relatively high vehicular delay and queues observed in the field and in the traffic analysis results can be mitigated by additional left-turn capacity.

- Provide dual left-turn lanes for all approaches – Currently all the approaches have single left-turn lanes which have exceeded their capacity, carrying up to 700 vehicles per hour (vph) during peak hours. The relatively high vehicular delay and queues observed in the field and in the traffic analysis results can be mitigated by additional left-turn capacity.

TRAFFIC ANALYSIS RESULTS

Based on the analysis conducted for these corridors using Synchro, optimized signal timing, along with the other recommended improvements, could reduce intersection delay by up to 30 percent on Burnet road during the PM peak hour and up to 49 percent during the AM peak hour. Similarly on North Lamar Boulevard, intersection delays could be reduced by as much as 51 percent during the PM peak hour and 60 percent during the AM peak hour. **Tables F-5** and **F-6** summarize average delay and LOS assuming the implementation of all recommended short-term transportation improvements.

Table F-5: Burnet Road Existing Intersection Delay and LOS with Short-Term Improvements

INTERSECTION	AM Peak Hour LOS		PM Peak Hour LOS	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Burnet Road at Allandale Rd/Koenig Ln	50.0	D	50.1	D
Burnet Road at Romeria Dr	2.5	A	4.7	A
Burnet Road at White Horse Trail	9.6	A	9.3	A
Burnet Road at Justin Ln/Pegram Ave	8.0	A	16.9	B
Burnet Road at Greenlawn Pkwy	3.1	A	4.2	A
Burnet Road at Richcreek Rd	4.5	A	3.6	A
Burnet Road at Northcross Dr/St. Joseph Boulevard	13.3	B	10.3	B
Burnet Road at W. Anderson Ln	37.4	D	53.1	D
Burnet Road at Steck Ave	16.6	B	27.8	C
Burnet Road at Buell Ave/Ohlen Rd	12.6	B	15.9	B
Burnet Road at Rockwood Ln	5.1	A	14.8	B
Burnet Road at US 183 EB Frtg Rd	155.6	F	143.7	F
Burnet Road at US 183 WB Frtg Rd	41.7	D	105.4	F
Burnet Road at Waterford Centre Boulevard	7.5	A	6.2	A
Burnet Road at Longhorn Boulevard	8.5	A	8.6	A
Burnet Road at Rutland Dr	19.2	B	29.9	C
Burnet Road at Braker Ln	44.0	D	54.6	D
Burnet Road at Kramer Ln/Alterra Pkwy	20.4	C	17.6	B
Burnet Road at Esperanza Crossing	7.0	A	5.4	A
Burnet Road at IBM Dwy/Palm Way	2.0	A	3.0	A
Burnet Road at Gault Ln	4.8	A	26.0	C

Table F-6: North Lamar Boulevard Existing Intersection Delay and LOS with Short-Term Improvements

INTERSECTION	AM Peak Hour LOS		PM Peak Hour LOS	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
North Lamar Boulevard (SB) at US 183 EB Frtg Rd	14.3	B	11.1	B
North Lamar Boulevard (NB) at US 183 EB Frtg Rd	16.0	B	21.1	C
North Lamar Boulevard (NB) at US 183 WB Frtg Rd	17.0	B	13.4	B
North Lamar Boulevard (SB) at US 183 WB Frtg Rd	11.7	B	17.6	B
North Lamar Boulevard at Thurmond St	6.9	A	6.9	A
North Lamar Boulevard at Payton Gin Rd	19.8	B	19.1	B
North Lamar Boulevard at Rundberg Ln	38.1	D	90.3	F
North Lamar Boulevard at Rutland Dr	21.7	C	33.7	C
North Lamar Boulevard at W. Longspur Boulevard	7.8	A	16.8	B
North Lamar Boulevard at Masterson Pass	32.3	C	12.4	B
North Lamar Boulevard at Meadows Dr	5.4	A	7.0	A
North Lamar Boulevard at Kramer Ln	24.6	C	29.7	C
North Lamar Boulevard at Braker Ln	36.9	D	38.9	D
North Lamar Boulevard at Bend Dr	4.0	A	10.8	B
North Lamar Boulevard at Yager Ln	14.0	B	11.8	B
North Lamar Boulevard at Parmer Ln	48.8	D	84.8	F
Howard Ln at IH 35 SB Frtg Rd	53.0	D	45.3	D
Howard Ln at IH 35 NB Frtg Rd	33.4	C	49.7	D

Table F-7: Burnet Road Future Year 2031 Intersection Delay and LOS with Long-Term Improvements

INTERSECTION	AM Peak Hour LOS		PM Peak Hour LOS	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Burnet Road at Allandale Rd/Koenig Ln	94.4	F	82.8	F
Burnet Road at Romeria Dr	11.6	B	6.3	A
Burnet Road at White Horse Trail	23.4	C	9.5	A
Burnet Road at Justin Ln/Pegram Ave	19.6	B	19.8	B
Burnet Road at Greenlawn Pkwy	5.9	A	11.0	B
Burnet Road at Richcreek Rd	8.9	A	13.7	B
Burnet Road at Northcross Dr/St. Joseph Boulevard	19.1	B	31.6	C
Burnet Road at W. Anderson Ln	62.9	E	96.5	F
Burnet Road at Steck Ave	46.8	D	49.8	D
Burnet Road at Buell Ave/Ohlen Rd	51.4	D	34.5	C
Burnet Road at Rockwood Ln	9.2	A	16.9	B
Burnet Road at US 183 EB Frtg Rd	246.4	F	240.5	F
Burnet Road at US 183 WB Frtg Rd	72.1	E	184.3	F
Burnet Road at Waterford Centre Boulevard	12.5	B	6.6	A
Burnet Road at Longhorn Boulevard	10.5	B	8.4	A
Burnet Road at Rutland Dr	22.2	C	37.6	D
Burnet Road at Braker Ln	62.0	E	66.6	E
Burnet Road at Kramer Ln/Alterra Pkwy	32.9	C	24.9	C
Burnet Road at Esperanza Crossing	6.1	A	5.8	A
Burnet Road at IBM Dwy/Palm Way	2.2	A	3.4	A
Burnet Road at Gault Ln	6.4	A	105.3	F

Table F-8: North Lamar Boulevard Future Year 2031 Intersection Delay and LOS with Long-Term Improvements

INTERSECTION	AM Peak Hour LOS		PM Peak Hour LOS	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
North Lamar Boulevard (SB) at US 183 EB Frtg Rd	18.6	B	14.0	B
North Lamar Boulevard (NB) at US 183 EB Frtg Rd	16.0	B	22.4	C
North Lamar Boulevard (NB) at US 183 WB Frtg Rd	18.0	B	15.7	B
North Lamar Boulevard (SB) at US 183 WB Frtg Rd	13.9	B	20.3	C
North Lamar Boulevard at Thurmond St	4.4	A	12.7	B
North Lamar Boulevard at Payton Gin Rd	25.4	C	25.5	C
North Lamar Boulevard at Rundberg Ln	53.1	D	139.8	F
North Lamar Boulevard at Rutland Dr	56.0	E	45.9	D
North Lamar Boulevard at W. Longspur Boulevard	11.3	B	27.0	C
North Lamar Boulevard at Masterson Pass	31.8	C	18.7	B
North Lamar Boulevard at Meadows Dr	2.5	A	9.3	A
North Lamar Boulevard at Kramer Ln	27.2	C	31.5	C
North Lamar Boulevard at Braker Ln	47.7	D	49.4	D
North Lamar Boulevard at Bend Dr	6.8	A	8.8	A
North Lamar Boulevard at Yager Ln	12.6	B	30.2	C
North Lamar Boulevard at Parmer Ln	76.3	E	205.8	F
Howard Ln at IH 35 SB Frtg Rd*	71.1	F	84.0	F
Howard Ln at IH 35 NB Frtg Rd*	177.5	F	39.1	C

*Roundabout (Vehicular delay thresholds differ from those for signalized intersections)