

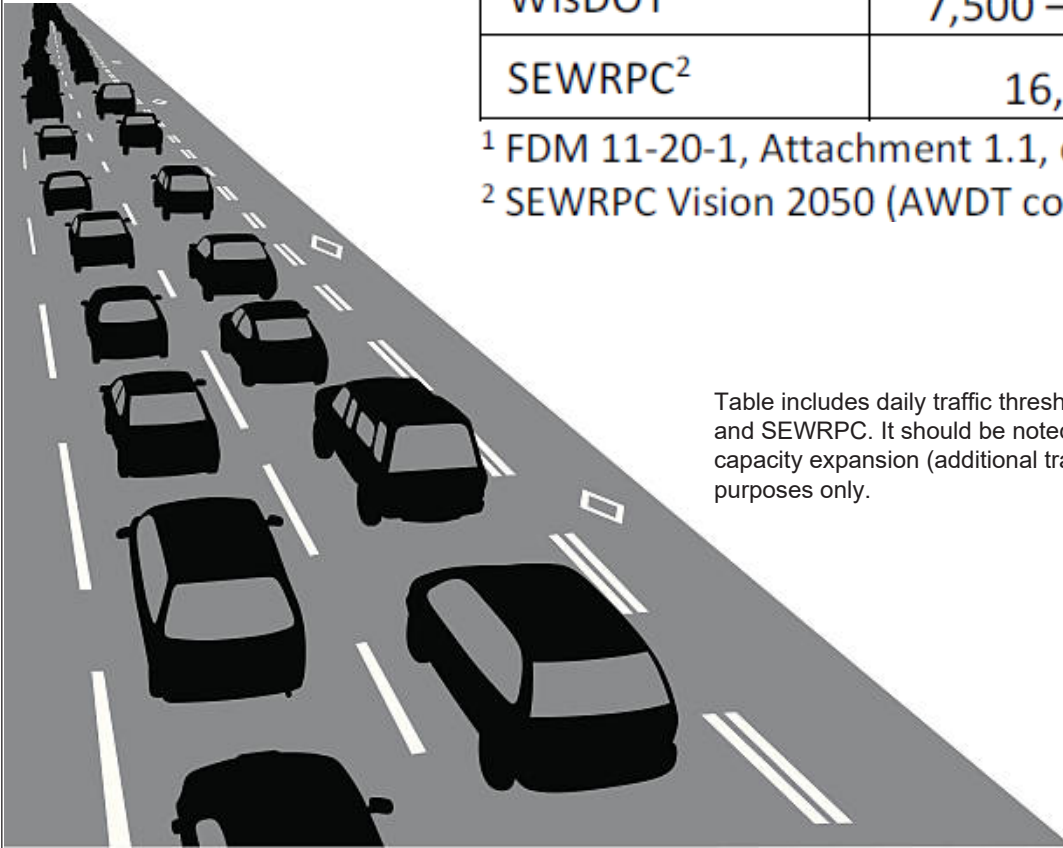
Planning Level AADT Volume Thresholds for Two-Lane Undivided Roadways

Agency	Corridor Level of Service	
	D	E
WisDOT ¹	7,500 – 22,500	8,000 – 25,000
SEWRPC ²	16,800	17,800

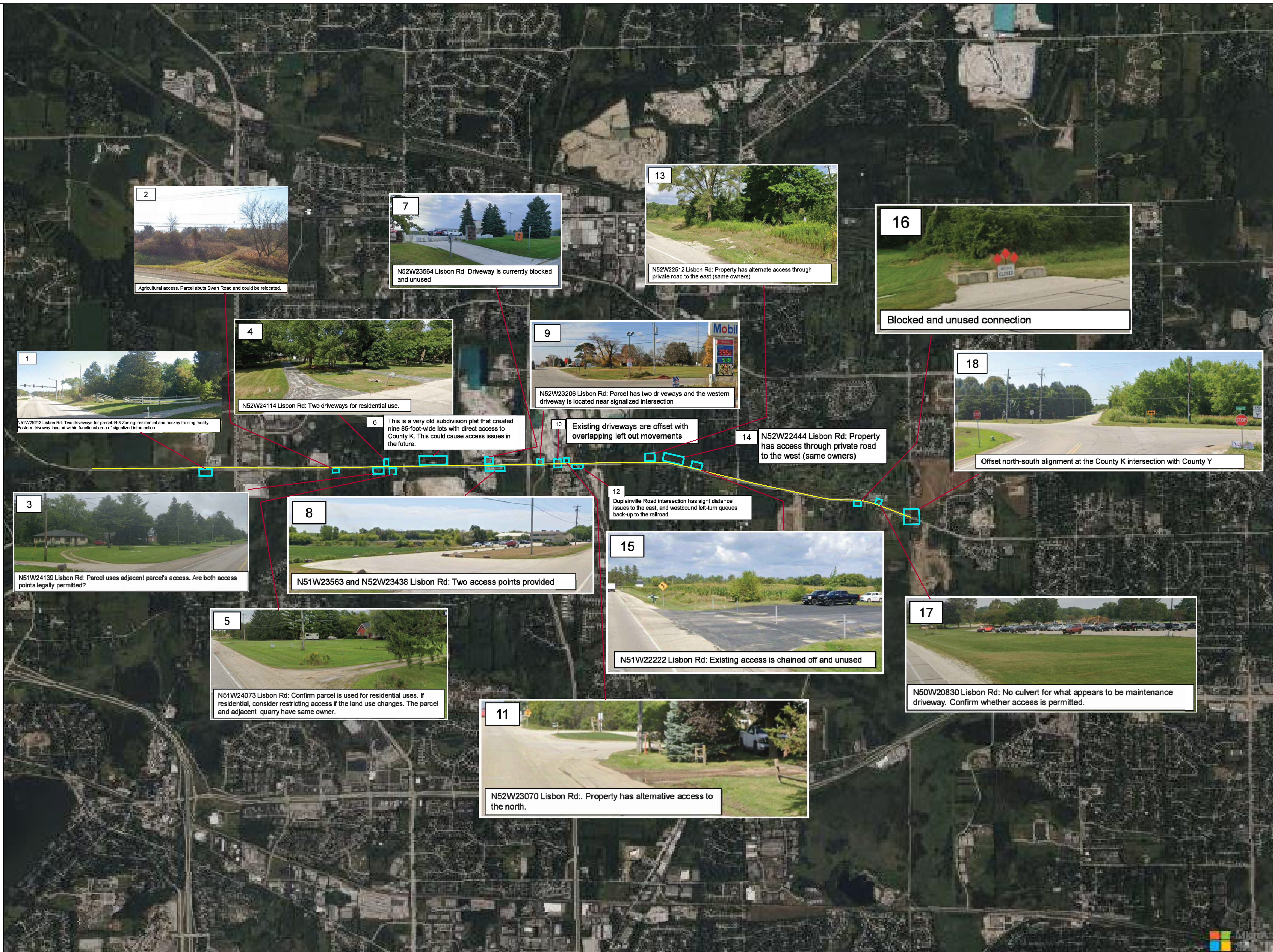
¹ FDM 11-20-1, Attachment 1.1, expressed in average daily traffic (ADT)

² SEWRPC Vision 2050 (AWDT converted to AADT)

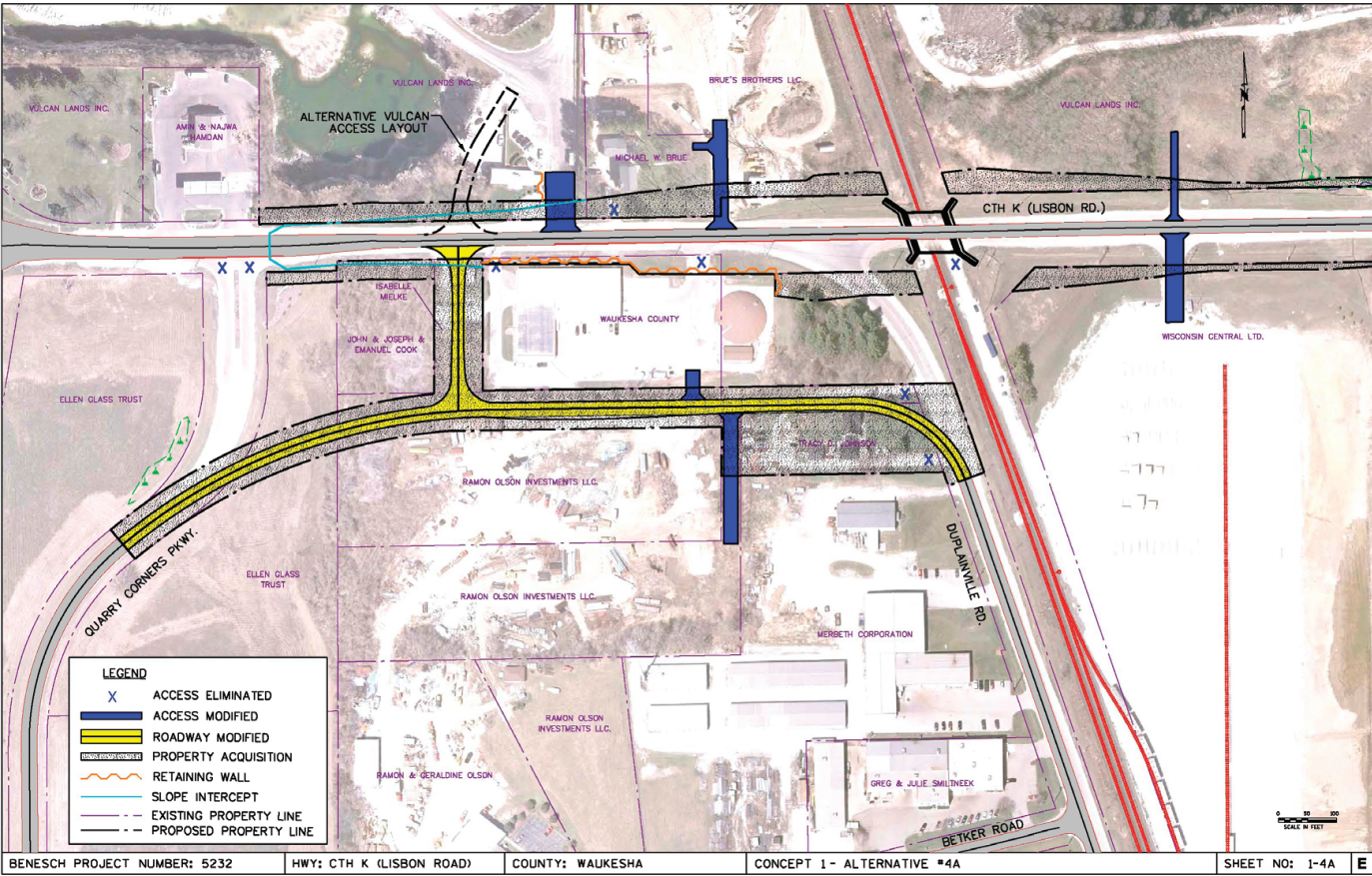
Table includes daily traffic thresholds and corresponding LOS for two-lane roadways based on the WisDOT FDM and SEWRPC. It should be noted the capacity thresholds documented in the FDM are the criteria used to determine capacity expansion (additional travel lane) needs. The SEWRPC formation is provided in the table for comparison purposes only.



AADT Volume Thresholds for Two-Lane Undivided Roadways



CTH K Access Point Map



This alternative looks to route Duplainville Road to the west and connect with CTH K (Lisbon Road) at a location further to the west. Under this alternative, Duplainville Road would be routed around the existing Waukesha County Maintenance Facility and tie into CTH K (Lisbon Road) through the existing Mielke property leaving the Waukesha County Maintenance facility as is.

This alternative will require significant right-of-way acquisition. Once Duplainville Road deviates from its existing alignment, all new roadway right-of-way will need to be purchased which will result in property acquisition from the Johnson, Ramon Olsen Investments, Ellen Glass Trust and Mielke properties.

One advantage that this alternative has over the previous alternatives discussed is that it allows for the existing Quarry Corners Parkway intersection with CTH K (Lisbon Road) to be relocated further to the east. Based on current engineering standards, the existing Quarry Corners Parkway intersection is too close to the STH 74 intersection. As part of this alternative, the existing Quarry Corners Parkway would be routed to the east and form a t-intersection with Duplainville Road. This will effectively eliminate one access to CTH K (Lisbon Road) as a result of combining the Duplainville Road and Quarry Corners intersections.

2007 CN Railroad Road Realignment

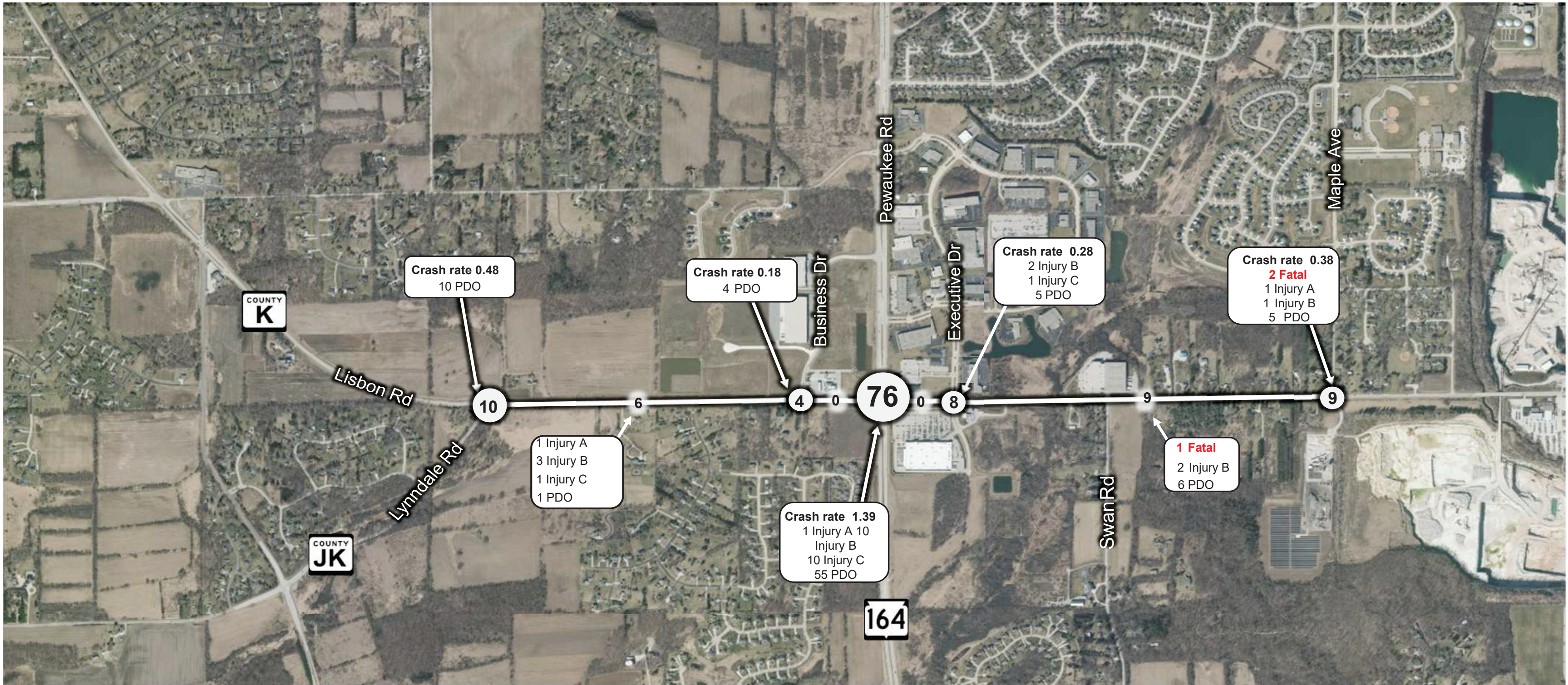


Table 3. County K Intersection Crash Rates (2020-2024)

County K Intersection With	Number & Severity of Crashes				Crash Rate (Crashes per Million Entering Vehicles)
	Fatal	Injury	Property Damage	Total	
County JK	0	0	10	10	0.48
Business Drive	0	0	4	4	0.18
WIS 164	0	21	55	76	1.39
Executive Drive	0	3	5	8	0.28
Maple Avenue	2	4	5	9	0.38
County F	0	28	41	69	1.17
Duplainville Road/CN RR	0	2	12	14	0.75
County V	0	2	12	14	0.59
County Y	0	9	15	24	1.38

Legend

XX = Intersection Crash Total XX = Midblock Crash Total



County K (Lisbon Rd) Corridor¹:
Total Crash Summary

Year	Crash Type								Severity					Total ²
			Head On	Side Swipe	Other	Ped/ Bike	Fixed Object	Leaving Roadway	Injury				PDO	
									K	A	B	C		
2020	21	18	0	5	0	0	2	4	0	2	11	7	30	50
2021	15	16	0	3	1	0	3	2	2	1	9	3	25	40
2022	17	18	1	5	0	1	7	3	2	4	6	7	33	52
2023	25	21	2	5	3	1	2	2	0	0	8	9	44	61
2024	25	24	0	8	0	0	4	3	0	2	7	8	47	64
Total	103	97	3	26	4	2	18	14	4	9	41	34	179	267

¹ Project limits extend from just west of County JK to just east of County Y.

² Includes intersection and mid-block crashes.

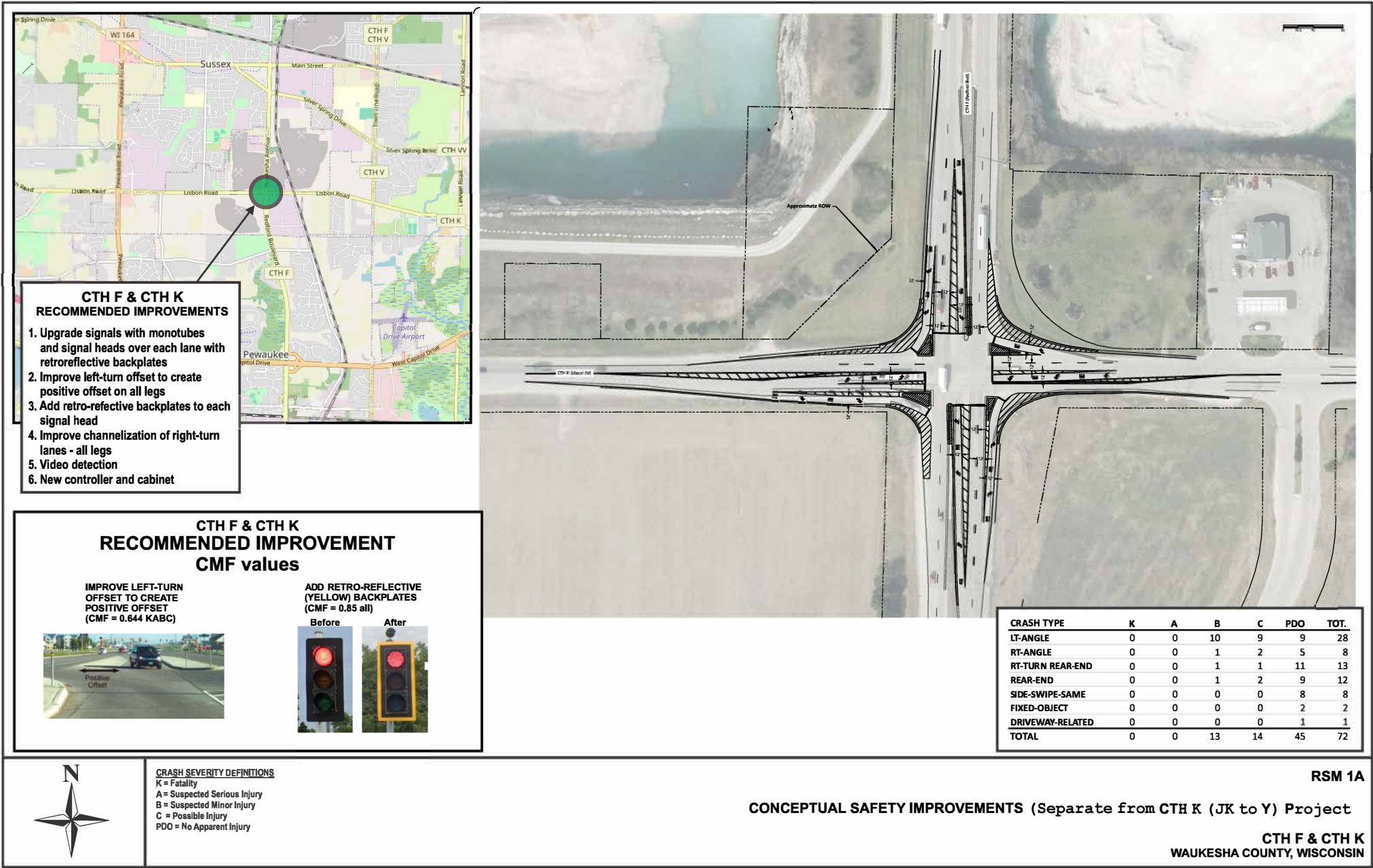
County K (Lisbon Rd) Corridor:
(County JK (Lynndale Rd) to County Y (Lannon Rd)):
5 Year Average Crash Rate Calculation

Corridor AADT Volume (vpd)	Corridor Length (mi)	KABCO Crash Rate			KAB Crash Rate		
		KABCO Crash Rate (crashes per 100 MVMT)	Exceeds Statewide Average for crash rate? (84.07 crashes per 100 MVMT) ³	Exceeds Upper Control Limit for crash rate? (93.55 crashes per 100 MVMT) ³	KAB Crash Rate (crashes per 100 MVMT)	Exceeds Statewide Average for crash rate? (19.33 crashes per 100 MVMT) ³	Exceeds Upper Control Limit for crash rate? (23.88 crashes per 100 MVMT) ³
10,400	4.93	285	YES	YES	58	YES	YES



³ Statewide average crash rates and upper control limits show represent Rural County Trunk Highways, based on 2018-2022 data.

NOT PART OF CTH K (JK to Y) PROJECT



CRASH SEVERITY DEFINITIONS
K = Fatality
A = Suspected Serious Injury
B = Suspected Minor Injury
C = Possible Injury
PDO = No Apparent Injury

CONCEPTUAL SAFETY IMPROVEMENTS (Separate from CTH K (JK to Y) Project

**CTH F & CTH K
WAUKESHA COUNTY, WISCONSIN**

2025 Existing Peak Hour Traffic Operations

Intersection	Traffic Control	Peak Hour	Parameter	Level of Service (LOS) per Movement by Approach												Overall Intersection LOS				
				Eastbound				Westbound				Northbound					Southbound			
				LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		LT	TH	RT	
Lisbon Rd (County K) with Lyndale Rd (County JK)	One-Way Stop Control	AM	LOS	—	(A)	(A)	B	(A)	—	E	—	E	—	—	—	—	N/A			
			Delay, sec/veh	—	0.0	0.0	10.4	0.0	—	36.3	—	36.3	—	—	—	—				
		Queue, ft	—	0	0	55	0	—	255	—	255	—	—	—	—	—				
		LOS	—	(A)	(A)	A	(A)	—	B	—	B	—	—	—	—	—				
Lisbon Rd (County K) with Maple Ave	One-Way Stop Control	PM	Delay, sec/veh	—	0.0	0.0	9.3	0.0	—	14.9	—	14.9	—	—	—	—	N/A			
			Queue, ft	—	0	0	45	0	—	90	—	90	—	—	—	—				
		LOS	A	A	A	A	A	(A)	D	D	D	D	F	F	B	N/A				
		Delay, sec/veh	9.0	9.0	0.0	9.7	9.7	0.0	32.2	32.2	32.2	130.4	130.4	13.6						
Lisbon Rd (County K) with Waukesha Ave / Redford Blvd (County F)	Traffic Signal	AM	Queue, ft	<25	<25	0	<25	<25	0	<25	<25	<25	105	105	<25	N/A				
			LOS	B	B	(A)	A	A	(A)	E	E	E	F	F	C					
		Delay, sec/veh	11.3	11.3	0.0	8.9	8.9	0.0	46.0	46.0	46.0	226.7	226.7	21.1	N/A					
		Queue, ft	<25	<25	0	<25	<25	0	<25	<25	<25	<25	85	85		35				
Lisbon Rd (County K) with Waukesha Ave / Redford Blvd (County F)	Traffic Signal	AM	Delay, sec/veh	20.1	37.2	29.7	25.5	25.3	22.5	67.8	25.8	24.5	20.5	32.9	23.7	C				
			Queue, ft	90	465	180	160	165	25	340	245	165	85	480	95					
		LOS	C	D	C	C	C	C	D	C	C	C	D	C	C					
		Delay, sec/veh	21.1	35.7	30.6	23.9	27.5	22.8	36.1	27.4	22.3	23.5	35.3	27.8						
Lisbon Rd (County K) with Town Line Rd (County V)	Traffic Signal	AM	Queue, ft	70	320	150	165	220	30	390	385	170	70	345	125	B				
			LOS	B	A	A	B	B	B	B	B	B	B	B	B					
		Delay, sec/veh	10.4	7.8	5.3	14.3	18.7	14.6	16.0	16.0	15.9	18.4	18.4	18.3	B					
		Queue, ft	125	195	<25	30	180	50	50	50	40	175	175	145						
Lisbon Rd (County K) with Town Line Rd (County V)	Traffic Signal	PM	LOS	B	A	A	B	B	B	B	B	B	C	C	C	B				
			Queue, ft	70	320	150	165	220	30	390	385	170	70	345	125					
		Delay, sec/veh	11.0	6.4	5.0	13.4	18.5	13.9	19.1	19.1	18.5	21.5	21.5	22.4	B					
		Queue, ft	145	135	<25	45	305	85	85	40	210	210	200							
Lisbon Rd (County K) with Lannon Rd (County Y)	Two-Way Stop Control	AM	LOS	A	A	A	A	(A)	C	A	C	C	F	B	N/A					
			Delay, sec/veh	8.9	8.9	0.0	8.4	8.4	0.0	22.0	22.0	22.0	365.7	365.7		10.6				
		Queue, ft	<25	<25	0	<25	<25	0	<25	<25	<25	<25	355	355	<25					
		LOS	A	A	(A)	A	A	(A)	E	E	E	F	F	B						
Lisbon Rd (County K) with Lannon Rd (County Y)	Two-Way Stop Control	PM	Delay, sec/veh	10.0	10.0	0.0	8.5	8.5	0.0	41.7	41.7	41.7	355.1	355.1	14.0	N/A				
			Queue, ft	<25	<25	0	<25	<25	0	<25	<25	<25	<25	355	355					
		LOS	A	A	(A)	A	A	(A)	E	E	E	F	F	B						
		Delay, sec/veh	<25	<25	0	8.5	8.5	0.0	41.7	41.7	41.7	355.1	355.1	14.0						

Notes:

- Indicates movement is not available or allowed.
- (A) Indicates free-flow movement
- HCM methodology does not identify an overall intersection level of service for one-way stop controlled intersections

2055 Background Peak Hour Traffic Operations

Intersection	Traffic Control	Peak Hour	Parameter	Level of Service (LOS) per Movement by Approach												Overall Intersection LOS			
				Eastbound				Westbound				Northbound					Southbound		
				LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
Lisbon Rd (County K) with Lyndale Rd (County JK)	One-Way Stop Control	AM	LOS	-	(A)	(A)	B	(A)	-	F	-	F	-	-	-	-			
			Delay, sec/veh	-	0.0	0.0	12.2	0.0	-	166.8	-	166.8	-	-	-	-	-		
	Queue, ft	-	0	0	90	0	-	790	-	790	-	-	-	-	-	-			
	PM	LOS	-	(A)	(A)	B	(A)	-	D	-	D	-	-	-	-	-			
Delay, sec/veh		-	0.0	0.0	10.3	0.0	-	26.6	-	26.6	-	-	-	-	-	-			
Lisbon Rd (County K) with Maple Ave	One-Way Stop Control	AM	Queue, ft	-	0	0	70	0	-	220	-	220	-	-	-	-			
			LOS	A	A	(A)	B	B	(A)	F	F	F	F	F	F	C			
	Delay, sec/veh	9.7	9.7	0.0	10.7	10.7	0.0	57.8	57.8	57.8	57.8	>500	>500	16.0					
	Queue, ft	<25	<25	0	<25	<25	0	<25	<25	<25	<25	210	210	25					
Lisbon Rd (County K) with Waukesha Ave / Redford Blvd (County F)	Traffic Signal	PM	LOS	B	B	(A)	A	A	(A)	F	F	F	F	F	D				
			Delay, sec/veh	13.5	13.5	0.0	9.5	9.5	0.0	149.5	149.5	149.5	>500	>500	32.4				
	Queue, ft	25	25	0	<25	<25	0	<25	<25	<25	<25	155	155	60					
	Lisbon Rd (County K) with Town Line Rd (County V)	Traffic Signal	AM	LOS	C	F	D	F	C	C	C	C	C	C	C	E			
Delay, sec/veh				25.2	128.8	36.2	120.2	32.4	28.0	122.1	26.3	24.7	22.3	60.6	26.0				
Queue, ft		110	655	205	335	200	30	320	215	145	70	575	95						
Lisbon Rd (County K) with Lannon Rd (County Y)		Two-Way Stop Control	PM	LOS	C	F	D	F	D	C	E	C	E	C	C	D			
	Delay, sec/veh			27.7	109.5	40.5	90.4	36.4	28.1	76.5	29.0	22.9	28.0	56.5	33.3				
	Queue, ft	105	520	195	375	305	35	445	390	165	35	440	145						
	Lisbon Rd (County K) with Town Line Rd (County V)	Traffic Signal	AM	LOS	B	A	A	B	C	B	B	B	C	C	C	B			
Delay, sec/veh				13.6	9.1	5.6	16.3	22.9	16.5	18.0	18.0	17.9	21.2	21.2	20.9				
Queue, ft		140	220	<25	35	210	55	55	55	45	200	200	150						
Lisbon Rd (County K) with Lannon Rd (County Y)		Two-Way Stop Control	PM	LOS	C	A	A	B	C	B	C	C	C	C	C	C			
	Delay, sec/veh			20.1	7.3	5.3	14.9	24.8	15.6	21.8	21.8	21.0	25.0	25.0	27.8				
	Queue, ft	245	150	<25	45	370	85	90	90	35	245	245	210						
	Lisbon Rd (County K) with Lannon Rd (County Y)	Two-Way Stop Control	AM	LOS	A	A	(A)	A	A	(A)	E	E	E	F	F	B			
Delay, sec/veh				9.8	9.8	0.0	8.9	8.9	0.0	40.8	40.8	40.8	>500	>500	12.0				
Queue, ft		25	25	0	<25	<25	0	<25	<25	<25	<25	770	770	25					
Lisbon Rd (County K) with Lannon Rd (County Y)		Two-Way Stop Control	PM	LOS	B	B	(A)	A	A	(A)	F	F	F	F	F	C			
	Delay, sec/veh			11.9	11.9	0.0	9.0	9.0	0.0	164.6	164.6	164.6	>500	>500	20.1				
	Queue, ft	30	30	0	<25	<25	0	30	30	30	30	575	575	60					

LOS Peak Hour Traffic Operations

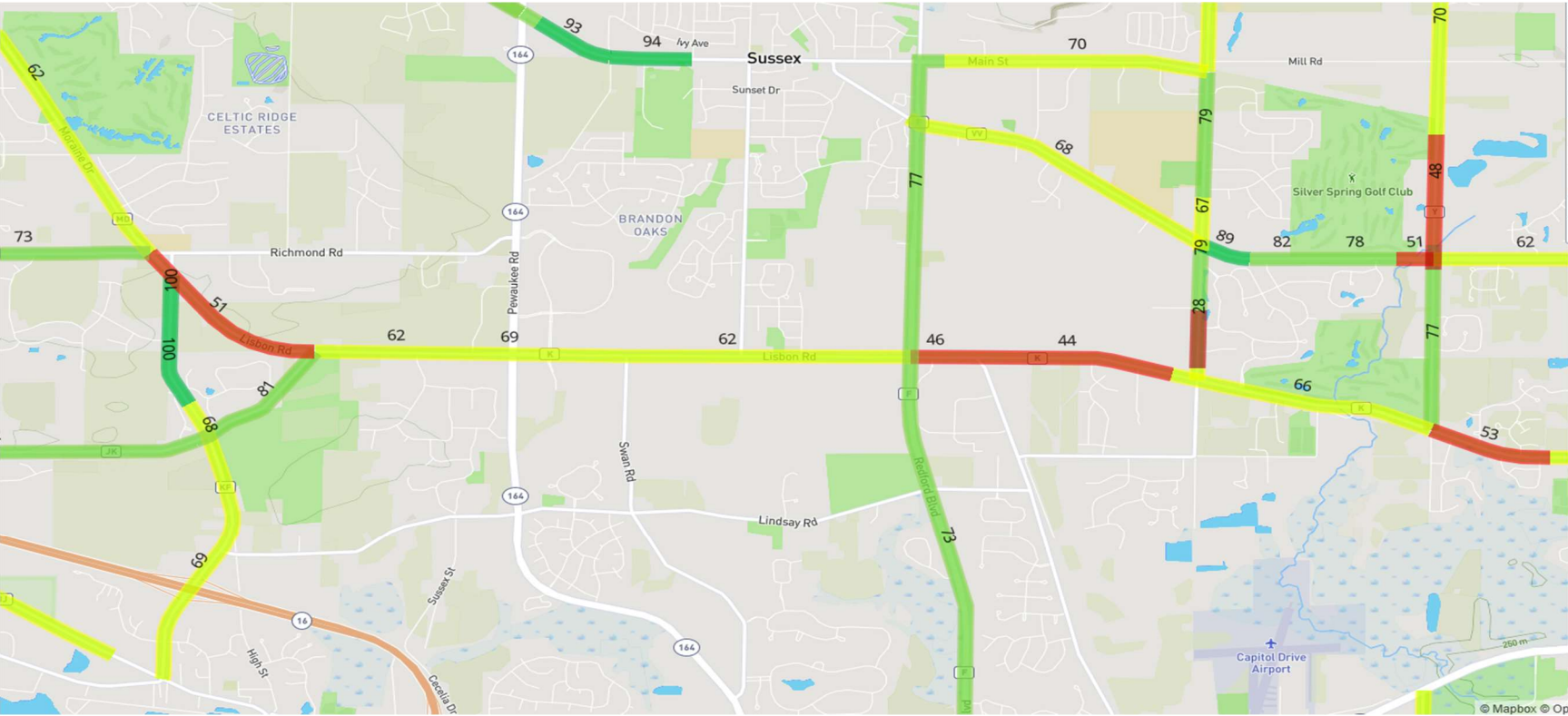
Exhibit
6

Table 10. PCI Thresholds

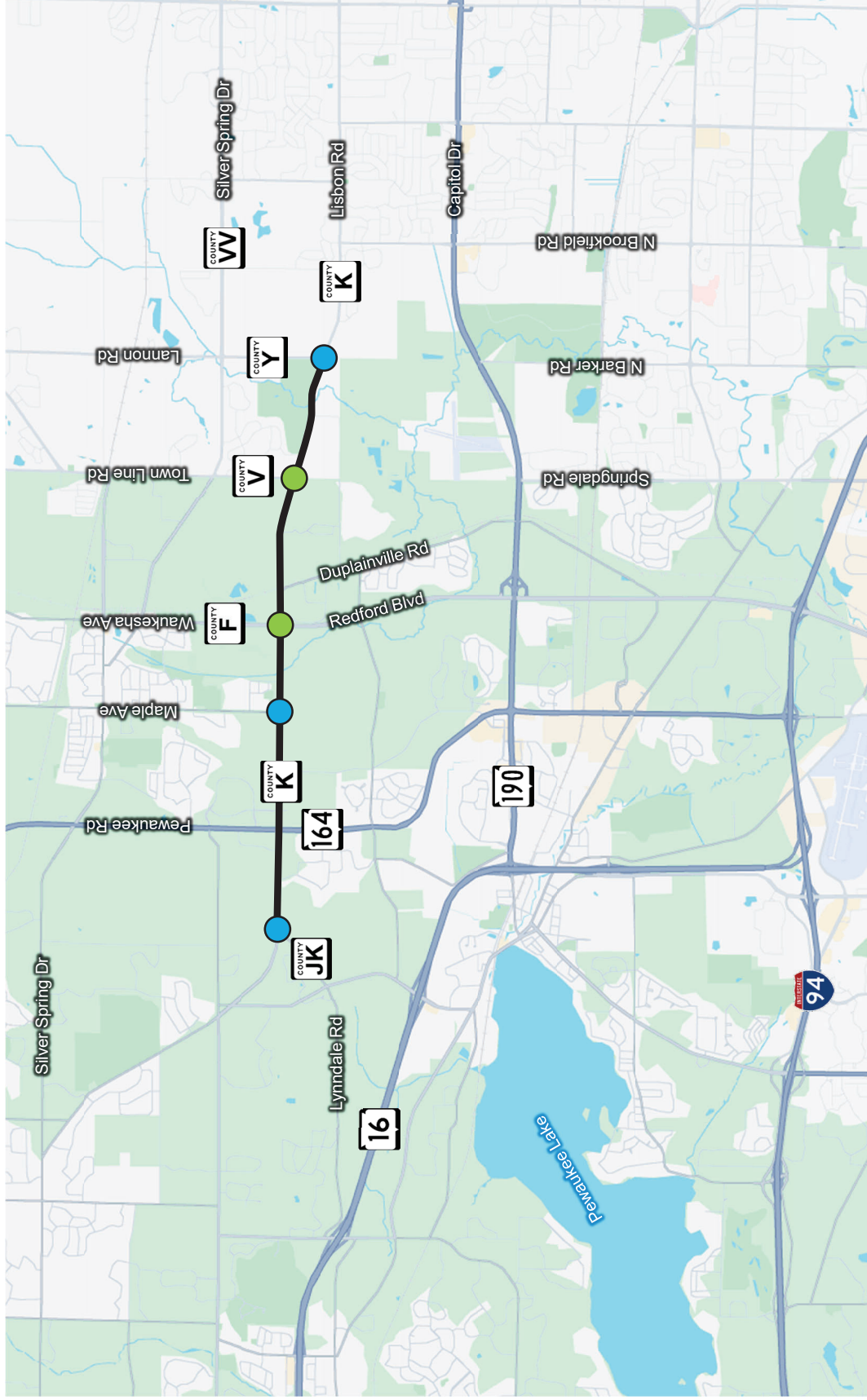
PCI Ratings	Pavement Condition
85-100	Very Good to Excellent
70-85	Good
55-70	Fair
40-55	Poor
25-40	Very Poor
10-25	Serious
0-10	Failed

Table 11. PCI By Section

Roadway Section	2020 PCI	2023 PCI	2023 Condition	Anticipated 2035 PCI	Anticipated 2035 Condition
County JK to Business Drive	65	62	Fair	40-50	Very Poor to Poor
Business Drive to Executive Drive	71	69	Fair	50-61	Poor to Fair
Executive Drive to County F	67	62	Fair	40-50	Very Poor to Poor
County F to Quarry Corners Parkway	60	46	Poor	20-30	Serious to Very Poor
Quarry Corners Parkway to County V	60	44	Poor	20-30	Serious to Very Poor
County V to County Y	70	66	Fair	40-50	Very Poor to Poor



PCI Tables and Map

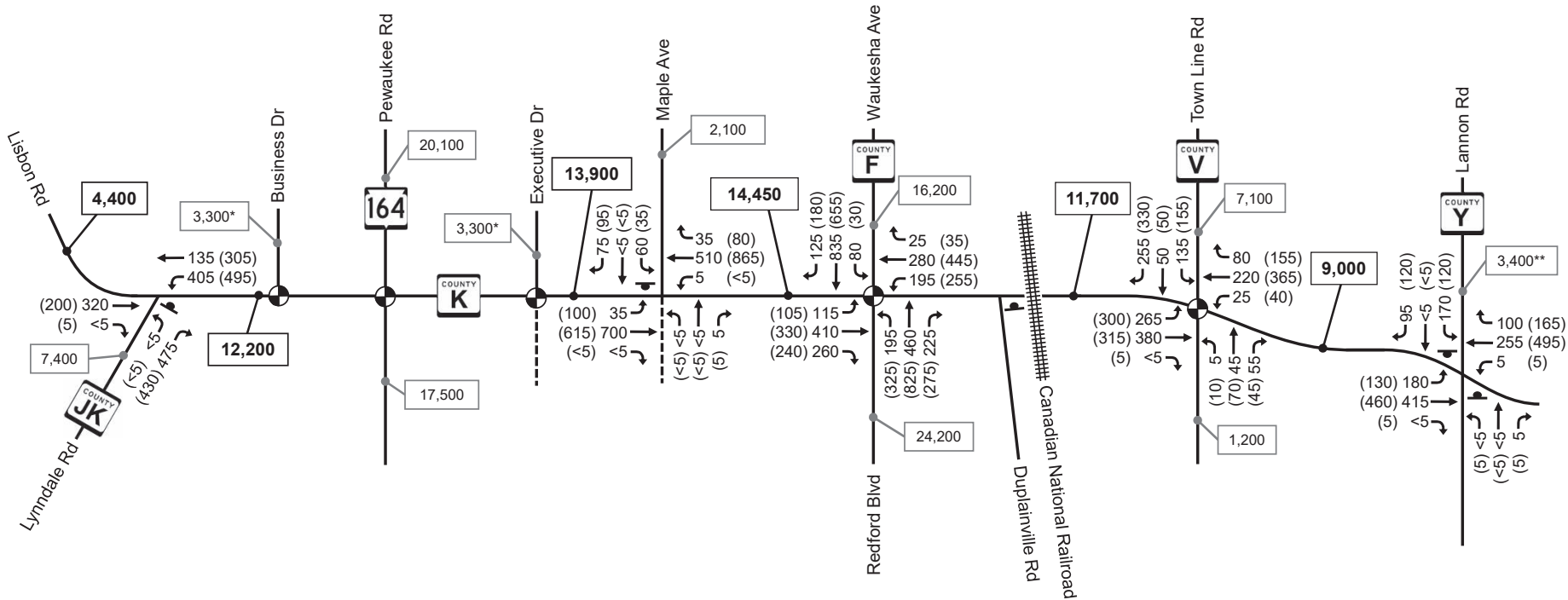


Legend

- = Study Intersection (Signalized)
- = Study Intersection (Unsignalized)
- = Project Roadway Segment

Project Location Map



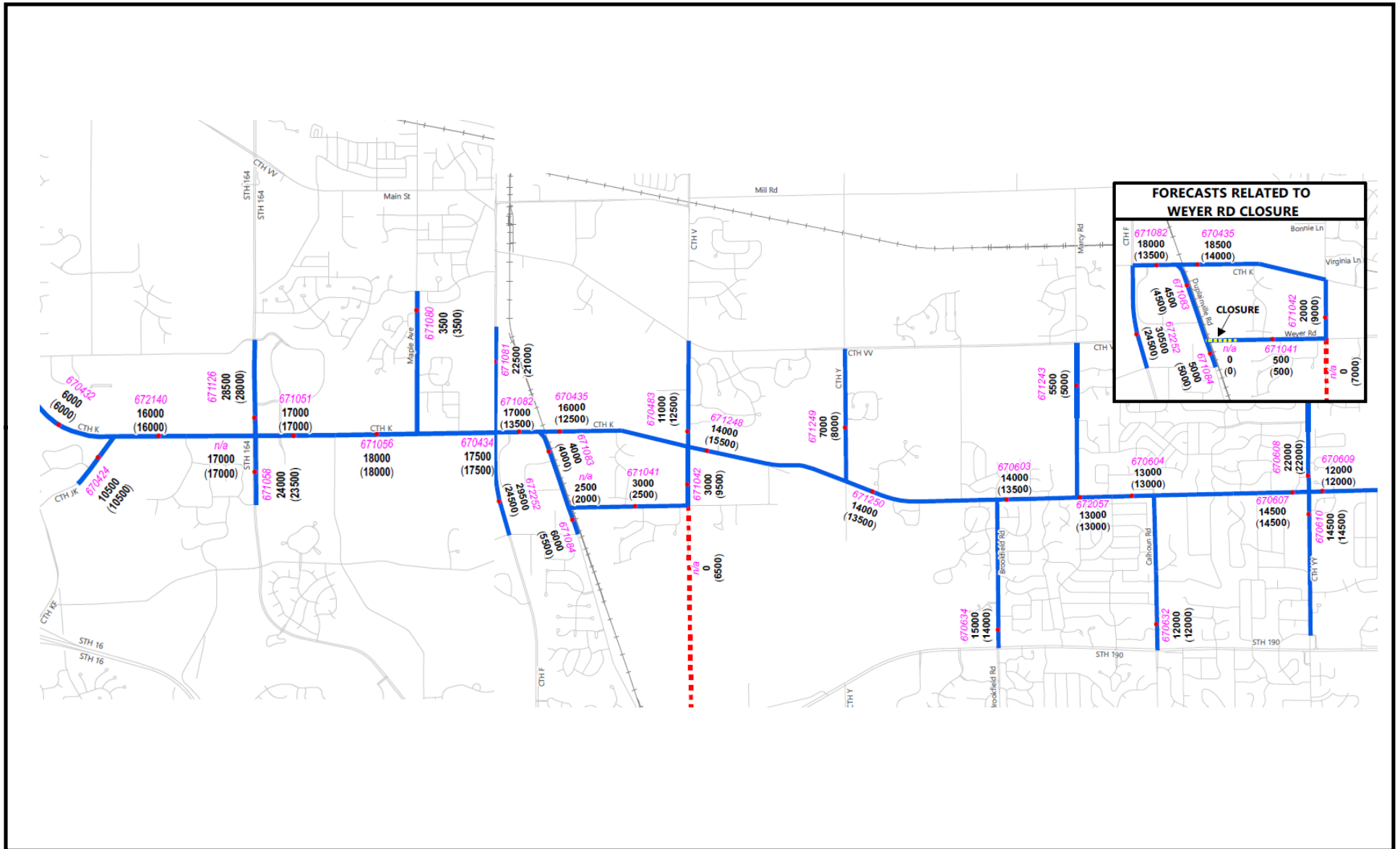


Notes:

- Daily volumes along County K are 2024 Estimate Average Daily Traffic Volumes based on 13-hour road counts collected by Waukesha County in October 2024.
- Daily volumes on other roadways are from WisDOT and represent Average Annual Daily Traffic Volumes for year 2022 unless noted.
- * Daily volumes estimated from October 2024 13-hour turning movement count.
- ** WisDOT Average Annual Daily volumes from 2018.

Legend					Existing Traffic Volumes		Exhibit 1
XX = Weekday Morning Peak Hour Volume (7:15AM – 8:15AM)	--- = Private Driveway	XXX = Daily Traffic Volumes					
(XX) = Weekday Evening Peak Hour Volume (4:15PM – 5:15PM)	⦿ = Traffic Signal	⬮ = Stop Sign	##### = Railroad				





CTH K BETWEEN CTH JK/LYNNDALE ROAD AND CTH Y/LANNON ROAD FORECAST YEAR 2055 AVERAGE WEEKDAY TRAFFIC (AWDT) VOLUMES

FORECAST WORK ORDER:
MASTER CONTRACT:
ROUTE(S): CTH K
LOCATION DESCRIPTION: CTH JK/LYNNDALE ROAD
TO CTH Y/LANNON ROAD
COUNTY(IES): WAUKESHA
FORECAST YEARS: 2055
SEWRPC PROJECT ID: 240-1000
PREPARED BY: G. ALE
DATE: 1/21/2025



— FORECAST FACILITY

- - - PROPOSED NEW TOWN LINE ROAD EXTENSION BETWEEN WEYER ROAD AND STH 190

XXXXXX TRADAS_ID

XXXXX FORECAST YEAR 2055 AWDT: **NO-BUILD** SCENARIO

(XXXXX) FORECAST YEAR 2055 AWDT: **BUILD** SCENARIO

NOTES

(A) THE FORECASTS ARE PREPARED WITHIN THE CONTEXT OF THE 2050 FISCALLY CONSTRAINED TRANSPORTATION SYSTEM PLAN AND UTILIZE THE COMMISSION'S 5TH GENERATION TRAVEL DEMAND MODELS AND TIME-OF-DAY ASSIGNMENTS.

(B) THE **NO-BUILD** FORECASTS ASSUME TOWN LINE ROAD EXTENSION NOT BUILT BETWEEN WEYER ROAD AND STH 190.

(C) THE **BUILD** FORECASTS ASSUME TOWN LINE ROAD EXTENSION BUILT BETWEEN WEYER ROAD AND STH 190.

(D) 2055 FORECASTS ARE OBTAINED AS PLANNED YEAR 2050 FORECASTS PLUS FORECAST INCREMENTAL GROWTH BETWEEN 2045 AND 2050.



1/21/2025

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