

School Speed Zone Study

Jefferson Parkway
Northfield, MN



**BOLTON
& MENK**

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Submitted by:

Bolton & Menk, Inc.
111 Washington Avenue South
Suite 650
Minneapolis, MN 55401

Certification

Transportation Study

For

Jefferson Parkway School Speed Zone

City of Northfield, MN

24X.134892.000

November 25, 2024

PROFESSIONAL ENGINEER

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

Signature: 

Typed or Printed Name: Bryan T. Nemeth

Date: 11/25/2024 License Number: 43354

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I. Introduction

A school speed zone study was conducted on Jefferson Parkway. Schools generally prefer lower speed limits to maintain quality of life in the community and ensure safety for all users, particularly pedestrians and cyclists. The purpose of the Jefferson Parkway Speed Limit Study is to first determine whether a school speed zone is appropriate for Jefferson Parkway. If deemed appropriate, this study will determine the extents of the school speed zone and the school zone speed limit on Jefferson Parkway adjacent to Bridgewater Elementary School, and south of Northfield High School and the athletic fields, that balances safety, efficiency, and functional mobility of School-Aged Children.

The Mill Towns Trail was constructed on the south side of Jefferson Parkway in 2024. The project also included a mill and overlay of Jefferson Parkway, pedestrian ramp improvements to meet the Americans with Disabilities Act (ADA) requirements, and signing updates.

II. Scope of Analysis

The school speed zone study follows the guidance as set forth in the “A Guide to Establishing Speed Limits in School Zones”.

A. Field Investigation

Review existing roadway geometry, lane use, pedestrian crossing locations, traffic control, and overall intersection characteristics.

B. Traffic Safety

Review five-year history of crashes at all locations and speed data to provide insights into safety trends and concerns.

C. School Zone Speed Limit

Study the existing condition and Traffic Movement Counts to determine the safe speed limit along the school route.

D. Signage and Markings

Analyze existing and proposed signs and markings at the intersection and understand potential changes for the safety of pedestrians.

III. Study Intersections

The study includes Jefferson Parkway from Roosevelt Drive to Trunk Highway (TH) 246 (Division Street). The study will specifically consider the intersections listed below.

A. Jefferson Parkway and Roosevelt Drive East

Two-way stop-controlled intersection with school crossing signs and crosswalk on the east leg. Intersection not adjacent to the school.

B. Jefferson Parkway and Raider Drive/West Bus Access

Two-way stop-controlled intersection with school crossing signs and crosswalks on the east and west legs. This access serves buses entering the Bridgewater Elementary School site. The access also allows for exiting traffic from the west side of the school.

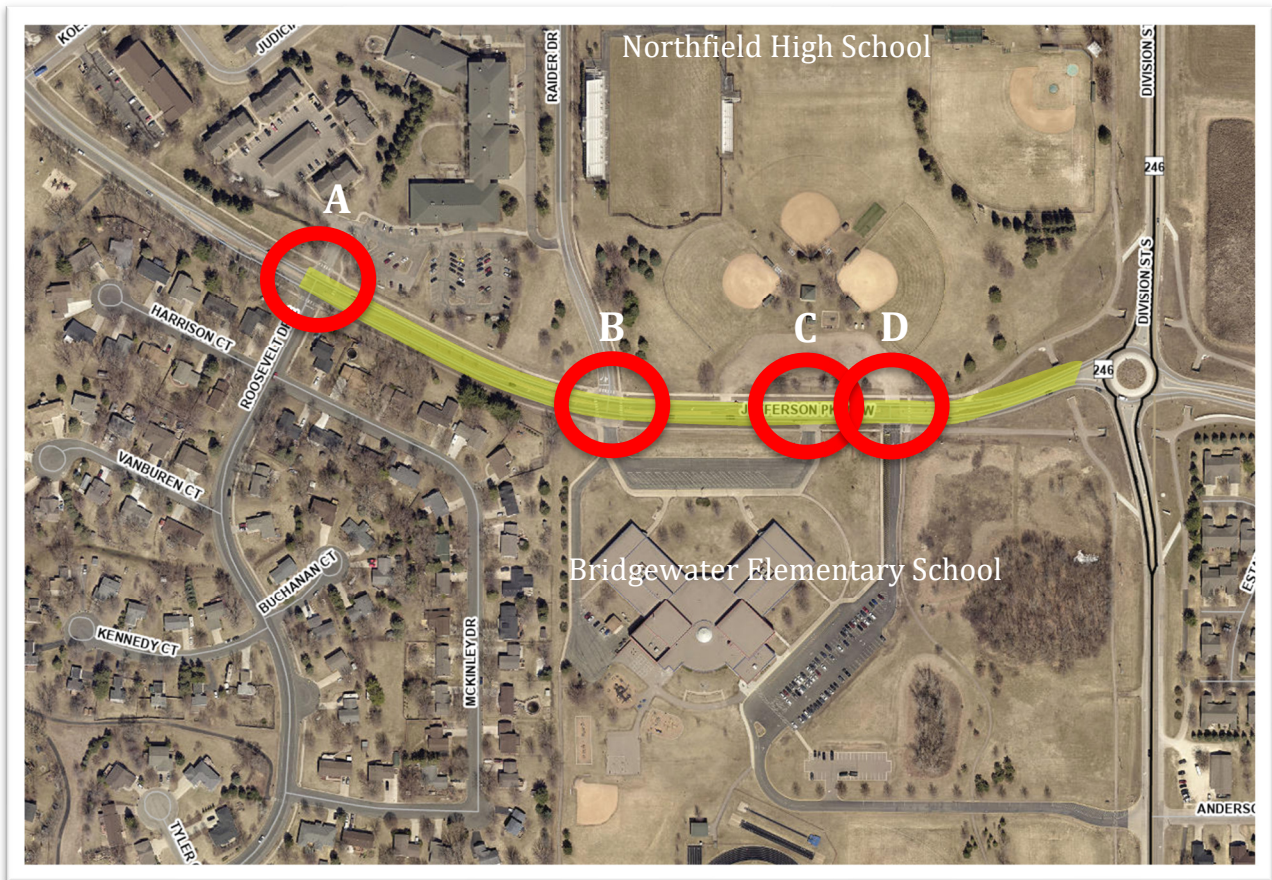
C. Jefferson Parkway and East Bus Access

T-intersection with stop sign control exiting the school site with no school crossing signs or designated crosswalk across Jefferson Parkway. This access serves buses exiting the Bridgewater Elementary School site.

D. Jefferson Parkway and East School Access

Two-way stop-controlled intersection with school crossing signs and crosswalk on the east leg. This access serves school drop-off/pick-up and parking lot users exiting the Bridgewater Elementary School site. School traffic, besides buses, enter into the Bridgewater Elementary School site from TH 246 (Division Street) at Anderson Drive.

Figure 1. Study Site



IV. Roadway Geometry

Jefferson Parkway is currently functionally classified as a Minor Arterial roadway. Jefferson parkway runs east-west connecting TH 3 on the west end to Spring Creek Road on the east end. The roadway provides a connection between TH 3 and TH 246. The section of Jefferson Parkway for study has a posted speed limit of 30 mph. It is configured as a two-lane median-divided roadway. The median separates opposing traffic, serves as a pedestrian refuge, and enhances the safety of the roadway. The roadway design aims to facilitate smooth traffic flow while providing a clear visual separation between vehicles traveling in opposite directions.

A. Jefferson Parkway and Roosevelt Drive East

The intersection includes a dedicated left turn lane with a storage length of 130 feet for eastbound traffic, as well as a dedicated left turn lane with a storage length of 75 feet for

westbound traffic. The roadway features the cross-section of a two-lane divided roadway (one lane in each direction along Jefferson Parkway). Each lane is approximately 11 feet wide, with a 2-foot curb reaction shoulder on the outside and a 1-foot curb reaction shoulder on the median side. In contrast, the south leg of the intersection has an 8-foot shoulder on both sides of the roadway that accommodates parking.

B. Jefferson Parkway and Raider Drive/West Bus Access

The intersection includes dedicated left turn lanes for both eastbound and westbound traffic, each with a storage length of 200 feet. The southbound approach features a dedicated right turn lane with a storage length of 210 feet, as well as a shared lane for through and left turn movements. The south leg serves Bridgewater Elementary School and is for entering bus traffic and KidVentures drop-off/pick-up only.

C. Jefferson Parkway and East Bus Access

It is a T-intersection with a single lane in each direction on Jefferson Parkway. The south leg (northbound approach) is the school bus exit for Bridgewater Elementary School.

D. Jefferson Parkway and East School Access

The intersection includes a dedicated left turn lane for eastbound traffic, with a storage length of 100 feet that provides access to the Rock Field parking area. The south leg (northbound approach) serves as the exit from the school drop-off/pick-up and the parking lot for Bridgewater Elementary School. The northbound direction includes a dedicated right turn lane with a storage length of 140 feet, as well as a shared lane for through and left turn movements.

V. Pedestrian Crossings

A. Jefferson Parkway and Roosevelt Drive East:

The intersection has a pedestrian crossing marked on the north leg, south leg, and east leg of the intersection. The school crossing on the east side of the intersection is likely used primarily by high school students given this provides the shortest route from the south side of Jefferson Parkway to the high school.

B. Jefferson Parkway and Raider Drive:

The intersection has a pedestrian crossing marked on the north leg, east leg, and west leg of the intersection. The south leg is considered a private driveway access and the sidewalk continues across the access.

C. Jefferson Parkway and East Bus Access

The intersection has no pedestrian crossings marked at any leg. The south leg is considered a private driveway access and the sidewalk continues across the access.

D. Jefferson Parkway and East School Access

The intersection has a pedestrian crossing marked on the east leg and south leg. The north leg is considered a private driveway access and the sidewalk continues across the access.

VI. Traffic Control, Signing and Pavement Markings, and Sidewalks

All intersections are designated as two-way stop-controlled intersections with the stops being from the north and south legs at all intersections. Marked pedestrian crossings across Jefferson

Parkway are established at every intersection, except at the junction of Jefferson Parkway and the Bridgewater Elementary East Bus Access. The crosswalks are marked in the continental block pattern except the crossing across the south leg at the East School Access, which is marked in a sparse zebra crosswalk pattern. Both patterns are considered to be a high visibility pattern.

School crossing signs are currently in place at all Jefferson Parkway crosswalks on the approaching right side on Jefferson Parkway. There are no advance crossing warning signs for any of the crosswalks. A sidewalk is located on the north side of Jefferson Parkway while the Mill Towns Trail is located on the south side of Jefferson Parkway as recently constructed in 2024.

There is continuous roadway lighting on Jefferson Parkway but lighting is not directly placed to enhance the visibility of pedestrians. A streetlight is located on the north side near the crossing at the East School Access, two are provided on the southwest and northeast corners at the intersection of Raider Drive, and one is provided on the southwest corner at the intersection of Roosevelt Drive East.

VII. Traffic Data Collection

Existing 13-hour traffic turning movement counts (vehicles and pedestrians) were collected on Tuesday, October 15, 2024, at each intersection. The AM peak hour across all intersections was from 7:15 AM to 8:15 AM, whereas the PM peak hour was recorded from 2:45 PM to 3:45 PM. Traffic speed data was collected at two locations on October 17, 2024. Turning movement data for every intersection is shown in **Appendix A** while the speed data is included in **Appendix B**.

A. Traffic Volume

Traffic volume for each intersection was collected to review the traffic movements along Jefferson Parkway and record the volume of pedestrian movements using the crosswalks across Jefferson Parkway especially near the elementary school start and dismissal times (8:35 AM and 2:35 PM).

1. Jefferson Parkway and Roosevelt Drive East

Traffic counts indicate a daily traffic volume of approximately 6,800 vehicles on the east leg. A total of 15 pedestrians or bicyclists were observed crossing on the east leg and none on the west leg. A maximum of two (2) crossings were observed in one hour. The highest used crossing at the intersection was on the south leg with 83 observed crossings. The pedestrian counts indicate that the marked crossing across Jefferson Parkway could be eliminated but its location as a school route crossing in the overall network indicate a reason to maintain it.

2. Jefferson Parkway and Raider Drive

Traffic counts indicate a daily traffic volume of approximately 6,800 vehicles on the west leg and 6,400 vehicles on the east leg. A total of 52 pedestrians or bicyclists were observed crossing on the west leg and a total of 103 pedestrians or bicyclists were observed crossing on the east leg. A maximum of 35 crossings were observed in one hour on the east leg and 36 crossings in one hour on the west leg. The highest used crossing at the intersection was on the south leg with 147 observed crossings.

3. Jefferson Parkway and East Bus Access

Traffic counts indicate a daily traffic volume of approximately 6,400 vehicles on the crossing through the intersection on Jefferson Parkway. A total of six (6) pedestrians or bicyclists were observed crossing on the west leg and a total of four (4) pedestrians or bicyclists were observed crossing on the east leg even though there are no marked

crossings, adequate median crossing points, or ADA compliant ramps. The highest used crossing at the intersection was on the south leg with 70 observed crossings.

4. Jefferson Parkway and East School Access

Traffic counts indicate a daily traffic volume of approximately 6,500 vehicles on the east leg. A total of five (5) pedestrians or bicyclists were observed crossing on the west leg and a total of ten (10) pedestrians or bicyclists were observed crossing on the east leg. A maximum of seven (7) crossings were observed in one hour on the east leg. The highest used crossing at the intersection was on the south leg with 74 observed crossings. The pedestrian counts indicate that the marked crossing across Jefferson Parkway could be eliminated, especially considering the location of the highly used marked crossings at Raider Drive and the tunnel crossing to the east at Division Street that is likely used by most pedestrians and bicyclists to cross Jefferson Parkway in this area. Even with that its location directly connecting the elementary school and Rock Field Park, and its location within the school zone indicate a reason to maintain it.

B. Traffic Speed

Traffic speed data was collected west of Division Street and west of Raider Drive to understand the current operating speeds of motorists, the present compliance rate for the posted speed limit, and to verify if the normal speed limit is appropriate. Speed radar readings were collected for the two locations within the anticipated School Zone. To understand the existing traffic speeds, 48 hours of speed data was collected at the two separate locations in the study zone, the collected data is summarized in **Table 1**.

Table 1. Field-Collected Speed Data

Location	Median Speed	85th Percentile Speed	Posted Speed
East of Roosevelt/ West of Raider	30 to 31 mph	34 mph	30 mph
Division St near the East Access	30 to 31 mph	34 mph	30 mph

*Multiple speeds listed above indicate different speed measurements in each direction

Generally, the 85th percentile speed should match the speed limit. This indicates that most vehicles are following the posted speed. Speed data shows 85th percentile speed to be 34 mph and 50th percentile (average) speed to be between 30 and 31 mph. This indicates that the posted speed limit of 30 mph is appropriate for the roadway and there is compliance by at least half of the roadway users on a daily basis. The posted speed limit of 30 mph is considered appropriate especially in consideration of the surrounding land use and the schools so any improvements to slow traffic would be recommended.

In recognition that any changes on Jefferson Parkway are intended to increase safety for the pedestrians, especially for school-aged children, the roadway should be designed to best indicate to motorists that the appropriate speed is 30 mph or less.

VIII. Safety Analysis

Crashes available from the Minnesota Crash Mapping Analysis Tool (MnCMAT2) from 2019 to 2023 were reviewed to determine the types of crashes that have occurred for all of the intersections within the potential school zone speed limit area to understand any existing safety issues that are present. **Table 2** shows the types of crashes involved in the intersection and **Table 3** shows the intersection crash rate for every intersection under the School Zone Speed Limit

(SZSL).

Table 2. Crash Types

Intersection	Total Crashes	Crashes Types								
		Angle Crashes	Rear End Crashes	Side Swipe Crashes	Single Vehicle	Left Turn	Head On	Pedestrian	Bicycle	Other
Jefferson Pkwy and Roosevelt Dr	4	2	1	1	0	0	0	0	0	0
Jefferson Pkwy and Raider Dr	3	2	1	0	0	0	0	0	0	0
Jefferson Pkwy and Bunker Dr East Bus Access	0	0	0	0	0	0	0	0	0	0
Jefferson Pkwy and Bunker Dr East Access	1	1	0	0	0	0	0	0	0	0

Table 3. Summary for Intersection Crash Rate (2019-2023)

Intersection	Traffic Control	All Severities				Fatal and Serious Injury Crashes (K+A Crashes)			
		Total Crashes	Crash Rate (per MEV)	Critical Crash Rate (per MEV)	Critical Index	K+A Crashes	K+A Crash Rate (per 100 MEV)	K+A Critical Crash Rate (per 100 MEV)	K+A Critical Index
Jefferson Pkwy and Roosevelt Dr	Two-Way Stop	4	0.33	0.45	0.73	0	0.00	6.62	0.00
Jefferson Pkwy and Raider Dr	Two-Way Stop	3	0.25	0.46	0.55	0	0.00	6.77	0.00
Jefferson Pkwy and Bunker Dr East Bus Access	Two-Way Stop	0	0.00	0.49	0.00	0	0.00	7.78	0.00
Jefferson Pkwy and Bunker Dr East Access	Two-Way Stop	1	0.09	0.48	0.2	0	0.00	7.40	0.00

Crash history indicates that there have been no pedestrian or bicyclist involved crashes within the past five years of data for the entire area under consideration for a School Zone Speed Limit (SZSL). The observed total crash rate and the observed fatal and serious injury crash rate for each intersection indicates that they are operating within the normal range compared to similar intersections state-wide. While the crash history indicates that the intersections are performing within the “normal” range, this does not indicate that safety improvements should not be incorporated when appropriate but does indicate that there is not an immediate crash mitigation need. Crash worksheets are provided in **Appendix C**.

IX. School Zone Speed Limit

The Minnesota Department of Transportation “Guide for Establishing School Zone Speed Limits” provides guidance on setting appropriate School Zone Speed Limits (SZSLs). SZSLs consider one of many steps for improving the safety of students, parents and staff walking, biking and rolling to school. Speed limit is selected based on the table from MnDOT Guide for Establishing School Zone Speed limit.

Table 4: SZSL Ranges and Requirements

EXIST. ROAD SPEED LIMIT	20	25	30	35	40	45	50	55	60	65
Range of School Zone Speed Limits										
15-mph SZSL	C1	C1	C3							
20-mph SZSL		C1	C1	C3	C3					
25-mph SZSL			C2	C2	C3	C3				
30-mph SZSL				C2	C2	C3	C3	C3	C3	
35-mph SZSL					C2	C2	C3	C3	C3	C3

Condition 1 (C1)
Satisfies SZSL best practices

- No E&T investigation required unless there is a history of non-motorist crashes
- No SZSL buffer zone or advance warning signing required
- Additional countermeasures should be considered if pedestrian safety is the justification of the SZSL

Condition 2 (C2)
Satisfies one, but not all best practices

- E&T investigation required
- No SZSL buffer zone or advance warning signing required
- Additional countermeasures should be considered regardless of crash history, if pedestrian safety is the justification for the SZSL

Condition 3 (C3)
Does not satisfy any best practices without additional countermeasures and/or warnings

- E&T investigation required
- SZSL buffer zone or advance warning signing required
- Additional countermeasures should be considered regardless of crash history

Summary of SZSL Best Practices:

- Selecting a SZSL that reduces the risk of severe injury and fatal crashes for vulnerable users
- Minimize differential between existing speed limit and SZSL (5-10 mph is best, no more than 15 mph)
- Use of a SZSL buffer zone or advance warning signage when there is a 15 mph or more differential
- Redundancy with additional countermeasures

With the existing speed limit of the roadway at 30 mph, high visibility crosswalks and marked school zone crossings, and no pedestrian and bicyclist crashes that have been reported in the past five years along the School Zone to which no Engineering and Traffic Investigation are required, and based on the Minnesota State Statue 169.14.15a and MnDOT identified best practices, Condition 1 (C1) is satisfied as a best practice with the School Zone Speed Limit to be 20 mph which is not lower than 15 mph below the existing speed limit.

X. Pedestrian Crossing Analysis

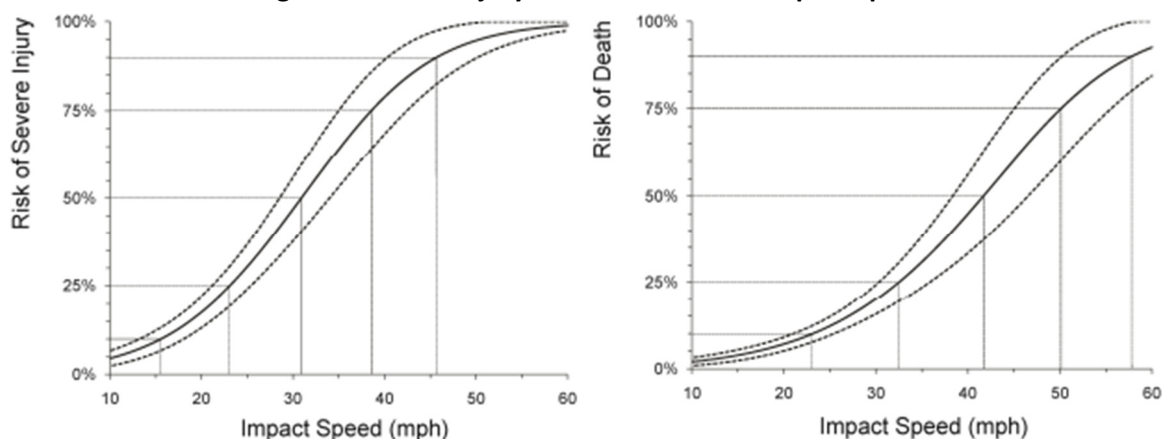
For pedestrian crossing analysis, existing peak hour intersection levels of service for each intersection on Jefferson Parkway in the study area were determined using the Highway Capacity 7th Edition methodology through Synchro 12 analysis software based on the 2024 traffic control and roadway configuration. Table 5 shows the pedestrian crossing operation during the AM and PM peak traffic periods, which shows that the pedestrians likely have a difficult time crossing within what is considered an acceptable range (Level of Service (LOS) A to D).

Table 5: Existing Level of Service (LOS) Summary

Intersection	Traffic Control	AM Peak Level of Service				PM Peak Level of Service			
		EB	WB	NB	SB	EB	WB	NB	SB
Jefferson Pkay and Roosevelt Dr	Two-Way Stop	F	E	-	-	F	E	-	-
Jefferson Pkwy and Raider Dr	Two-Way Stop	E	E	-	-	E	E	-	-
Jefferson Pkwy and Bunker Dr East Bus Access	Two-Way Stop	F	F	-	-	F	F	-	-
Jefferson Pkwy and East Access	Two-Way Stop	F	B	-	-	F	B	-	-

All pedestrian crossings operate at LOS E or F. While the marked crossings cross through the median, the median is too narrow to be considered a pedestrian refuge except at the East School Access. The level of service for pedestrian crossings could be slightly improved by providing a wider median for a pedestrian refuge at all crossings but the traffic volume indicates that pedestrians have a difficult time crossing Jefferson Parkway. Given the poor level of service, measures to reduce speeds when pedestrians are crossing would be consistent with improving pedestrian safety. Pedestrians are less likely to be killed at lower speeds as indicated in **Figure 2**.

Figure 2. Risk of Injury or Death Based on Impact Speed



*AAA Foundation: Impact Speed and a Pedestrian's Risk of Severe Injury or Death

XI. Signing and Pavement Marking Review

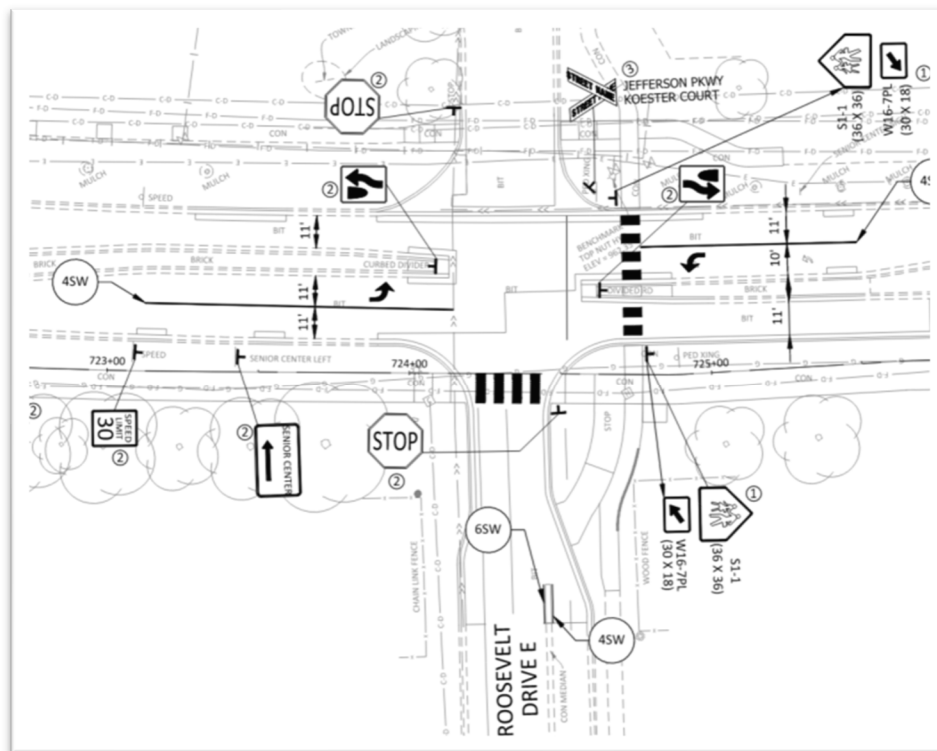
The intersections and pedestrian crossings under consideration in the context of SZSL accommodate both pedestrian and bicycle traffic. To ensure the safety of pedestrians while crossing, it is essential to have appropriate warning signage and clearly marked crosswalks at each

intersection. The FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations lists proven countermeasures to enhance crosswalk safety. The guidelines should be used along with engineering judgement to determine if crosswalk warning signage is required. The following improvements are recommended at each intersection by considering pedestrian and bicyclist traffic, as well as the current conditions of the intersections.

A. Jefferson Parkway and Roosevelt Drive East

This intersection has marked crosswalks with high-visibility crosswalk markings. The school crossing sign with downward arrow plaques at the intersection meet the compliance for the SZSL. The intersection also has adequate nighttime lighting for the safe crossing of the pedestrian. There is a median but it is not wide enough to be considered a pedestrian refuge island for the marked crossing. No additional improvements for pedestrians are deemed to be required at the intersection, especially given the low pedestrian crossing volume. The current signing and markings from the 2024 construction plans are shown in **Figure 3**.

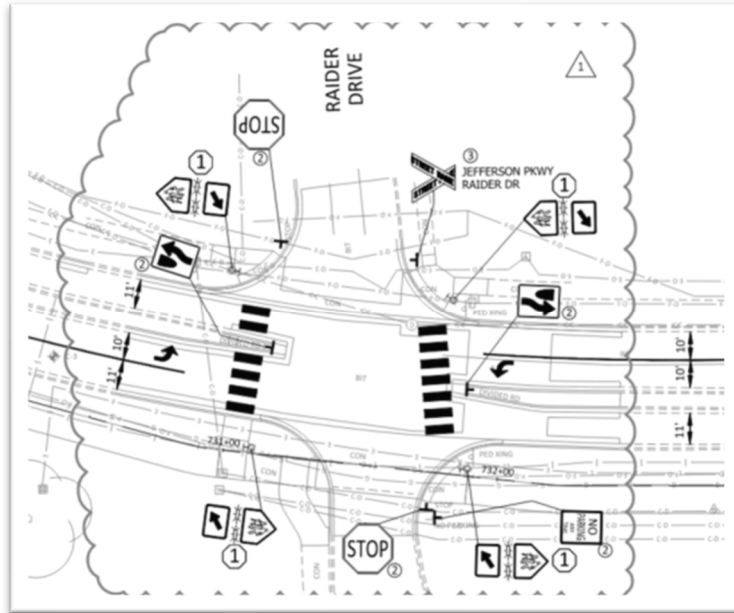
Figure 3. Signing and Markings at Roosevelt Dr E



B. Jefferson Parkway and Raider Drive

This intersection has marked crosswalks with high-visibility crosswalk markings. The school crossing sign with downward arrow plaques at the intersection meet the compliance for the SZSL and the Rectangular Rapid Flashing Beacons (RRFBs) on the east and west legs are compliant with the latest standards. The current signing and markings from the 2024 construction plans are shown in **Figure 4**.

Figure 4. Signing and Markings at Raider Dr



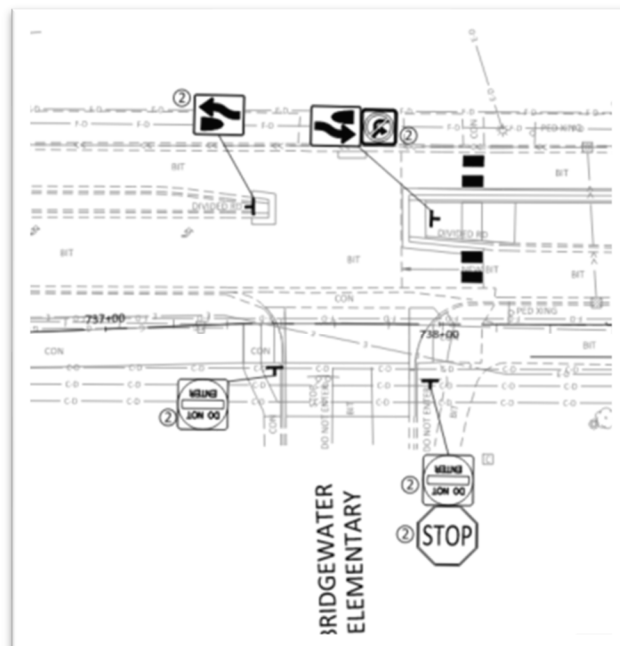
C. Jefferson Parkway and East Bus Access

No crosswalks are present or are deemed to be needed based on the low pedestrian counts and the marked crossings at the adjacent intersections.

D. Jefferson Parkway and East School Access

This intersection has a marked crosswalk with high-visibility crosswalk markings. The school crossing signs with downward arrow plaques at the intersection meet the compliance for the SZSL. Given the width of the median, additional crosswalk signage on the left side approaching the crossing could be implemented in the median but is not required. Given the lower volume use of this crossing location, recommend keeping as-is until needed.

Figure 5. Signing and Markings at East School Access



E. School Speed Zone

The school zone speed limit at 20 mph will require some adjustment to the school zone signing. The advance warning sign for eastbound traffic just west of Roosevelt with the "School" plaque to be revised to just the warning sign (S1-1). The "School" plaque to be removed as shown in **Figure 6**. The "School" plaque should also be removed from the school warning sign (S1-1) just west of the TH 246/Division Street roundabout, facing east. School Zone Speed Limit sign assemblies should be located facing west, west and east of Roosevelt Drive East, and located facing east, east of the East School Access, likely after the bike slip ramp and downstream from the speed limit 30 sign. Speed zone assembly shown in **Figure 7** (can reuse the "school" plaques with these assemblies). Assemblies to include the times for enforcement prior to and just after school start and dismissal time or with "when children are present" plaque. End School Speed Limit signs to be added west of Roosevelt Drive East facing east and located facing west, just west of TH 246/Division Street.

Figure 6. Sign Assembly Revision West of Roosevelt Dr E

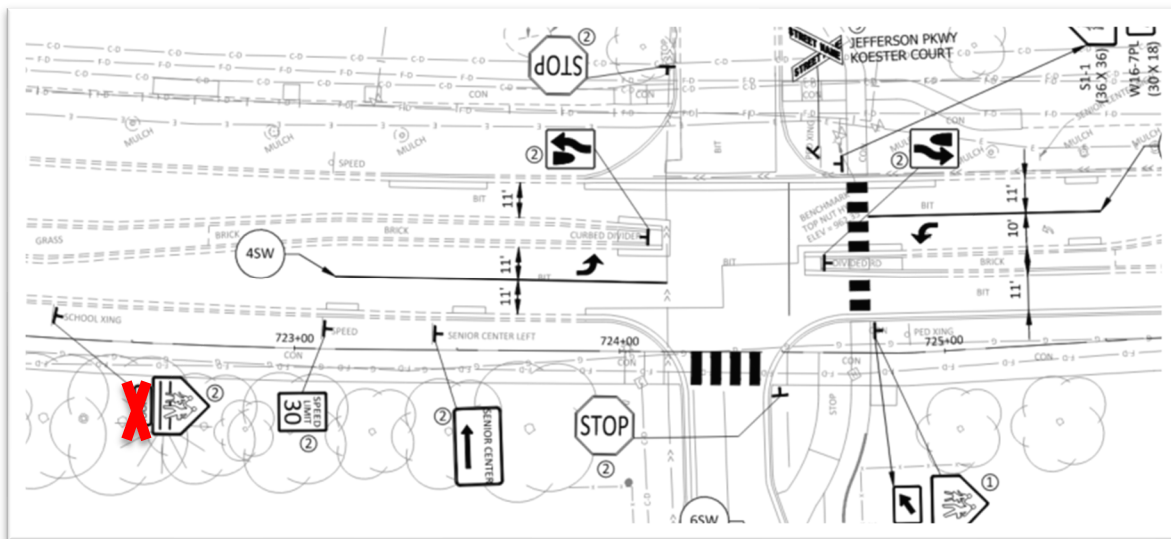


Figure 7. School Speed Zone Assembly

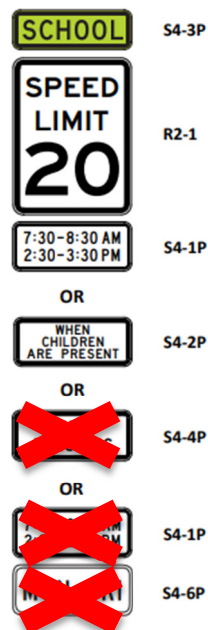
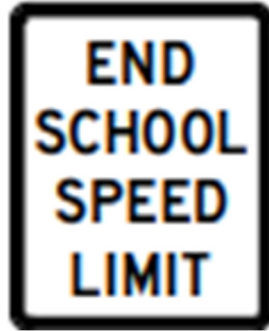


Figure 8. End School Speed Limit Sign



XII. Conclusions

Overall, the findings support a School Zone Speed Limit of 20 mph. The signing should be revised at a few locations in support of the School Zone Speed Limit along Jefferson Parkway as described in the previous section. The following are the recommendations.

- School Zone Speed Limit: Based on the existing posted limit of 30 mph and the crash history from the past five years with no ped or bike crashes, satisfies Condition 1 (C1), setting the SZSL at 20 mph.
- Jefferson Parkway at Roosevelt Drive East: Revise and add signage for the School Zone Speed Limit
- Jefferson Parkway at Raider Drive: No changes
- Jefferson Parkway and East Bus Access: No changes
- Jefferson Parkway and East School Access: Revise and add signage for the School Zone Speed Limit

Recommended signing plan revisions are attached in **Appendix D**. School Zone Speed Limit to be enforced once approved by City Council and signage placed.

Appendix A: Turning Movement Counts

Jefferson Parkway & Roosevelt Dr, Northfield, MN
Tuesday, October 15, 2024

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	1	0	3	0	4	0	2	7	2	0	11	0	3	1	3	0	7	0	1	8	1	0	10	32
6:15 AM	0	1	0	3	0	4	0	1	13	2	0	16	0	4	0	1	1	5	0	2	13	0	0	15	40
6:30 AM	0	2	0	5	0	7	0	0	20	4	0	24	0	3	0	4	1	7	0	6	15	0	0	21	59
6:45 AM	0	1	2	2	0	5	0	4	21	3	0	28	0	3	0	7	0	10	0	5	15	2	0	22	65
Hourly Total	0	5	2	13	0	20	0	7	61	11	0	79	0	13	1	15	2	29	0	14	51	3	0	68	196
7:00 AM	0	1	0	4	0	5	0	4	31	3	0	38	0	4	0	11	0	15	0	1	35	2	0	38	96
7:15 AM	0	2	0	3	0	5	0	9	62	2	1	73	0	4	0	12	1	16	0	4	58	0	0	62	156
7:30 AM	0	0	1	2	0	3	0	17	78	5	1	100	0	4	1	41	3	46	0	4	135	6	0	145	294
7:45 AM	0	4	1	4	0	9	0	3	80	8	1	91	0	7	1	28	1	36	0	9	57	0	0	66	202
Hourly Total	0	7	2	13	0	22	0	33	251	18	2	302	0	19	2	92	5	113	0	18	285	8	0	311	748
8:00 AM	0	4	0	7	0	11	0	9	57	1	0	67	0	4	0	9	3	13	0	3	63	1	0	67	158
8:15 AM	0	6	0	3	1	9	0	7	73	2	1	82	0	3	0	11	0	14	0	1	54	2	0	57	162
8:30 AM	0	1	0	1	0	2	0	3	30	3	0	36	0	4	1	7	0	12	0	3	37	0	0	40	90
8:45 AM	0	1	1	6	0	8	0	4	31	2	0	37	0	3	0	6	0	9	0	4	27	3	0	34	88
Hourly Total	0	12	1	17	1	30	0	23	191	8	1	222	0	14	1	33	3	48	0	11	161	6	0	198	498
9:00 AM	0	5	0	11	0	16	0	1	19	7	0	27	0	2	0	4	0	6	0	5	32	2	0	39	88
9:15 AM	0	4	0	5	0	9	0	1	27	7	1	35	0	3	0	2	2	5	0	13	32	4	0	49	98
9:30 AM	0	4	0	3	0	7	0	4	28	4	1	36	0	4	0	5	0	9	0	7	30	2	0	39	91
9:45 AM	0	2	0	5	2	7	0	5	31	8	0	44	0	3	2	7	0	12	0	7	27	2	0	36	99
Hourly Total	0	15	0	24	2	39	0	11	105	26	2	142	0	12	2	18	2	32	0	32	121	10	0	163	376
10:00 AM	0	3	0	4	1	7	0	4	32	3	1	39	0	6	1	7	0	14	0	4	22	6	0	32	92
10:15 AM	0	12	0	4	0	16	0	8	35	7	0	50	0	2	1	6	3	9	0	7	21	6	0	34	109
10:30 AM	0	4	1	11	0	16	0	3	40	1	0	44	0	5	0	5	0	10	0	3	33	1	0	37	107
10:45 AM	0	3	0	2	0	5	0	3	41	1	0	45	0	3	1	4	2	8	0	5	37	0	0	42	100
Hourly Total	0	22	1	21	1	44	0	18	148	12	1	178	0	16	3	22	5	41	0	19	113	13	0	145	408
11:00 AM	0	3	0	4	0	7	0	5	38	3	0	46	0	4	0	6	0	10	0	4	30	2	0	36	99
11:15 AM	0	0	1	2	1	3	0	5	45	3	0	53	0	1	0	11	0	12	0	5	37	1	0	43	111
11:30 AM	0	10	1	11	1	22	0	8	38	2	0	48	0	1	0	7	0	8	0	2	51	4	0	57	135
11:45 AM	0	4	1	8	0	13	0	6	40	3	1	49	0	3	0	8	1	11	0	9	55	4	0	68	141
Hourly Total	0	17	3	25	2	45	0	24	161	11	1	196	0	9	0	32	1	41	0	20	173	11	0	204	486
12:00 PM	0	2	2	3	0	7	0	4	24	8	0	36	0	2	0	12	5	14	0	8	43	1	0	52	109
12:15 PM	0	4	1	6	0	11	0	1	41	9	1	51	0	4	0	4	2	8	0	5	40	1	0	46	116
12:30 PM	0	5	0	5	0	10	0	2	37	4	0	43	0	4	1	6	0	11	0	3	35	3	0	41	105
12:45 PM	0	1	0	3	0	4	0	5	42	8	0	55	0	1	0	13	0	14	0	7	36	0	0	43	116
Hourly Total	0	12	3	17	0	32	0	12	144	29	1	185	0	11	1	35	7	47	0	23	154	5	0	182	446
1:00 PM	0	1	0	6	0	7	0	5	32	2	0	39	0	1	0	9	0	10	0	6	38	3	0	47	103
1:15 PM	0	2	0	3	0	5	0	1	35	3	0	39	0	2	0	11	1	13	0	5	36	4	0	45	102
1:30 PM	0	2	0	3	0	5	0	1	31	3	0	35	0	3	0	3	0	6	0	4	35	0	0	39	85
1:45 PM	0	2	0	3	0	5	0	3	37	1	0	41	0	1	0	4	1	5	0	2	38	5	0	45	96
Hourly Total	0	7	0	15	0	22	0	10	135	9	0	154	0	7	0	27	2	34	0	17	147	12	0	176	3

6:45 PM	0	5	0	0	0	5	0	12	60	1	0	73	0	4	0	12	1	16	0	6	50	2	0	58	152
Hourly Total	0	12	1	17	2	30	0	32	211	13	1	256	0	13	1	41	8	55	0	13	183	10	0	206	547
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAILY TOTAL	0	162	17	245	24	424	0	346	2244	179	15	2769	0	176	20	452	83	648	0	229	2435	170	0	2834	6675
Cars	0	160	16	242	22	418	0	339	2147	176	10	2662	0	170	19	439	61	628	0	226	2349	167	0	2742	6450
Heavy Vehicles	0	2	1	3	2	6	0	7	97	3	5	107	0	6	1	13	22	20	0	3	86	3	0	92	225
Heavy Vehicle %	0.00%	1.23%	5.88%	1.22%	8.33%	1.42%	0.00%	2.02%	4.32%	1.68%	33.33%	3.86%	0.00%	3.41%	5.00%	2.88%	26.51%	3.09%	0.00%	1.31%	3.53%	1.76%	0.00%	3.25%	3.37%

Jefferson Parkway & Roosevelt Dr, Northfield, MN
Tuesday, October 15, 2024

AM Peak Hour																											
Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL		
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total			
7:30 AM	0	0	1	2	0	3	0	17	78	5	1	100	0	4	1	41	3	46	0	4	135	6	0	145	294		
7:45 AM	0	4	1	4	0	9	0	3	80	8	1	91	0	7	1	28	1	36	0	9	57	0	0	66	202		
8:00 AM	0	4	0	7	0	11	0	9	57	1	0	67	0	4	0	9	3	13	0	3	63	1	0	67	158		
8:15 AM	0	6	0	3	1	9	0	7	73	2	1	82	0	3	0	11	0	14	0	1	54	2	0	57	162		
Peak Hour Total	0	14	2	16	1	32	0	36	288	16	3	340	0	18	2	89	7	109	0	17	309	9	0	335	816		
PHF	0.000	0.583	0.500	0.571	0.250	0.727	0.000	0.529	0.900	0.500	0.750	0.850	0.000	0.643	0.500	0.543	0.583	0.592	0.000	0.472	0.572	0.375	0.000	0.578	0.694		

PM Peak Hour																											
Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL		
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total			
2:45 PM	0	3	1	8	3	12	0	28	120	6	2	154	0	5	0	9	0	14	0	2	86	5	0	93	273		
3:00 PM	0	2	1	3	0	6	0	8	62	2	1	72	0	6	0	18	3	24	0	5	65	5	0	75	177		
3:15 PM	0	7	1	8	1	16	0	9	82	3	1	94	0	6	0	6	8	12	0	3	45	3	0	51	173		
3:30 PM	0	1	0	2	0	3	0	11	61	3	0	75	0	4	0	8	0	12	0	3	51	8	0	62	152		
Peak Hour Total	0	13	3	21	4	37	0	56	325	14	4	395	0	21	0	41	11	62	0	13	247	21	0	281	775		
PHF	0.000	0.464	0.750	0.656	0.333	0.578	0.000	0.500	0.677	0.583	0.500	0.641	0.000	0.875	0.000	0.569	0.344	0.646	0.000	0.650	0.718	0.656	0.000	0.755	0.710		

Total Vehicles On Leg			852		
Vehicles Entering Intersection		424	Vehicles Exiting Intersection		428
Southbound					
Cars	242	16	160	0	22
Heavy	3	1	2	0	2
Total	245	17	162	0	24

Total Vehicles on Leg 5499	Vehicles Entering Intersection 2834	Eastbound	Cars	Heavy	Total
	Vehicles Exiting Intersection 2665		0	0	0
			0	0	0
			226	3	229
			2349	86	2435
			167	3	170

Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 2769	Total Vehicles on Leg 5818
176	3	179			
2147	97	2244			
339	7	346			
0	0	0			
10	5	15		Vehicles Exiting Intersection 3049	

Cars	61	0	170	19	439
Heavy	22	0	6	1	13
Total	83	0	176	20	452
Northbound					
Vehicles Entering Intersection			Vehicles Exiting Intersection		
648			533		
Total Vehicles On Leg			1181		

Jefferson Parkway & Raider Dr, Northfield, MN
Tuesday, October 15, 2024

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:00 AM	0	1	0	3	0	4	0	0	8	0	0	8	0	0	0	0	0	0	0	0	12	0	0	12	
6:15 AM	0	0	0	1	0	1	0	0	15	0	0	15	0	0	0	0	1	0	0	0	14	0	0	14	
6:30 AM	0	0	0	2	0	2	0	0	22	0	0	22	0	0	0	0	0	0	0	2	18	1	0	21	
6:45 AM	0	0	0	2	0	2	0	0	28	2	0	30	0	0	0	0	0	0	0	4	18	1	0	23	
Hourly Total	0	1	0	8	0	9	0	0	73	2	0	75	0	0	0	0	1	0	0	6	62	2	0	70	
7:00 AM	0	4	0	2	0	6	0	0	35	6	0	41	0	0	0	0	2	0	0	11	37	0	0	48	
7:15 AM	0	5	0	7	0	12	0	0	65	30	0	95	0	0	0	0	0	0	0	30	41	0	0	71	
7:30 AM	0	1	0	37	0	38	0	0	64	64	5	128	0	0	0	0	5	0	0	82	90	2	4	174	
7:45 AM	0	9	0	8	0	17	0	2	89	18	0	109	0	0	0	0	2	0	0	15	75	0	1	90	
Hourly Total	0	19	0	54	0	73	0	2	253	118	5	373	0	0	0	0	9	0	0	138	243	2	5	383	
8:00 AM	0	3	0	3	2	6	0	3	59	6	2	68	0	0	0	0	0	0	0	3	69	4	0	76	
8:15 AM	0	3	0	2	0	5	0	2	78	6	1	86	0	1	0	0	1	1	0	16	55	3	1	74	
8:30 AM	0	1	0	4	0	5	0	1	31	14	0	46	0	0	0	1	0	1	0	15	30	0	0	45	
8:45 AM	0	1	0	0	1	1	0	0	37	11	0	48	0	0	0	0	0	0	0	5	29	0	0	34	
Hourly Total	0	8	0	9	3	17	0	6	205	37	3	248	0	1	0	1	1	2	0	39	163	7	1	229	
9:00 AM	0	4	0	1	0	5	0	0	28	4	0	32	0	0	0	0	0	0	0	4	36	1	0	41	
9:15 AM	0	2	1	3	0	6	0	0	30	2	0	32	0	1	0	2	1	3	0	6	31	1	0	38	
9:30 AM	0	2	0	11	0	13	0	0	25	1	0	26	0	0	0	1	0	1	0	3	36	0	0	39	
9:45 AM	0	1	0	3	2	4	0	0	40	3	0	43	0	0	0	0	3	0	0	2	33	0	0	35	
Hourly Total	0	9	1	18	2	28	0	0	123	10	0	133	0	1	0	3	4	4	0	15	136	2	0	153	
10:00 AM	0	7	0	5	1	12	0	1	34	4	0	39	0	0	0	0	0	0	0	3	29	1	0	33	
10:15 AM	0	10	0	8	0	18	0	0	42	5	0	47	0	0	0	0	2	0	0	7	32	0	0	39	
10:30 AM	0	3	0	5	0	8	0	0	41	4	0	45	0	0	0	1	1	1	0	3	39	0	0	42	
10:45 AM	0	2	0	3	0	5	0	1	41	2	0	44	0	0	0	0	32	0	0	4	39	0	0	43	
Hourly Total	0	22	0	21	1	43	0	2	158	15	0	175	0	0	0	1	35	1	0	17	139	1	0	157	
11:00 AM	0	9	0	7	0	16	0	0	36	1	0	37	0	0	0	0	1	0	0	2	37	0	0	39	
11:15 AM	0	14	0	13	0	27	0	0	42	4	0	46	0	0	0	0	0	0	0	4	42	0	0	46	
11:30 AM	0	6	0	11	1	17	0	0	35	3	0	38	0	0	0	0	0	0	0	9	59	0	0	68	
11:45 AM	0	3	0	3	0	6	0	0	47	9	2	56	0	0	0	0	1	0	0	8	56	0	0	64	
Hourly Total																									

6:45 PM	0	6	0	17	1	23	0	0	56	17	25	73	0	0	0	1	2	1	0	29	34	1	0	64	161
Hourly Total	0	22	0	62	3	84	0	2	179	52	32	233	0	2	0	1	4	3	0	81	165	1	0	247	567
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAILY TOTAL	0	268	1	441	29	710	1	22	2295	387	103	2705	0	7	1	13	147	21	0	548	2480	31	52	3059	6495
Cars	0	261	0	404	25	665	1	9	2229	373	99	2612	0	7	1	11	112	19	0	531	2414	21	46	2966	6262
Heavy Vehicles	0	7	1	37	4	45	0	13	66	14	4	93	0	0	0	2	35	2	0	17	66	10	6	93	233
Heavy Vehicle %	0.00%	2.61%	100.00%	8.39%	13.79%	6.34%	0.00%	59.09%	2.88%	3.62%	3.88%	3.44%	0.00%	0.00%	0.00%	15.38%	23.81%	9.52%	0.00%	3.10%	2.66%	32.26%	11.54%	3.04%	3.59%

Jefferson Parkway & Raider Dr, Northfield, MN
Tuesday, October 15, 2024

AM Peak Hour																											
Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL		
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total			
7:15 AM	0	5	0	7	0	12	0	0	65	30	0	95	0	0	0	0	0	0	0	30	41	0	0	71	178		
7:30 AM	0	1	0	37	0	38	0	0	64	64	5	128	0	0	0	0	5	0	0	82	90	2	4	174	340		
7:45 AM	0	9	0	8	0	17	0	2	89	18	0	109	0	0	0	0	2	0	0	15	75	0	1	90	216		
8:00 AM	0	3	0	3	2	6	0	3	59	6	2	68	0	0	0	0	0	0	0	3	69	4	0	76	150		
Peak Hour Total	0	18	0	55	2	73	0	5	277	118	7	400	0	0	0	0	7	0	0	130	275	6	5	411	884		
PHF	0.000	0.500	0.000	0.372	0.250	0.480	0.000	0.417	0.778	0.461	0.350	0.781	0.000	0.000	0.000	0.000	0.350	0.000	0.000	0.396	0.764	0.375	0.313	0.591	0.650		

PM Peak Hour																											
Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL		
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total			
2:45 PM	0	41	0	73	1	114	1	0	82	9	7	92	0	0	0	1	3	1	0	13	83	2	2	98	305		
3:00 PM	0	17	0	16	2	33	0	1	52	9	4	62	0	0	0	0	3	0	0	15	70	2	6	87	182		
3:15 PM	0	4	0	6	5	10	0	7	88	6	0	101	0	0	0	0	1	0	0	3	52	3	27	58	169		
3:30 PM	0	3	0	13	0	16	0	0	63	5	0	68	0	0	0	1	3	1	0	6	55	0	1	61	146		
Peak Hour Total	0	65	0	108	8	173	1	8	285	29	11	323	0	0	0	2	10	2	0	37	260	7	36	304	802		
PHF	0.000	0.396	0.000	0.370	0.400	0.379	0.250	0.286	0.810	0.806	0.393	0.800	0.000	0.000	0.000	0.500	0.833	0.500	0.000	0.617	0.783	0.583	0.333	0.776	0.657		

Total Vehicles On Leg				1646	
Vehicles Entering Intersection 710			Vehicles Exiting Intersection 936		
Southbound					
Cars	404	0	261	0	25
Heavy	37	1	7	0	4
Total	441	1	268	0	29

Total Vehicles on Leg 5802	Vehicles Entering Intersection 3059	Eastbound	Cars	Heavy	Total	     	Daily Volumes	      	Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 2705	Total Vehicles on Leg 5467
	46		6	52	373				14	387	Vehicles Exiting Intersection 2762			
	0		0	0	2229				66	2295				
	531		17	548	9				13	22				
	2414		66	2480	1				0	1				
	21		10	31	99				4	103				

Northbound					
Cars	112	0	7	1	11
Heavy	35	0	0	0	2
Total	147	0	7	1	13
Vehicles Entering Intersection 21					
Vehicles Exiting Intersection 54					
Total Vehicles On Leg 75					

Jefferson Parkway & Bunker Dr East Bus Access, Northfield, MN
Tuesday, October 15, 2024

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	13	0	0	13	21
6:15 AM	0	0	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	0	0	14	0	0	14	29
6:30 AM	0	0	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	0	0	0	17	0	0	17	39
6:45 AM	0	0	0	0	0	0	0	0	30	0	0	30	0	0	0	0	0	0	0	0	19	0	0	19	49
Hourly Total	0	0	0	0	0	0	0	0	75	0	0	75	0	0	0	0	0	0	0	0	63	0	0	63	138
7:00 AM	0	0	0	0	0	0	0	0	41	0	0	41	0	0	0	0	0	0	0	0	41	0	0	41	82
7:15 AM	0	0	0	0	0	0	0	0	98	0	0	98	0	0	0	0	0	0	0	0	46	0	0	46	144
7:30 AM	0	0	0	0	0	0	0	0	127	0	0	127	0	0	0	0	2	0	0	0	89	0	0	89	216
7:45 AM	0	0	0	0	0	0	0	0	105	0	0	105	0	1	0	0	1	1	0	0	86	0	0	86	192
Hourly Total	0	0	0	0	0	0	0	0	371	0	0	371	0	1	0	0	3	1	0	0	262	0	0	262	634
8:00 AM	0	0	0	0	0	0	0	0	61	0	0	61	0	4	0	0	0	4	0	0	72	0	0	72	137
8:15 AM	0	0	0	0	0	0	0	0	81	0	0	81	0	4	0	5	1	9	0	0	59	0	0	59	149
8:30 AM	0	0	0	0	0	0	0	0	40	0	0	40	0	0	0	0	0	0	0	0	32	0	0	32	72
8:45 AM	0	0	0	0	0	0	0	0	48	0	0	48	0	0	0	0	0	0	0	0	29	0	0	29	77
Hourly Total	0	0	0	0	0	0	0	0	230	0	0	230	0	8	0	5	1	13	0	0	192	0	0	192	435
9:00 AM	0	0	0	0	0	0	0	0	32	0	0	32	0	0	0	0	0	0	0	0	41	0	0	41	73
9:15 AM	0	0	0	0	0	0	0	0	33	0	0	33	0	0	0	0	1	0	0	0	34	0	0	34	67
9:30 AM	0	0	0	0	0	0	0	0	24	0	0	24	0	0	0	0	0	0	0	0	39	0	0	39	63
9:45 AM	0	0	0	0	0	0	0	0	43	0	0	43	0	0	0	0	0	0	0	0	33	0	0	33	76
Hourly Total	0	0	0	0	0	0	0	0	132	0	0	132	0	0	0	0	1	0	0	0	147	0	0	147	279
10:00 AM	0	0	0	0	0	0	0	0	39	0	0	39	0	0	0	0	0	0	0	0	36	0	0	36	75
10:15 AM	0	0	0	0	0	0	0	0	47	0	2	47	0	0	0	1	4	1	0	0	40	0	0	40	88
10:30 AM	0	0	0	0	0	0	0	0	46	0	0	46	0	0	0	0	1	0	0	0	45	0	0	45	91
10:45 AM	0	0	0	0	0	0	0	0	44	0	0	44	0	0	0	0	1	0	0	0	41	0	0	41	85
Hourly Total	0	0	0	0	0	0	0	0	176	0	2	176	0	0	0	1	6	1	0	0	162	0	0	162	339
11:00 AM	0	0	0	0	0	0	0	0	39	0	0	39	0	0	0	0	1	0	0	0	44	0	0	44	83
11:15 AM	0	0	0	0	0	0	0	0	44	0	0	44	0	0	0	0	0	0	0	0	58	0	0	58	102
11:30 AM	0	0	0	0	0	0	0																		

Jefferson Parkway & Bunker Dr E (East Access), Northfield, MN
Tuesday, October 15, 2024

Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	
12:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
12:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
2:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
3:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
4:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:00 AM	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	0	0	13	0	0	13	
6:15 AM	0	0	0	0	0	0	0	0	16	0	0	16	0	0	0	0	0	0	0	0	14	0	0	14	
6:30 AM	0	1	0	0	0	1	0	0	19	0	0	19	0	2	0	2	0	4	0	1	16	0	0	17	
6:45 AM	0	0	0	0	0	0	0	0	28	0	0	28	0	3	0	4	0	7	0	0	19	0	0	19	
Hourly Total	0	1	0	0	0	1	0	0	71	0	0	71	0	5	0	6	0	11	0	1	62	0	0	63	
7:00 AM	0	0	0	0	1	0	0	0	33	0	0	33	0	8	0	14	0	22	0	0	41	0	0	41	
7:15 AM	0	0	0	0	0	0	0	0	87	1	0	88	0	12	0	11	0	23	0	0	46	0	0	46	
7:30 AM	0	0	0	0	0	0	0	0	124	0	0	124	0	5	0	2	2	7	0	2	85	0	0	87	
7:45 AM	0	0	0	1	0	1	0	0	89	0	0	89	0	14	0	12	2	26	0	1	87	0	0	88	
Hourly Total	0	0	0	1	1	1	0	0	333	1	0	334	0	39	0	39	4	78	0	3	259	0	0	262	
8:00 AM	0	1	0	0	1	1	0	0	50	1	0	51	0	12	0	35	0	47	0	2	69	0	0	71	
8:15 AM	0	2	0	0	1	2	0	0	64	1	0	65	0	15	0	53	1	68	0	4	60	0	0	64	
8:30 AM	0	0	0	0	0	0	0	0	39	1	0	40	0	1	0	3	0	4	0	1	31	0	0	32	
8:45 AM	0	0	0	0	2	0	0	0	46	0	0	46	0	2	0	2	1	4	0	0	29	0	0	29	
Hourly Total	0	3	0	0	4	3	0	0	199	3	0	202	0	30	0	93	2	123	0	7	189	0	0	196	
9:00 AM	0	0	0	0	0	0	0	0	32	0	0	32	0	0	0	1	0	1	0	0	41	0	0	41	
9:15 AM	0	0	0	0	0	0	0	0	32	0	0	32	0	0	0	1	1	2	0	1	33	0	0	34	
9:30 AM	0	2	0	0	0	2	0	0	24	0	0	24	0	1	0	0	0	1	0	1	39	0	0	40	
9:45 AM	0	0	0	0	2	0	0	0	42	0	0	42	0	1	0	1	1	2	0	0	33	0	0	33	
Hourly Total	0	2	0	0	2	2	0	0	130	0	0	130	0	3	0	3	2	6	0	2	146	0	0	148	
10:00 AM	0	0	0	0	1	0	0	0	38	0	0	38	0	1	0	3	1	4	0	0	37	0	0	37	
10:15 AM	0	0	0	0	0	0	0	0	47	0	0	47	0	1	0	2	4	3	0	0	41	0	2	41	
10:30 AM	0	1	0	0	0	1	0	0	44	0	0	44	0	1	0	2	1	3	0	1	44	0	0	45	
10:45 AM	0	0	0	0	0	0	0	0	39	0	0	39	0	6	0	0	1	6	0	0	41	0	0	41	
Hourly Total	0	1	0	0	1	1	0	0	168	0	0	168	0	9	0	7	7	16	0	1	163	0	2	164	
11:00 AM	0	0	0	0	0	0	0	0	36	0	0	36	0	2	0	3	1	5	0	0	42	0	0	42	
11:15 AM	0	0	0	0	2	0	0	0	41	0	1	41	0	3	0	2	1	5	0	2	56	0	0	58	
11:30 AM	0	0	0	0	1	0	0	0	36	0	0	36	0	2	0	2	0	4	0	0	66	0	0	66	
11:45 AM	0	0	0	0	0	0	0	0	50	0	0	50	0	5	0	1	2	6	0	0	56	0	1	56	
Hourly Total	0	0	0	0	3	0	0	0	163	0	1	163	0												

6:45 PM	0	0	0	0	0	0	0	0	0	48	0	1	48	0	23	0	13	2	36	0	0	41	0	0	41	125
Hourly Total	0	0	0	0	0	7	0	0	0	188	1	1	189	0	41	0	36	8	77	2	0	184	1	0	187	453
7:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DAILY TOTAL	0	16	0	4	30	20	0	0	2388	18	10	2406	0	268	1	339	74	608	3	29	2736	1	5	2769	5803	
Cars	0	13	0	4	21	17	0	0	2312	16	9	2328	0	267	1	338	45	606	3	25	2658	1	5	2687	5638	
Heavy Vehicles	0	3	0	0	9	3	0	0	76	2	1	78	0	1	0	1	29	2	0	4	78	0	0	82	165	
Heavy Vehicle %	0.00%	18.75%	0.00%	0.00%	30.00%	15.00%	0.00%	0.00%	3.18%	11.11%	10.00%	3.24%	0.00%	0.37%	0.00%	0.29%	39.19%	0.33%	0.00%	13.79%	2.85%	0.00%	0.00%	2.96%	2.84%	

Jefferson Parkway & Bunker Dr E (East Access), Northfield, MN
Tuesday, October 15, 2024

AM Peak Hour																											
Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL		
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total			
7:30 AM	0	0	0	0	0	0	0	0	124	0	0	124	0	5	0	2	2	7	0	2	85	0	0	87	218		
7:45 AM	0	0	0	1	0	1	0	0	89	0	0	89	0	14	0	12	2	26	0	1	87	0	0	88	204		
8:00 AM	0	1	0	0	1	1	0	0	50	1	0	51	0	12	0	35	0	47	0	2	69	0	0	71	170		
8:15 AM	0	2	0	0	1	2	0	0	64	1	0	65	0	15	0	53	1	68	0	4	60	0	0	64	199		
Peak Hour Total	0	3	0	1	2	4	0	0	327	2	0	329	0	46	0	102	5	148	0	9	301	0	0	310	791		
PHF	0.000	0.375	0.000	0.250	0.500	0.500	0.000	0.000	0.659	0.500	0.000	0.663	0.000	0.767	0.000	0.481	0.625	0.544	0.000	0.563	0.865	0.000	0.000	0.881	0.907		

PM Peak Hour																											
Time	Southbound						Westbound						Northbound						Eastbound						VEHICLE TOTAL		
	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total	U Turns	Left Turns	Straight Through	Right Turns	Crosswalk Crossings	Vehicle Approach Total			
2:45 PM	0	0	0	2	1	2	0	0	88	3	4	91	0	0	0	2	6	2	0	2	123	0	0	125	220		
3:00 PM	0	0	0	0	0	0	0	0	58	1	1	59	0	3	0	6	2	9	0	1	87	0	0	88	156		
3:15 PM	0	1	0	0	0	1	0	0	67	1	2	68	0	26	0	46	0	72	0	0	60	0	0	60	201		
3:30 PM	0	2	0	0	0	2	0	0	47	1	0	48	0	21	0	18	3	39	0	0	61	0	0	61	150		
Peak Hour Total	0	3	0	2	1	5	0	0	260	6	7	266	0	50	0	72	11	122	0	3	331	0	0	334	727		
PHF	0.000	0.375	0.000	0.250	0.250	0.625	0.000	0.000	0.739	0.500	0.438	0.731	0.000	0.481	0.000	0.391	0.458	0.424	0.000	0.375	0.673	0.000	0.000	0.668	0.826		

Total Vehicles On Leg			68		
Vehicles Entering Intersection		20	Vehicles Exiting Intersection		48
Southbound					
Cars	4	0	13	0	21
Heavy	0	0	3	0	9
Total	4	0	16	0	30



Total Vehicles on Leg 5432	Vehicles Entering Intersection 2769	Eastbound	Cars	Heavy	Total
	Vehicles Exiting Intersection 2663		5	0	5
			3	0	3
			25	4	29
			2658	78	2736
			1	0	1



Daily Volumes



Cars	Heavy	Total	Westbound	Vehicles Entering Intersection 2406	Total Vehicles on Leg 5497
16	2	18			
2312	76	2388			
0	0	0		Vehicles Exiting Intersection 3091	
0	0	0			
9	1	10			

Cars	45	0	267	1	338
Heavy	29	0	1	0	1
Total	74	0	268	1	339
Northbound					
Vehicles Entering Intersection			Vehicles Exiting Intersection		
608			1		
Total Vehicles On Leg			609		

Appendix B: Speed Data

For Project:	NorthFieldA								
Project Notes:									
Location/Name:	Incoming								
Report Generated:	10/17/2024	4:59:46 PM							
Speed Intervals	1 MPH								
Time Intervals	Instant								
Traffic Report From	10/14/2024	5:00:00 PM	through	10/16/2024	3:59:59 PM				
85th Percentile Speed	34 MPH								
85th Percentile Vehicles	5011								
Max Speed	66 MPH	on	10/15/2024	10:20:43 PM					
Total Vehicles	5895								
AADT:	3010								

Volumes - weekly counts

Time	5 Day	7 Day
Average Daily	1965	1965
AM Peak	8:00 AM 266	266
PM Peak	4:00 PM 350	350

Speed

Speed Limit:	35			
85th Percentile Speed:	34			
50th Percentile Speed:	30			
10 MPH Pace Interval:	25.0 MPH	to		35.0 MPH
Average Speed:	30.06			

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Count over limit	41	181	130	N/A	N/A	N/A	N/A
% over limit	6.0	5.6	6.6	N/A	N/A	N/A	N/A
Avg Speeder	37.2	37.8	37.6	N/A	N/A	N/A	N/A
Avg Speed	30.7	30.0	30.0	N/A	N/A	N/A	N/A

Class Counts

	Number	%
VEH_SM	96	1.6
VEH_MED	5484	93
VEH_LG	315	5.3
[VEH_SM=motorcycle,	VEH_MED = sedan,	VEH_LG = truck]

For Project:	NorthFieldB									
Project Notes:										
Location/Name:	Incoming									
Report Generated:	10/17/2024	4:53:59 PM								
Speed Intervals	1 MPH									
Time Intervals	Instant									
Traffic Report From	10/14/2024	5:00:00 PM	through	10/16/2024	3:59:59 PM					
85th Percentile Speed	34 MPH									
85th Percentile Vehicles	4306									
Max Speed	49 MPH	on	10/15/2024	3:17:24 PM						
Total Vehicles	5066									
AADT:	2586									

Volumes - weekly counts

Time	5 Day	7 Day
Average Daily	1688	1688
AM Peak	8:00 AM 250	250
PM Peak	2:00 PM 226	226

Speed

Speed Limit:	35	
85th Percentile Speed:	34	
50th Percentile Speed:	31	
10 MPH Pace Interval:	26.0 MPH	to 36.0 MPH
Average Speed:	30.85	

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Count over limit	26	164	152	N/A	N/A	N/A	N/A
% over limit	5.4	6.1	8.1	N/A	N/A	N/A	N/A
Avg Speeder	37.1	37.4	37.5	N/A	N/A	N/A	N/A
Avg Speed	30.5	30.8	31.0	N/A	N/A	N/A	N/A

Class Counts

Number	%
VEH_SM	43
VEH_MED	4870
VEH_LG	153
[VEH_SM=motorcycle,	VEH_MED = sedan,
	VEH_LG = truck]

Appendix C: Crash Analysis Worksheets

Intersection Safety Screening

Intersection: Jefferson Parkway and Roosevelt Dr

Statewide Averages based on 2018-2022 crashes

Crashes by Crash Severity	
Fatal (K)	0
Serious Injury (A)	0
Minor Injury (B)	1
Possible Injury (C)	1
Property Damage (PDO)	2
Total Crashes	4

Intersection Characteristics	
Entering Volume	6,675
Environment	Urban
Lighting	Lit
Traffic Control	Thru-Stop

Annual crash cost = \$82,000

Statewide comparison = Urban, Thru/STOP

Total Crash Rate	
Observed	0.328
Statewide Average	0.138
Critical Rate	0.450
Critical Index	0.73

Fatal & Serious Injury Crash Rate	
Observed	0.000
Statewide Average	0.350
Critical Rate	6.620
Critical Index	0.00

The observed crash rate is the number of crashes per million entering vehicles (MEV). The critical rate is a statistical comparison based on similar intersections statewide. An observed crash rate greater than the critical rate indicates that the intersection operates outside the expected, normal range. The critical index reports the magnitude of this difference (i.e. observed crash rate ÷ critical crash rate).

The observed total crash rate for this period is 0.33 per MEV; this is 27% below the critical rate. Based on similar statewide intersections, an additional 2 crashes over the five years would indicate this intersection operates outside the normal range.

The observed fatal and serious injury crash rate for this period is 0.00 per 100 MEV; this is 100% below the critical rate. The intersection operates within the normal range.

Intersection Safety Screening

Intersection: Jefferson Parkway and Raider Dr

Statewide Averages based on 2018-2022 crashes

Crashes by Crash Severity	
Fatal (K)	0
Serious Injury (A)	0
Minor Injury (B)	0
Possible Injury (C)	0
Property Damage (PDO)	3
Total Crashes	3

Intersection Characteristics	
Entering Volume	6,495
Environment	Urban
Lighting	Lit
Traffic Control	Thru-Stop

Annual crash cost = \$9,000

Statewide comparison = Urban, Thru/STOP

Total Crash Rate	
Observed	0.253
Statewide Average	0.138
Critical Rate	0.460
Critical Index	0.55

Fatal & Serious Injury Crash Rate	
Observed	0.000
Statewide Average	0.350
Critical Rate	6.770
Critical Index	0.00

The observed crash rate is the number of crashes per million entering vehicles (MEV). The critical rate is a statistical comparison based on similar intersections statewide. An observed crash rate greater than the critical rate indicates that the intersection operates outside the expected, normal range. The critical index reports the magnitude of this difference (i.e. observed crash rate ÷ critical crash rate).

The observed total crash rate for this period is 0.25 per MEV; this is 45% below the critical rate. Based on similar statewide intersections, an additional 3 crashes over the five years would indicate this intersection operates outside the normal range.

The observed fatal and serious injury crash rate for this period is 0.00 per 100 MEV; this is 100% below the critical rate. The intersection operates within the normal range.

Intersection Safety Screening

Intersection: Jefferson Parkway and Bunker Dr East Bus Access

Statewide Averages based on 2018-2022 crashes

Crashes by Crash Severity		Intersection Characteristics	
Fatal (K)	0	Entering Volume	5,448
Serious Injury (A)	0	Environment	Urban
Minor Injury (B)	0	Lighting	Lit
Possible Injury (C)	0	Traffic Control	Thru-Stop
Property Damage (PDO)	0		
Total Crashes	0		

Annual crash cost = \$0

Statewide comparison = Urban, Thru/STOP

Total Crash Rate		Fatal & Serious Injury Crash Rate	
Observed	0.000	Observed	0.000
Statewide Average	0.138	Statewide Average	0.350
Critical Rate	0.490	Critical Rate	7.780
Critical Index	0.00	Critical Index	0.00

The observed crash rate is the number of crashes per million entering vehicles (MEV). The critical rate is a statistical comparison based on similar intersections statewide. An observed crash rate greater than the critical rate indicates that the intersection operates outside the expected, normal range. The critical index reports the magnitude of this difference (i.e. observed crash rate ÷ critical crash rate).

The observed total crash rate for this period is 0.00 per MEV; this is 100% below the critical rate. Based on similar statewide intersections, an additional 5 crashes over the five years would indicate this intersection operates outside the normal range.

The observed fatal and serious injury crash rate for this period is 0.00 per 100 MEV; this is 100% below the critical rate. The intersection operates within the normal range.

Intersection Safety Screening

Intersection: Jefferson Parkway and Bunker Dr East Access

Statewide Averages based on 2018-2022 crashes

Crashes by Crash Severity	
Fatal (K)	0
Serious Injury (A)	0
Minor Injury (B)	0
Possible Injury (C)	0
Property Damage (PDO)	1
Total Crashes	1

Intersection Characteristics	
Entering Volume	5,803
Environment	Urban
Lighting	Lit
Traffic Control	Thru-Stop

Annual crash cost = \$3,000

Statewide comparison = Urban, Thru/STOP

Total Crash Rate	
Observed	0.094
Statewide Average	0.138
Critical Rate	0.480
Critical Index	0.20

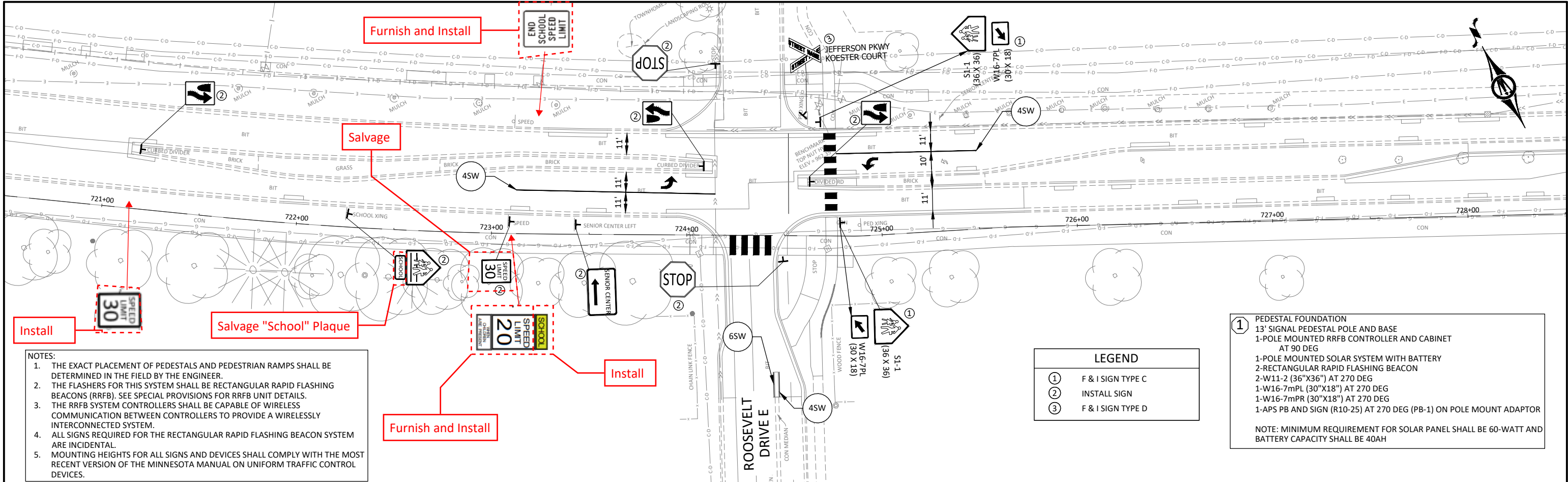
Fatal & Serious Injury Crash Rate	
Observed	0.000
Statewide Average	0.350
Critical Rate	7.400
Critical Index	0.00

The observed crash rate is the number of crashes per million entering vehicles (MEV). The critical rate is a statistical comparison based on similar intersections statewide. An observed crash rate greater than the critical rate indicates that the intersection operates outside the expected, normal range. The critical index reports the magnitude of this difference (i.e. observed crash rate ÷ critical crash rate).

The observed total crash rate for this period is 0.09 per MEV; this is 80% below the critical rate. Based on similar statewide intersections, an additional 5 crashes over the five years would indicate this intersection operates outside the normal range.

The observed fatal and serious injury crash rate for this period is 0.00 per 100 MEV; this is 100% below the critical rate. The intersection operates within the normal range.

Appendix D: Speed Zone Signing Recommendation



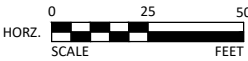
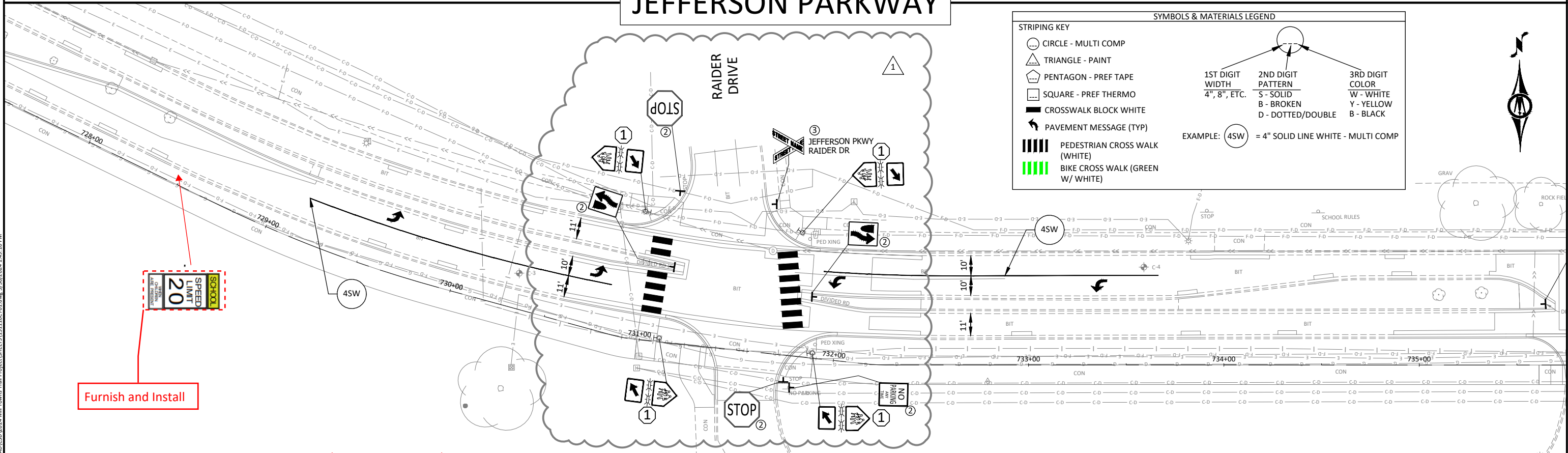
NOTES:

1. THE EXACT PLACEMENT OF PEDESTALS AND PEDESTRIAN RAMPS SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.
2. THE FLASHERS FOR THIS SYSTEM SHALL BE RECTANGULAR RAPID FLASHING BEACONS (RRFB). SEE SPECIAL PROVISIONS FOR RRFB UNIT DETAILS.
3. THE RRFB SYSTEM CONTROLLERS SHALL BE CAPABLE OF WIRELESS COMMUNICATION BETWEEN CONTROLLERS TO PROVIDE A WIRELESSLY INTERCONNECTED SYSTEM.
4. ALL SIGNS REQUIRED FOR THE RECTANGULAR RAPID FLASHING BEACON SYSTEM ARE INCIDENTAL.
5. MOUNTING HEIGHTS FOR ALL SIGNS AND DEVICES SHALL COMPLY WITH THE MOST RECENT VERSION OF THE MINNESOTA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

LEGEND	
①	F & I SIGN TYPE C
②	INSTALL SIGN
③	F & I SIGN TYPE D

① PEDESTAL FOUNDATION
13' SIGNAL PEDESTAL POLE AND BASE
1-POLE MOUNTED RRFB CONTROLLER AND CABINET AT 90 DEG
1-POLE MOUNTED SOLAR SYSTEM WITH BATTERY
2-RECTANGULAR RAPID FLASHING BEACON
2-W11-2 (36"x36") AT 270 DEG
1-W16-7mPL (30"x18") AT 270 DEG
1-W16-7mPR (30"x18") AT 270 DEG
1-APS PB AND SIGN (R10-25) AT 270 DEG (PB-1) ON POLE MOUNT ADAPTOR

NOTE: MINIMUM REQUIREMENT FOR SOLAR PANEL SHALL BE 60-WATT AND BATTERY CAPACITY SHALL BE 40AH



I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, AND REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THE STATE OF MINNESOTA.

Jason Malecki
JASON MALECKI
LIC. NO. 57151 DATE 02/09/2024



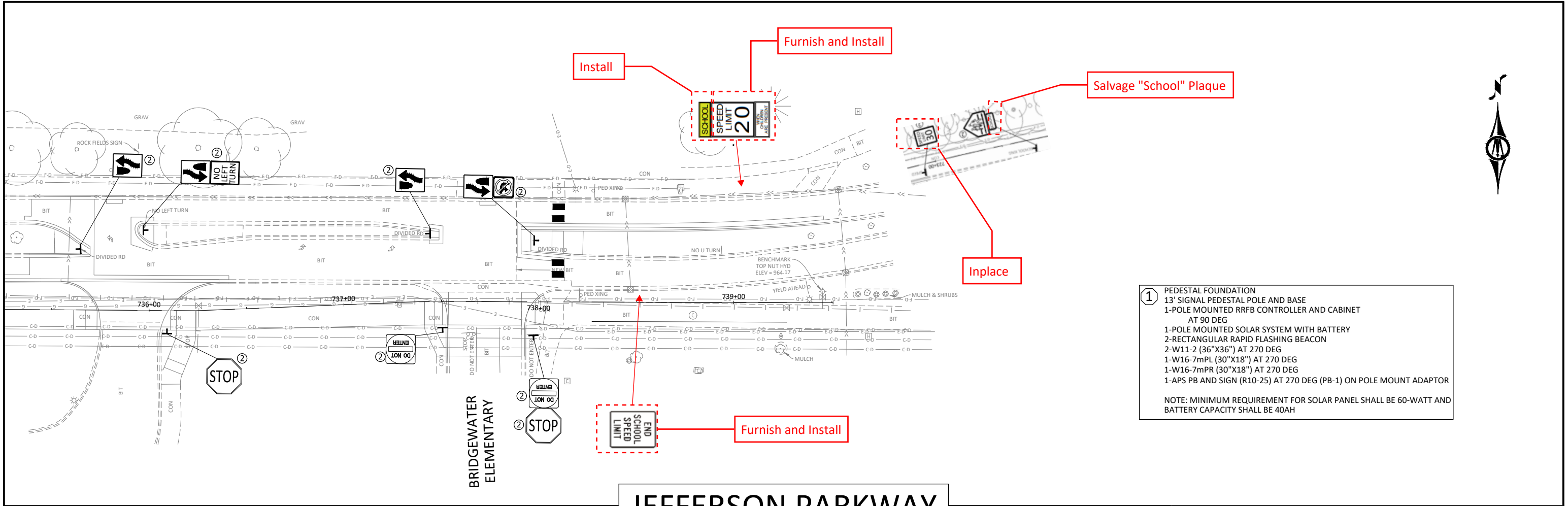
12224 NICOLLET AVENUE
BURNSVILLE, MINNESOTA 55337
Phone: (952) 890-0509
Email: Burnsville@bolton-menk.com
www.bolton-menk.com



DESIGNED	NO.	ISSUED FOR	DATE
DB / EH	0	BID	02/09/24
DB / EH / ZK	1	CON	03/12/24
CHECKED		CO 1	05/30/24
BF / JM			
CLIENT PROJ. NO.			
071.131110			

NORTHFIELD, MINNESOTA
JEFFERSON PKWY MILL & OVERLAY & MILL TOWNS TRAIL IMPROVEMENTS
SIGNAGE & STRIPING PLAN
JEFFERSON PARKWAY

SHEET
C7.03



- ① PEDESTAL FOUNDATION
13' SIGNAL PEDESTAL POLE AND BASE
1-POLE MOUNTED RRFB CONTROLLER AND CABINET
AT 90 DEG
1-POLE MOUNTED SOLAR SYSTEM WITH BATTERY
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- NOTE: MINIMUM REQUIREMENT FOR SOLAR PANEL SHALL BE 60-WATT AND BATTERY CAPACITY SHALL BE 40AH

LEGEND	
①	F & I SIGN TYPE C
②	INSTALL SIGN
③	F & I SIGN TYPE D

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JEFFERSON PARKWAY

SYMBOLS & MATERIALS LEGEND			
STRIPING KEY			
	CIRCLE - MULTI COMP	<div>1ST DIGIT WIDTH 4", 8", ETC.</div> <div>2ND DIGIT PATTERN S - SOLID B - BROKEN D - DOTTED/DOUBLE</div> <div>3RD DIGIT COLOR W - WHITE Y - YELLOW B - BLACK</div> <div>EXAMPLE: (4SW) = 4" SOLID LINE WHITE - MULTI COMP</div>	
	TRIANGLE - PAINT		
	PENTAGON - PREF TAPE		
	SQUARE - PREF THERMO		
	CROSSWALK BLOCK WHITE	<div>PEDESTRIAN CROSS WALK (WHITE)</div> <div>BIKE CROSS WALK (GREEN W/ WHITE)</div>	
	PAVEMENT MESSAGE (TYP)		
	PEDESTRIAN CROSS WALK (WHITE)		



I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, AND REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

Jason Malecki
JASON MALECKI
LIC. NO. 57151 DATE 02/09/2024



12224 NICOLLET AVENUE
BURNSVILLE, MINNESOTA 55337
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