

# Speed Limit Evaluation – City of Richfield

April 2024

## Executive Summary

In 2019, Minnesota Statute 169.14, Subdivision 5h was enacted, giving cities within the state the ability to set speed limits on locally controlled roadways based on the results of an engineering, traffic, and safety analysis. In 2021, the Richfield City Council directed staff to explore a speed limit reduction in the city.

Most roads have a default speed limit of 30 mph per state statute 169.14, Subd. 1. Lyndale Avenue has a speed limit of 30 mph, set by Resolution No. 11750. 76<sup>th</sup> and 77<sup>th</sup> Street have speed limits which range from 30 to 40 mph based on the results of a speed investigation conducted by MnDOT in the early 2000s.

Staff reviewed national guidance, existing traffic patterns in the city, and historical crash data to develop procedures to set speed limits in accordance with the state statute. Staff provided Council updates and received feedback on these processes over the course of three work sessions in October 2022, May 2023, and October 2023.

The final staff recommendation is to set the speed limit for most city streets to 25 mph, with West 76<sup>th</sup> Street signed at 30 mph west of Penn Avenue and 35 mph from Penn Avenue to 77<sup>th</sup> Street, and 77<sup>th</sup> Street signed at 35 mph from east of 76<sup>th</sup> Street to MN Highway 77. The speed limit in alleys would remain 10 mph per state statute, and the speed limits on MnDOT and County highways are not controlled by the city.

Implementation of proposed speed limit changes is expected to be finalized by City Council action in December 2023, with a public education campaign and sign replacement to be conducted in Spring 2024, with an anticipated changeover date in Summer 2024.

## Background

Staff were directed by City Council in 2021 to explore lowering residential speed limits, in response to legislative changes which empowered cities to set their own non-statutory speed limits without requesting that MnDOT conduct a traffic investigation.

### State Statutes

Speed limits in Minnesota are set to default values by state statutes. These default values are contained in Section 169.14. Subdivision 1 includes statutory speed limit values, including speed limits of 30 miles per hour in an urban district, 10 miles per hour in alleys, and 25 miles per hour in residential roadways (if adopted and signed by the governing road authority). Subdivision 5 outlines the process by which a municipality may request a non-statutory speed limit upon the completion of an investigation by the State Commissioner of Transportation. Subdivision 5b provides a method for municipalities to override a speed set above 30 miles per hour in an urban district by the Commissioner via a resolution declaring an urban district. Subdivision 5h allows municipalities to set their own speed limits based on a safety, engineering, and traffic analysis that considers national urban speed limit guidance and studies, local traffic crashes, and methods to effectively communicate the change to the public. Changes to speed

limits made under Subdivision 5h do not require a Commissioner’s investigation required by Subdivision 5.

Additionally, Minnesota Statute 160.263, Subdivision 4, defines a process for cities to set a “safe speed” for their roadways which contain bicycle lanes. This can be done without conducting a Commissioner’s investigation, provided that the speed is at least 25 miles per hour.

### **Existing Conditions**

The City of Richfield contains roadways under the jurisdiction of the City, Hennepin County, MnDOT, and the Metropolitan Airports Commission. MnDOT Trunk Highways are set at either 55 or 60 miles per hour through Richfield. Hennepin County roads are set at 35 miles per hour, with short stretches signed at 30 miles per hour on CSAH 32 (Penn Ave) (north of 67<sup>th</sup> Street) and CSAH 31 (Xerxes Ave) north of CSAH 53 (66<sup>th</sup> St). Metropolitan Airport Commission Roads are signed at 40 miles per hour. Alleys are unsigned at a 10 mile per hour limit. City of Richfield roads are 30 miles per hour by default, with most unsigned. The following exceptions exist:

- 25 MPH
  - Richfield Parkway between 68<sup>th</sup> Street and 62<sup>nd</sup> Street
  - 75<sup>th</sup> Street between Queen Ave and Humboldt Ave
- 30 MPH
  - Lyndale Ave from 77<sup>th</sup> Street to Highway 62
    - Was previously posted as 35 MPH based on Commissioner’s investigation.
    - Corridor was set to 30 mph via resolution No. 11750 invoking MN Statutes 169.14 Subd. 5b to designate the corridor an urban district.
- 35 MPH
  - 76<sup>th</sup> Street between Penn Ave (CSAH 32) and 77<sup>th</sup> Street
  - 77<sup>th</sup> Street between 76<sup>th</sup> Street and Lyndale Ave
  - Lyndale Ave from I-494 to 77<sup>th</sup> Street
- 40 MPH
  - 77<sup>th</sup> Street from Lyndale Ave to Cedar Ave

There are a wide range of existing roadway widths and characteristics in Richfield. Residential roadways range from 18-36 feet wide with a 28-36 foot width being the most typical. Collector roadways range from 36-48 feet wide, and typically include on street, painted bicycle lanes. Arterial roadways have either a two-lane, divided section (Lyndale Ave), a three-lane section with a center left turn lane (Lyndale Ave), a four-lane, divided section (76<sup>th</sup> Street, and 77<sup>th</sup> Street), or a four-lane undivided section (Lyndale Ave, 76<sup>th</sup> Street, and 77<sup>th</sup> Street).

### **Local Design Guidance**

Transportation policy decisions in the City of Richfield are informed by a series of planning documents which have been adopted by the City Council. Together these documents direct staff to design infrastructure that is pedestrian and bicycle friendly and support the lowering of vehicular speeds on Richfield’s roads. These documents include: [Transportation Commission Guiding Principles \(2013\)](#), [Complete Streets Policy \(2012\)](#), [Pedestrian Master Plan \(2018\)](#), [Bicycle Master Plan \(2012\)](#), [Safe Routes to School Comprehensive Plan \(2014\)](#), and the [Richfield 2040 Comprehensive Plan \(2018\)](#).

Additionally, the City has undertaken a public engagement effort to develop an Active Transportation Action Plan during 2023, which also supports the need for lowering vehicle speeds on Richfield roads, especially in residential areas.

### **Local Examples**

Several of Richfield's neighboring cities have implemented non-statutory speed limits using the provisions in 169.14, Subdivision 5h, since its enactment.

Edina implemented a citywide 25 mile per hour speed limit (with select streets at 30 mph) via ordinance in 2021. The uniform approach was implemented to maintain a simple system for residents and visitors to follow, partially due to a road system that does not clearly differentiate between major and minor streets.

St. Louis Park implemented a tiered speed limit system in 2021, with speed limits ranging from a default of 20 mph on residential streets to 30 mph on select major streets. This approach was selected due to clear differentiation between street types, low existing median speeds on residential roads, and to best reflect the character of different areas of the city.

Minneapolis implemented a tiered speed limit system in tandem with St. Paul in 2020, with a default of 20 mph on residential streets, 25 mph on arterial streets, and higher speeds where contextually appropriate (e.g. Olson Memorial Highway, 23<sup>rd</sup> Ave SE). This approach was selected due to clear differentiation between street types, low existing median speeds on residential roads, and to best reflect the character of different areas of the city.

St. Paul implemented a tiered speed limit system in tandem with Minneapolis in 2020, with a default of 20 mph on residential streets, 25 mph on arterial and collector streets, and higher speeds where contextually appropriate (e.g. Ayd Mill Road). This approach was selected due to clear differentiation between street types, low existing median speeds on residential roads, and to best reflect the character of different areas of the city.

Bloomington voted in September 2023 to enact a speed limit of 25 miles per hour on all residential streets. As of November 2023, a study of collector and arterial streets was still ongoing, and will be completed prior to implementation of the 25 mph residential speed limit.

### **Methods of Setting Speed Limits**

Speed Limits in the United States are traditionally set via the processes laid out in the Manual of Uniform Traffic Control Devices (MUTCD). This manual is developed by the Federal Highway Administration (FHWA) to create a consistent experience for motorists no matter where they are in the United States. Minnesota has adopted a modified version of the MUTCD as the statewide manual for the placement of traffic control devices. MUTCD section 2B.13 defines the standard that *"Speed zones (other than statutory speed limits) shall only be established on the basis of an engineering study that has been performed in accordance with traffic engineering practices. The engineering study shall include an analysis of the current speed distribution of free-flowing vehicles."* This section also contains guidance that *"When a speed limit within a speed zone is posted, it should be within 5 mph of the 85th-percentile speed of free-flowing traffic."* Finally, this section provides the option for engineers to consider *"Road characteristics, shoulder condition, grade, alignment, and sight distance; The pace; Roadside*

*development and environment; Parking practices and pedestrian activity; and Reported crash experience for at least a 12-month period” when setting speed limits.*

An updated MUTCD was released in December 2023, with a 2-year period for states to achieve substantial conformance with the updates. This update changes the wording of the standard to require that the engineering study “*consider the roadway context*”. The new text also specifies that roadway environment, functional classification, transit usage, parking, pedestrian facilities/activity, and bicycle activity be considered along with roadway characteristics, geographic context, crash experience, speed distribution, and trends in operating speed. The new language also specifies that an urban or suburban roadway should not use the 85<sup>th</sup> percentile speed to set the speed limit without consideration of all of these factors.

In 2003, the FHWA released their first version of USLIMITS, an “expert system” algorithm which was intended to mimic the decision-making process of professional engineers using processes developed by the National Cooperative Highway Research Program (NCHRP) in Project 3-67. This system was revised and re-released in 2012 as USLIMITS2. This expert system considers the roadway type, 50<sup>th</sup> and 85<sup>th</sup> percentile operating speeds, length of segment, average daily traffic, number of lanes, area type, numbers of driverways and traffic signals, on-street parking presence and usage, pedestrian/bicycle activity, and crash statistics to determine whether to use the nearest 85<sup>th</sup> percentile, a rounded-down 85<sup>th</sup> percentile, the 50<sup>th</sup> percentile, or the current statutory speed limit for a segment of roadway. This system considers the 50<sup>th</sup> percentile to be an acceptable speed limit in areas with high pedestrian/bicycle activity, high parking activity, signal spacing less than ¼ mile, or more than 60 driveways per mile.

In 2017, the National Transportation Safety Board (NTSB) released a study on “Reducing Speeding-Related Crashes Involving Passenger Vehicles” (NTSB/SS-17/01). Among their recommendations to the FHWA were to remove the 85<sup>th</sup> Percentile requirement from the MUTCD, require that all factors listed as optional for an engineering study be required, require that an expert system such as USLIMITS2 be used to validate speed limit decisions, and to incorporate a safe system approach for urban roadways.

In 2020, the National Association of City Transportation Officials (NACTO) published their “City Limits: Setting Safe Speed Limits on Urban Streets” guidance in response to the NTSB study. Since higher speeds result in longer reaction distances, longer braking distances, narrower fields of vision, and a higher likelihood of fatal crashes, this NACTO guide uses the safe systems approach to make recommendations. NACTO’s guidance specifically argues against the use of percentile-based speed limit methods due to their reliance on existing driver behavior and the possibility that the 85<sup>th</sup> percentile can increase over time with the posted speed limit. This results in a recommendation to set most urban speed limits to either 20 or 25 miles per hour, with a maximum of 35 mph in limited, specific cases.

In 2023, the Minnesota Local Road Research Board released Technical Report 2023RIC07, “Guidelines for Determining Speed Limits on Municipal Roadways”. The analysis performed for this study found that pedestrian and bicycle crashes had a nine times higher density on Municipal State Aid streets than they did on other local streets. This report claims that “*there is no evidence to suggest lowering speed limit will result in lower travel speeds. Reducing speed will require changes to the roadway environment and/or increased enforcement. However, speeds on local roads in some communities are already lower than statutory limits lending credibility to a reduction in speed limits.*” The report recommends implementing proven alternative strategies and modifying the roadway, and reducing speed limits when documented speeds are below the current statutory speed limit. It also recommends that “*Prior to*

*implementing a citywide reduction in speed limits, public outreach and a robust public involvement campaign should be implemented. This step is crucial to separate fact from perception and determine if residents and elected officials understand the likelihood of achieving a reduction in travel speeds.”* The report recommends speed limits of 25 mph for local residential streets, 30 mph for urban collectors, 35 mph for urban minor arterials, and 40 mph for multi-lane suburban minor arterials.

Also in 2023, the University of Minnesota Center for Transportation Studies released “Impact of Speed Limit Changes on Urban Streets”: an LRRB-partnered study on the speed limit reduction that had been implemented in St. Louis Park, MN in 2021. Researchers found slight decreases in average speeds at their study sites that were consistent with the pattern expected *“if some, but not all, drivers were making at least limited efforts to comply with the new limits.”* The speed reductions were lower in magnitude than the changes in the speed limit, and occurred at both the treatment and comparison sites. The ultimate conclusion was that changes in driver behavior take significant time.

## **Traffic Analysis**

### **Speed**

From 2010-2022, the city of Richfield took speed data at 167 locations within the city. 16 of these counts were on facilities owned and operated by Hennepin County. Over the 151 locations and 128,548 vehicles that were recorded on city-owned streets, the average speed was 27.03 mph.

The most recent large portion of data was recorded during the city’s mandated MSA traffic counting during 2022. This consisted of 41 speed collections on streets that are required to be designed to State Aid standards. The average speed of vehicles in Richfield over these counts was 27.78 mph. Of the 41 locations recorded, 73.2% had a median speed less than 30 mph.

From data collected between 2010-2022, the weighted average median speed on streets varied with average daily traffic. On streets with an ADT value less than 1000 vehicles per day (a “quiet” residential street), the median speed was 25.3 mph. For streets between 1000-2000 vehicles per day, the average median speed was 28.4 mph. For streets with more than 2000 vehicles per day, the average median speed was 28.3. This distribution indicates that 25 mph would be a reasonable speed limit for a default speed limit on residential streets.

Additional data was taken along 76<sup>th</sup> and 77<sup>th</sup> Streets during the summer of 2023. The current roadway has three speed zones: 30 mph posted from Xerxes Ave to Penn Ave, 35 mph posted from Penn Ave to Lyndale Ave, and 40 mph posted east of Lyndale Ave. Despite the differences in posted speed limit, driver behavior was consistent across all 3 speed zones, with 50<sup>th</sup> percentile speeds ranging from 35-37 mph, and 85<sup>th</sup> percentile speeds ranging from 41-43 mph. This distribution indicates that a speed limit of 35 mph would be reasonable for the entire corridor, using the 50<sup>th</sup> percentile approach.

### **Crashes**

*Notes: All data in this section is from MnDOT’s MnCMAT2 crash database. While this is the best data available to engineering professionals in Minnesota, this data is reliant entirely on a standardized crash report created by a law enforcement agent who responds to a crash, and is likely an undercount of crashes due several potential factors. This data does not include crash incidents that occur but no involved parties or witnesses contact law enforcement or where law enforcement responds but no crash report is filed at the discretion of either the responding officer or those involved in the crash.*

*Crashes analyzed in this section occurred on either County State Aid Highways, Municipal State Aid Streets, Municipal Streets, or Alleyways in the cities referenced. Crashes that occurred on State Highways, Interstates, and ramps have been removed to isolate the freeway system from the analysis.*

Over the five-year period from 2018-2022, the City of Richfield averaged 220.4 reported vehicle crashes, including 30.8 “possible injury” crashes, 16.8 “minor injury” crashes, 2.6 “serious injury” crashes, and 0.4 fatal crashes per year on the local road system (Municipal State Aid Streets and Municipal Streets). On the County State Aid Highway system, there was an average of 141.4 crashes per year. This included 25.6 “possible injury” crashes, 14.0 “minor injury” crashes, 2.6 “serious injury” crashes, and 0.2 fatal crashes per year. Likely due largely to changes in driving patterns and reporting patterns caused by the COVID-19 pandemic, total reported crashes declined by 28% year over year from 2019 to 2020 (362 in 2019, 262 in 2020).

Approximately 42% of crashes over that five-year period occurred on a County State Aid Highway (CSAH), with 31% occurring on Municipal State Aid Streets (MSAS), 26% occurring on other local roads, and less than 1% occurring in alleyways or on airport roads. This roughly correlates with the vehicle miles (VMT) traveled by system, with around 43% of non-freeway VMT occurring on a CSAH, 31% of VMT occurring on a MSAS, and 26% of VMT occurring on other local roads.

Minnesota’s Strategic Highway Safety Plan sets statewide goals for serious injury and fatal crashes based on the five-year average of those types of crashes. The Metropolitan Council Transportation Improvement Program (TIP) similarly sets goals for region-wide serious injury and fatal crash occurrences. Richfield’s local roads had a normalized crash rate of 306 crashes per 100 million VMT during this period. The normalized rate of serious injury crashes in Richfield was 4.18 per 100 million VMT, which is significantly higher than both the MnDOT 5-year average rate of 2.47 per 100 million VMT and the Met Council’s TIP goal rate of 2.24 per 100 million VMT. The normalized rate of fatal accidents in Richfield was 0.64 per 100 million VMT. This was above the MnDOT 5-year average rate of 0.58 per 100 million VMT and nearly double the Met Council’s TIP goal rate of 0.33 per 100 million VMT.

Richfield’s County roads had a normalized crash rate of 319 crashes per 100 million VMT during this period. The normalized rate of serious injury crashes was 6.19 per 100 million VMT, which is more than double both the MnDOT 5-year average rate of 2.47 per 100 million VMT and the Met Council’s Transportation Improvement Program (TIP) goal rate of 2.24 per 100 million VMT. The normalized rate of fatal accidents was 0.44 per 100 million VMT. This was below the MnDOT 5-year average rate of 0.58 per 100 million VMT but above the Met Council’s TIP goal rate of 0.33 per 100 million VMT.

Of the 1654 total crashes during this period, 72.6% occurred at an intersection, including 37.5% at a four-way intersection and 10.6% at roundabouts. 52 crashes were reported as speed related—including 3 serious injury crashes, although it is likely that without complicating factors (such as weather), a driver traveling at or below the speed limit would not be reported as a “speed-related” crash.

The five years analyzed included 35 pedestrian crashes and 30 bicycle crashes, or a combined average of 13 pedestrian or bicycle crashes per year. Of these, 1 crash was fatal, and 7 crashes resulted in serious injury (12.3% of total). Only 7 of these crashes did not occur at an intersection or a driveway, including the fatal accident.

Overall, Richfield has a higher crash rate than adjacent communities, and more frequent and more severe crashes occur on the County system than the local system. Currently, crashes most frequently

occur at intersections and involve vehicles that were presumed to be traveling at or below the speed limit.

## Findings

Minnesota Statute 169.06, Subd. 3 requires local authorities to follow the state manual and specifications when erecting traffic control devices on their roadways. The adopted state manual in Minnesota is the Minnesota Manual of Uniform Traffic Control Devices (MUTCD). The MUTCD requires practitioners to use a speed distribution to determine speed limits, but does not specify that the speed limit be set based on the 85<sup>th</sup> percentile. Recent discussion, such as the NTSB report referenced previously, has indicated that the median speed results in a more appropriate speed limit for urban streets. Staff agree that the median speed is a more appropriate metric for setting speed limits. As noted earlier, the MUTCD does provide practitioners the option to consider “*Road characteristics, shoulder condition, grade, alignment, and sight distance; The pace; Roadside development and environment; Parking practices and pedestrian activity; and Reported crash experience for at least a 12-month period*” when setting speed limits.

The initial recommendation presented by staff at a joint City Council-Transportation Commission work session in October 2022 was to set a default speed limit of 25 mph for all roads in the city, increasing to 30 mph for segments of road that were ½ mile or longer with an average daily traffic (ADT) greater than 1000 vehicles per day, and a median speed greater than 30 mph. If a road met all of these criteria and was considered an arterial roadway by the Metropolitan Council, it was proposed at 35 mph.

Based on feedback received from Councilmembers and Transportation Commissioners, staff proposed revised procedures at a City Council work session in May 2023. This included considering lane configuration in the criteria required to post a speed of greater than 25 mph, requiring the roadway to be an arterial route with more than one through lane in each direction to be posted higher than 25 mph.

The final staff procedure for setting a speed limit was presented at a third City Council work session in October 2023.

Procedures for setting speed limits:

- Speed limits shall be set within 5 mph of the median speed of the roadway.
- If the road has one of the following characteristics, the maximum speed limit shall be 25 mph
  - Two vehicle thru lanes (divided or undivided)
  - No sidewalks
  - Marked and designated on-street bicycle lanes
    - Streets with marked and designated on-street bicycle lanes cannot be set with a speed limit lower than 25 mph per Minnesota Statute 160.263, Subd. 4.
- For all other roads that do not have any of the preceding characteristics:
  - Speed limits may exceed 25 mph for a minimum of ½ mile zone.
- In all cases:
  - Evaluate for consistency with land use, adjacent street speed limits, and remainder of corridor speed limits
  - Requests to change a speed limit shall be reviewed by the Traffic Control Committee, who shall recommend any changes to the City Engineer.
    - Speed studies to change shall be conducted for an entire residential neighborhood, arterial corridor, or collector corridor for consistency

- Requests shall require a petition of 5% of the residents of the residential neighborhood, arterial corridor, or collector corridor.
- Residential neighborhoods shall be defined as those shown in Figure 3

This procedure results in a 25 mph speed limit for every roadway in the city with the exception of 76<sup>th</sup> Street and 77<sup>th</sup> Street. Following these procedures also results in a speed limit of 35 mph for the entire length of the corridor from Xerxes Ave to Highway 77. The direction which staff received from the City Council was to explore **reductions** to the speed limits in the city, so staff are not proposing an increase to the 30 mph zone that exists west of Penn Ave. The City Council exercised their ability under Minnesota Statute 169.14, Subd. 5b to declare 76<sup>th</sup> and 77<sup>th</sup> Street to be an urban district, however implementation of the urban district speed limit on this corridor is delayed as of the writing of this document.

### **Recommendations**

Existing speed limits in Richfield are shown in Figure 1. The proposed speed limits based on the engineering, traffic, and safety analysis are shown in Figure 2.

### **Implementation**

Implementation for the speed limit change will require approximately 50 new sign panels, 30 existing sign removals, and 25 new sign assemblies. Production of signage is expected to be completed through the winter of 2023-24, with installation of the signs to be completed in spring 2024. Sign locations are shown in Figure 4.

Implementation timing will be coordinated with the Public Safety department to coordinate enforcement efforts. Signing will have to be installed in stages due to staff availability, so communication with the public will be important to limit confusion about the speed limits. Staff are not recommending any additional enforcement as part of this change, but are recommending that Public Safety be utilized as part of the public engagement campaign to help educate the public on the new speed limits.

In an effort to educate the public about the changes, Richfield will be launching a “Richfield Drives 25” campaign. Promotional materials will be distributed at city facilities, along with an informational website to provide more information to residents about the reasons behind the policy change.

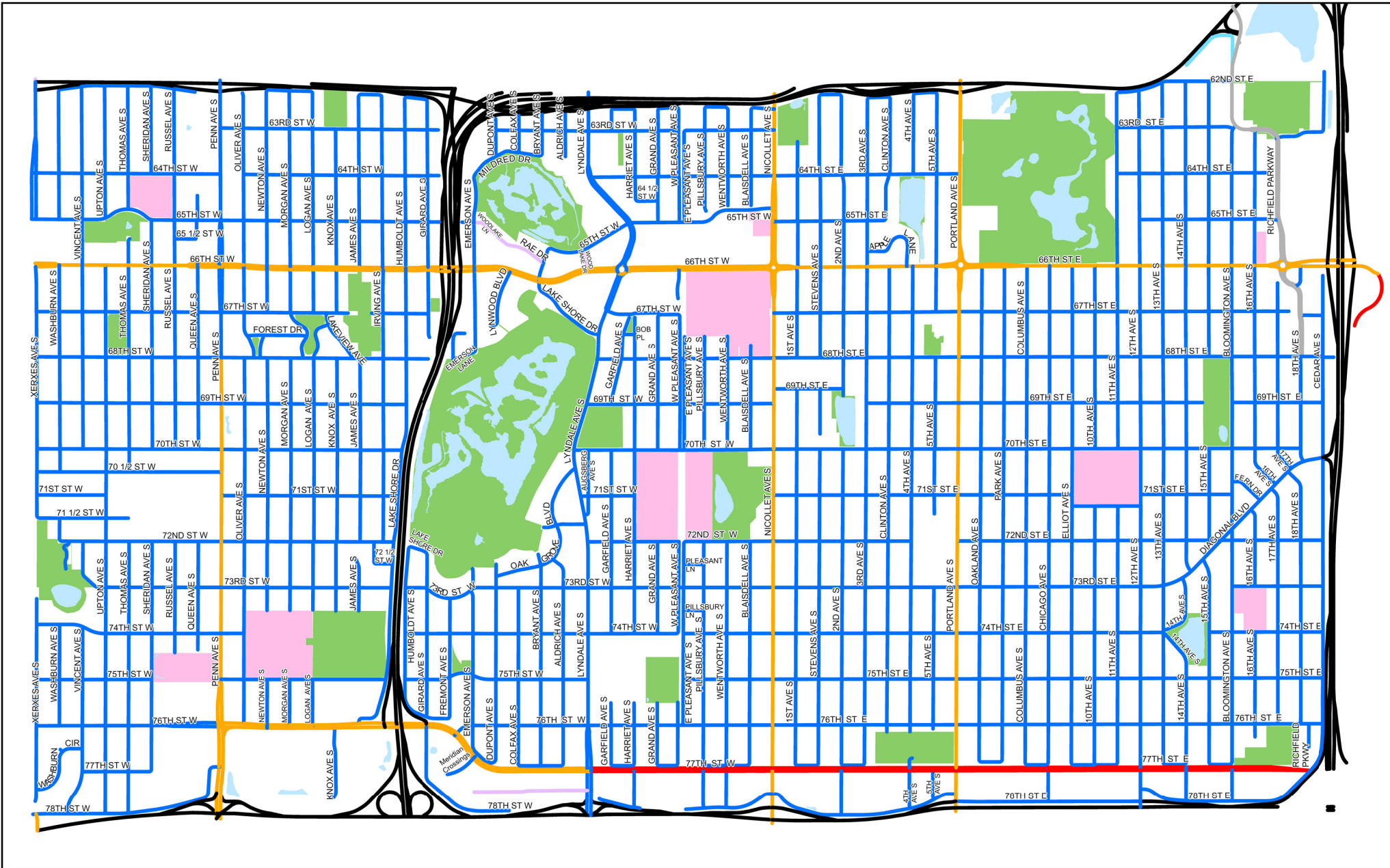
### **Conclusions and Key Findings:**

- The City of Richfield is working to improve safety and comfort for all users of the city’s roadways by reducing speeds on local roadways. These goals are outlined in the various planning documents referenced in this report.
- The vast majority of streets in Richfield are residential, and a city-wide default speed limit is the approach best suited to provide consistency across all residential areas of the city.
- The proposed speed limits for the vast majority of streets in Richfield are 25 mph.
- The proposed speed limit for 77<sup>th</sup> Street east of Lyndale is 35 mph, with the rest of the 76<sup>th</sup> and 77<sup>th</sup> Street corridor proposed to remain unchanged.
- Changes to the city’s speed limits are a single aspect of a multi-faceted approach to create safer streets, which will necessarily include physical infrastructure changes to support the lower speed limits.
- A public education campaign will be employed to educate the public about the new speed limits



- Production and installation of new speed limit signage is expected to take 4-6 months, with final implementation completed in summer of 2024.
- Evaluation is key to determining the success of this program. Staff will analyze crash data and speed data in the two full years following implementation (2025 and 2026) and report results to the City Council in 2027.

# Figure 1 - Existing Speed Limits



- Private Road
- 20 MPH (Minneapolis)
- 25 MPH
- 30 MPH
- 35 MPH
- 40 MPH
- State Road
- Lakes
- Parks
- Schools

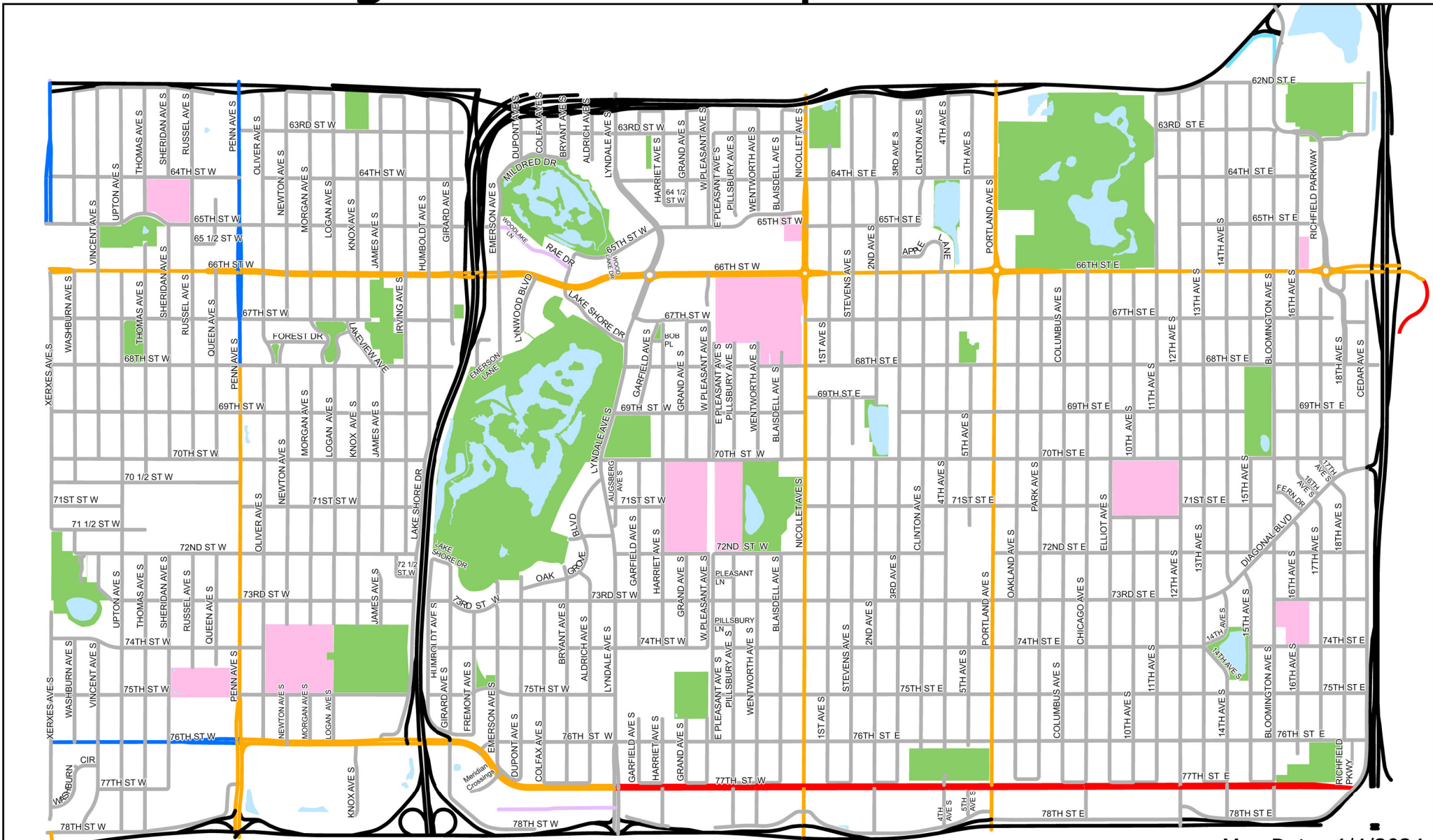


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Note: Richfield does not control speed limits on Hennepin County Roads (66th Street, Portland Ave, Nicollet Ave, Penn Ave, Xerxes/York Ave)

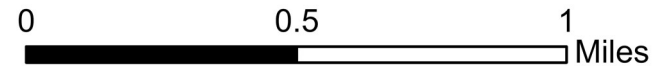


# Figure 2 - New Speed Limits



Map Date: 4/4/2024

- Private Road
- 20 MPH (Minneapolis)
- 25 MPH
- 30 MPH
- 35 MPH
- 40 MPH
- State Highway
- Lakes
- Parks
- Schools

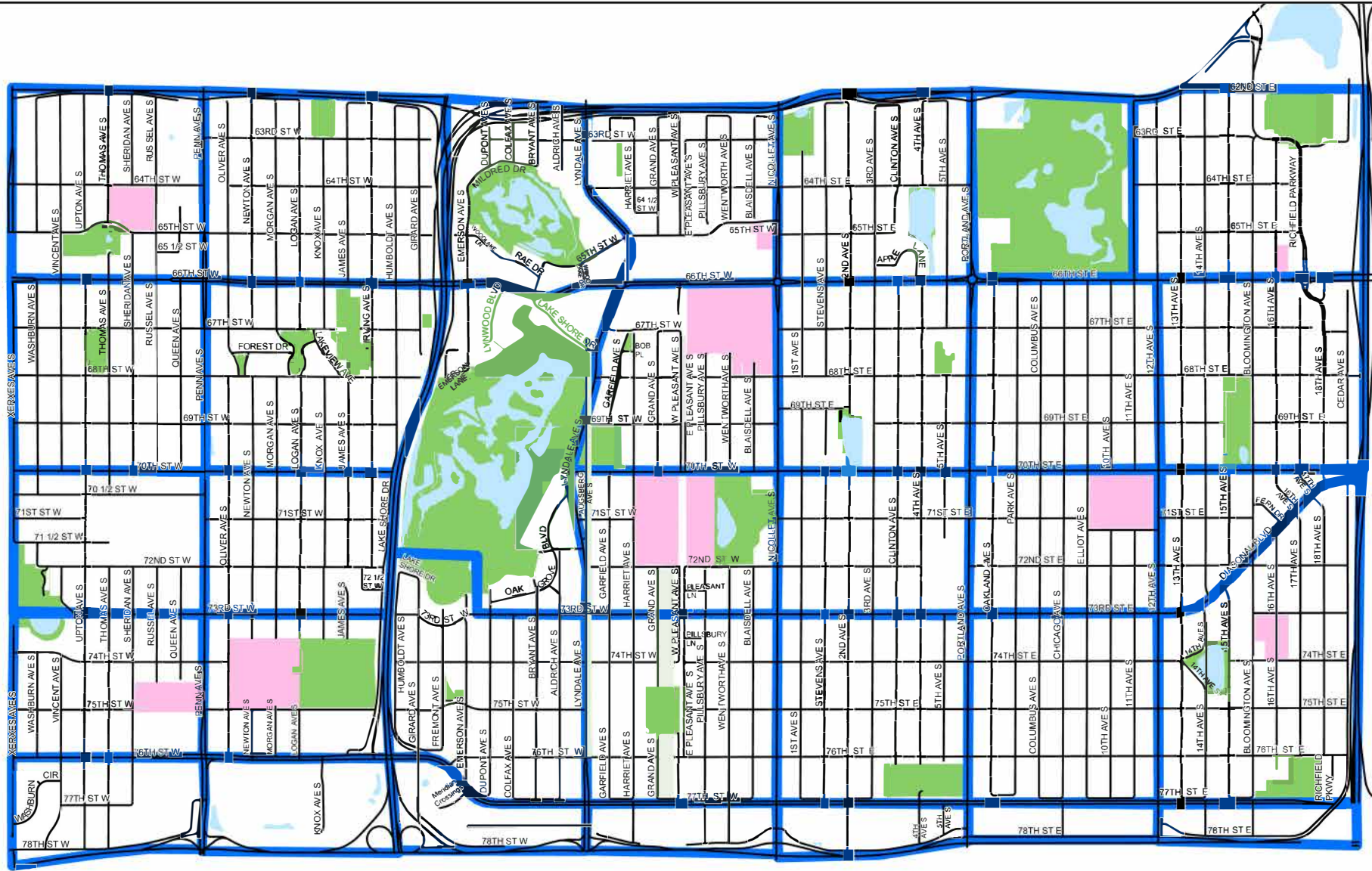


Note: Richfield does not control speed limits on Hennepin County Roads (66th Street, Portland Ave, Nicollet Ave, Penn Ave, Xerxes/York Ave)





# Figure 3 - Richfield Neighborhood Map For Speed Limit Requests



- Neighborhood Boundaries
- Parks
- Lakes
- Schools

