Agenda
Minnetonka City Council
Study Session
Monday, Nov. 7, 2022
6:30 p.m.
Minnehaha Room

1.	Call to Order	6:30 p.m.
2.	Introductions/Roll Call	6:30-6:35 p.m.
3.	Sustainability commission young adult interviews	6:35-7:15 p.m.
4.	Speed limit law changes	7:15-8:00 p.m.
		Break
5.	Communications and marketing presentation	8:10-8:55 p.m.
6.	Nov. 21 Study Session – topics and date	8:55-9:05 p.m.
7.	Adjournment	9:05 p.m.

The purpose of a study session is to allow the city council to discuss matters informally and in greater detail than permitted at formal council meetings. While all meetings of the council are open to the public, study session discussions are generally limited to the council, staff and consultants.

Study Session Agenda Item 3
Meeting of Nov. 7, 2022

Title:	Sustainability commission young adult interviews
Report From:	Sarissa Falk, Executive Assistant
Submitted through:	Mike Funk, City Manager Moranda Dammann, Assistant City Manager
Action Requested:	Interview applicants for the sustainability commission young adult position.

Summary Statement

The Minnetonka City Council will interview selected applicants for the sustainability commission, which have one immediate vacancy for the young adult position.

Strategic Profile Relatability

☐Financial Strength & Operational Excellence
☐Sustainability & Natural Resources
☐Infrastructure & Asset Management
☐Safe & Healthy Community
☐ Livable & Well-Planned Development
☒ Community Inclusiveness
☐ N/A

Background

Applications for the sustainability commission were accepted from August until the end of October. The applications were reviewed by the sustainability commission staff liaison, and will be kept on file for the rest of the year and considered in the event a mid-year vacancy occurs.

In total, two applications were received. Both applicants were invited to be interviewed.

First Name	Last Name	Ward
*Rekiyat	Agboola	2
*Molly	Birr	3

* = confirmed interview attendance

Interviews

To accommodate schedules, one candidate will be interviewed virtually. The other candidate will be interviewed either in person or virtually, depending on their availability. Interviews will be limited to a maximum of fifteen minutes. Each applicant will be asked to give a brief (about two or three minutes) presentation on their background. The applicant will then be asked to respond

to questions from the council. The applicants may also ask the council questions they may have at the end of the interview.

Thirty minutes has been dedicated to this group of applicants:

- Rekiyat Agboola – 6:35-6:50 p.m.
- Molly Birr – 6:50-7:05 p.m.

Next Steps

Following the meeting, individual councilmembers will provide rankings of candidates to staff, with aggregate results to Mayor Wiersum. At the Nov. 28 regular council meeting, the mayor will recommend the appointment for the consideration of the city council.

Study Session Agenda Item 4
Meeting of Nov. 7, 2022

Title: Review speed limit law changes

Report From: Phil Olson, P.E., City Engineer
Scott Boerboom, Police Chief

Submitted through: Mike Funk, City Manager
Will Manchester, P.E., Public Works Director

Action Requested: Discussion and direct staff

Summary Statement

On Oct. 19, 2020, council reviewed the updated speed limit law that allows cities to change speed limits on local (non-county or state) roads. At that meeting, council directed staff to continue to monitor how other cities were addressing these law changes and to delay any citywide considerations until additional guidance from a statewide technical advisory committee, reviewing the law changes, was completed. At this time, a final draft report is available from the technical advisory committee. The report provides Minnesota cities with guidance and recommendations as it relates to speed limits on local roadways. Based on the report findings along with expectations of enforcement necessary to decrease actual driver speeds, staff suggests no change to speed limits at this time. However, staff does recommend to continue responding to complaints utilizing a variety of strategies, including education, enforcement and engineering.

Strategic Profile Relatability

☐Financial Strength & Operational Excellence
☐Sustainability & Natural Resources
☐Infrastructure & Asset Management
☒Safe & Healthy Community
☐ Livable & Well-Planned Development
☐ Community Inclusiveness
☐ N/A

Statement: Establishment and enforcement of appropriate speed limits helps maintain a safe transportation system for all roadway users, including pedestrians and bicyclists.

Financial Consideration

Is there a financial consideration? ☒No ☐Yes

Financing sources: ☐Budgeted ☐Budget Modification ☐New Revenue
Source

☐Use of Reserves ☐Other

Statement: If new speed limits were proposed on local roads, communications and yard signage would be needed at an estimated cost of $25,000 and new roadway signage would be needed at an estimated cost of $50,000. These costs are currently unfunded.

Background

On Aug. 1, 2019, updates to the state speed limit laws adopted by the legislature went into effect, which provided cities more authority to set speed limits on roadways that are within their jurisdictions. In response to state speed limit law changes, staff has worked diligently to gather large amounts of data, working with neighboring city cohorts for guidance and understanding of the law changes, and reviewing and discussing internally across departments to understand the effects if Minnetonka were to choose to consider speed limit changes based on the new laws. The goal of these efforts is to encourage a safer roadway network while balancing enforcement.

Cities across the state have been working to determine if the flexibility allowed by the law change should be considered in their communities. To date, only a select number of cities in Minnesota have implemented speed limit changes under the new laws including Minneapolis, St. Paul, St. Louis Park, and Edina.

Speed Limits and Law Changes

The state law change in 2019 provided cities more authority to set speed limits and specifically, the speed limit laws were revised primarily in two ways:

1) MN Statue, Section 169.011, Subd. 64.

   Defines a residential roadway as a city street or town road that is either (1) less than one-half mile in total length, or (2) in an area zoned exclusively for housing that is not a collector or arterial street.

2) Minnesota Statute, Section 169.14, Subd. 5h. Speed limits on city streets.

   A city may establish speed limits for city streets under the city's jurisdiction other than the limits provided in subdivision 2 without conducting an engineering and traffic investigation. This subdivision does not apply to town roads, county highways, or trunk highways in the city. A city that establishes speed limits pursuant to this section must implement speed limit changes in a consistent and understandable manner. The city must erect appropriate signs to display the speed limit. A city that uses the authority under this subdivision must develop procedures to set speed limits based on the city's safety, engineering, and traffic analysis. At a minimum, the safety, engineering, and traffic analysis must consider national urban speed limit guidance and studies, local traffic crashes, and methods to effectively communicate the change to the public.

Prior to 2019, speed limits on local roads in Minnesota have been regulated by statutory speed limits set by the Minnesota State Legislature. These laws required the speed limit on local city roadways to be 30 mph. In the instance where a city considered deviating from this speed limit on a specific roadway, the city was required to petition the state of Minnesota and request a MnDOT engineering and traffic study.

The MnDOT studies used driver speeds traveled within the 85th percentile of free-flowing vehicle speeds with adjustments for traffic and roadway characteristics under normal driving conditions

to establish speed limits. The process of using the 85th percentile is widely accepted as an engineering practice for establishing a safe speed limit based on the operating speed of a road. Based on the MnDOT study, a new speed limit would be established after approval by the MnDOT commissioner.

Speed limit revisions in Minnesota have been debated many times over the years. MnDOT task forces have reviewed the topic of lowering the 30 mph speed limit in 1993-1994 and again in 2007-2008. During the 2007-2008 review, the task force determined that the 30 mph speed limit should remain, but acknowledged that several members supported a speed limit change to 25 mph at that time or in the future.

Background of Roadway Network

Minnetonka was settled in a unique way that is different than the grid street layout of cities such as Minneapolis, St. Paul and St. Louis Park, to name a few. In many cases, the city was developed around wetlands and rolling terrain, with a majority of local roadways being narrow and winding and with many neighborhoods having multiple cul-de-sacs. Minnetonka also has a defined network of larger city and county roads that connect neighborhoods to the highway system.

The city uses a functional classification system to define the function of a road and its hierarchy related to other roads in the roadway network as outlined in the city's transportation plan section of the comprehensive plan. In general, collector roads connect neighborhoods to commercial areas and provide a link between local streets and the highway system. Local roads provide access for properties and can be thought of as a typical neighborhood street.

The city manages three functional classifications of roadways: major collector, minor collector, and local roads. MnDOT and Hennepin County manage arterial roads, such as I-494 and Minnetonka Boulevard. A roadway map is attached showing the classification of the roadways managed by the city.

The following defines the types of roadway classifications:

- Local Road – Provides access to properties and neighborhoods (Ex: Westmark Drive)
- Minor Collector Road – Distributes traffic from neighborhoods and commercial areas (Ex: Clearwater Drive)
- Major Collector Road – Similar to a minor collector road but with increased mobility (Ex: Williston Road)
- A-Minor Arterial – Connects communities and highways (Ex: Minnetonka Boulevard)
- Principal Arterial – Highway system designed for high-speed mobility (Ex: I-494)

Road classification is important to understanding speed limits since the roadways are designed and constructed differently, leading to natural differences in vehicle speeds.

The majority of local and collector roadways within Minnetonka have a speed limit of 30 mph. However, the city does have roadways that vary from this speed limit and a majority of these limits were established by MnDOT in the 1950s and 1960s at the request of the city.

Also, several roadways are posted with speed limit signage that is less than 30 mph, but speed limits were never formally established with MnDOT, which means the limits are not enforceable. This was done by a city engineer many years ago as a method to calm traffic, which would not have been allowable in prior years. Many neighborhoods are aware that these speed limits are not enforceable, but have requested that the city not remove the signs.

A map of the current official speed limits on city roads is attached.

Preliminary Speed Data Results

Since 2015, speed data has been collected at 165 locations throughout Minnetonka. The attached map shows the location of the speed data and the year the data was collected.

The table below shows the average speed and 85th percentile speed for local and collector roads.

Roadway Type	Typical Speed Limit	Average Speed	85th percentile speed
Local roads	**30**	**17.7**	**25.1**
Collector roads	**30+**	**29.3**	**36.3**

Summary of Data:

- Average vehicle speed is slower than the speed limit on most local roads.
- Average vehicle speed is similar to the speed limit on collector roads.
- The speed limit on local roads could be considered to be lowered more in-line with the 85th percentile. This change would encourage slower speeds on local streets, however would potentially impact enforcement on some roadways.
- The speed limit on collector roads is in-line with the average speeds.

Traffic Calming

The city regularly receives resident concerns about vehicles driving too fast on both local and collector roads. Staff typically responds by gathering speed data to evaluate the conditions and many times, the actual speeds collected in the data do not reflect the expectations of residents.

Although it is often requested that the city post a lower speed limit to help reduce vehicle speeding, doing this without understanding the vehicle speed data can lead to a larger gap between the fastest and slowest cars on the road. This difference in speed can contribute to an increase in crashes and reduction in safety.

Traffic calming is used industry wide by professional engineers as the solution to help naturally reduce speeding on a specific roadway. These strategic changes help to naturally reduce vehicle speeds and improve safety. Minnetonka has successfully implemented several types of traffic calming measures and will continue to add these on a case-by-case evaluation in coordination with roadway projects.

Examples of traffic calming measures include the following:

- Reducing lane widths
- Reducing roadway widths
- Roundabouts
- Enhanced pedestrian crossings with islands/curb extensions
- Speed feedback/message boards
- Enforcement

Enforcement

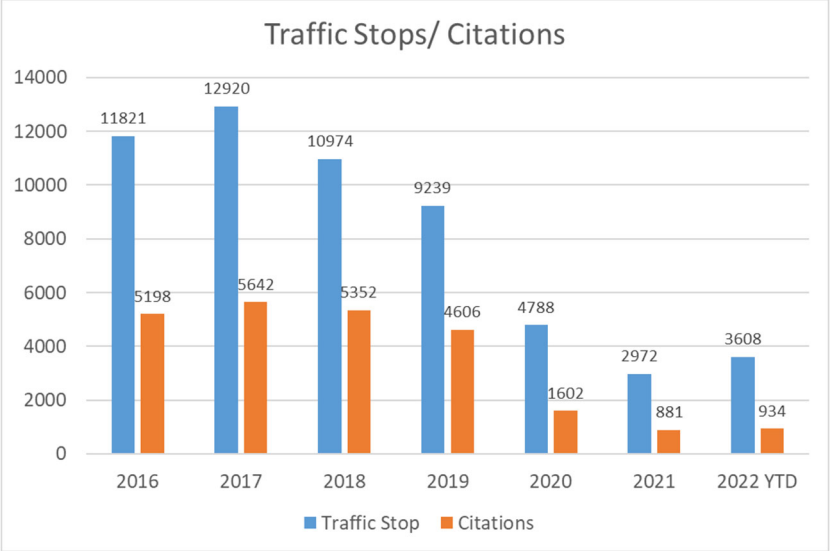
Each year, a question is asked on the community survey about what is the greatest public safety concern. Consistently, the response has been related to traffic and most often it's speeding. In 2000, two officers were hired and a dedicated traffic unit was created to help address these traffic concerns. A third officer was added in 2008 and then in 2017 this officer was reassigned to a newly created community engagement officer position.

While the two traffic officers' primary responsibility is related to traffic, all patrol officers are expected to focus on traffic concerns when not fulfilling other responsibilities, such as responding to calls for service. The traffic unit's focus is traffic safety and they utilize strategies centered on education, enforcement and engineering. They work closely with other city departments when addressing problem areas.

Between Jan. 1, 2020 and Oct. 31, 2022, the police department received 616 traffic related complaints, the majority of which are related to speed. Some complaints are handled once, requiring no further action, and others require ongoing attention and may involve other departments, such as engineering or public works. The traffic unit is also responsible for managing the Toward Zero Death (TZD) grant and conducting child car seat inspections for residents. The TZD grant is a federal program which provides funding for enforcement activities around driving while intoxicated, speed and distracted driving. The police department has received this annual grant for over twenty years. The grant is in partnership with the Maple Grove and Plymouth police departments.

In addition to responding to calls for service in the community, patrol officers conduct traffic enforcement when not handling other calls. Over the past five years, there has been a decline in the number of traffic stops conducted by patrol officers. This is primarily due to an increased call load which reduces the officers' time available to conduct traffic education and enforcement. Other factors include staffing issues and the challenges communities are facing as they struggle to find a balance between community expectations and enforcement.

Speeding is the most common traffic safety complaint and staff utilizes speed data to determine if additional resources should be deployed. Unfortunately, extra patrols are short term and temporarily reduce speeding. In addition to extra patrols, police utilize dynamic speed signs and speed trailers that indicate actual traveling speed in problem areas. These tools are also temporary and become less effective when they remain in an area too long.



Staff reviewed crash data between 2015 and 2022. Crashes with no injuries or minor damage typically results in the drivers exchanging insurance information and no further data is collected. This is more common on local roads due to slower speeds at impact. Crashes with injuries or significant damage require a state accident report and these reports capture more data, including what contributed to the crash. In a review of collector roads, staff identified 14 crashes related to speed out of 479 total crashes during this seven year period. Of these 14 crashes, two reported injuries.

Officers have discretion on when to issue a citation or warning. Time of day, weather, traffic conditions and problem areas are examples of considerations an officer will use in determining a course of action. Other considerations could be a driver's previous record or the seriousness of the violation.

Traffic citation fines vary depending on type, such as moving versus non-moving and severity. For example, a speeding citation of less than 10 mph over the posted speed limit is $118, up to $278 for 26-30 mph over the posted speed limit. The most common citation is issued to those traveling 11–19 mph over the posted limit and the fine is between $128 and $138. Of these fine amounts, there is a base fine, surcharge and library fee. In Hennepin County, allocation of base fine is 80% to city of offense and 20% to state. The surcharge and library fee is allocated to the state and county. These formulas are established in state statute.

Offense	Base Fine	Surcharge	Library Fee	Total
1-10 mph over	$40	$75	$3	$118
11-14 mph over	$50	$75	$3	$128
15-19 mph over	$60	$75	$3	$138

2022 State Payables List

On many streets in the city, a lower speed limit will likely increase complaints with a community expectation that police will respond to these complaints and hold drivers accountable. This is important as we discuss reducing speed limits throughout the city as it will more than likely result in greater contact between police and those traveling in our community.

Technical Advisory Committee on Speed Limits

A technical advisory committee was organized through MnDOT's Office of Research and Innovation which funds research of interest to local (city and county) engineers through the Minnesota Local Road Research Board (LLRB) subcommittee, the Research and Implementation Committee (RIC), to review the speed limit law changes and provide recommendations for implementation statewide. Will Manchester, Director of Public Works, is the chair of the RIC and was appointed the technical liaison for this group.

The technical advisory committee has just finalized a report with recommendations on how cities best respond to the speed limit law changes, including safety and impacts to traffic and enforcement.

The report provides an overview of the law changes and technical data based on the effectiveness of previously implemented speed limit changes. The report also summarizes the options cities have when evaluating speed limits and provides recommendations for developing and implementing changes, if beneficial from a safety standpoint.

One noteworthy item from the report states that evaluation of the 85th percentile speed is the best way to approximate vehicle speeds and that there is no evidence to suggest lowering speed limits will result in lower travel speeds by vehicles. The report also states that the actual way to reduce vehicle speeds requires a change to the roadway environment or increased enforcement.

Recommendations for cities to consider include:

- Reduce speed limits when travel speeds are less than the statutory limit.
- Implement alternative strategies and modify the roadway environment to help reduce travel speeds.
- Provide public outreach and a robust public involvement campaign. Determine if most residents and elected officials support a change, or is there only a vocal minority.
- Law enforcement is essential, while often challenging and unpopular. A true reduction in speeds without modifications to the roadway environment will require increased enforcement.
- If a speed change is desired, install regulatory signs instead of gateway signing alone. Regulatory signs should be installed whenever speed zones change and at community boundaries.

The system-based speed limits include two classifications:

- Local Residential Streets
- Urban Collectors

The technical advisory taskforce report on Municipal Speed Limits is attached.

Consideration of Changes in Speed Limits

Based on the Municipal Speed Limits report, Minnetonka could consider a reduction in speed limits for local roads; however, based on speed limit data collected throughout the city, this

change would likely not impact actual vehicle speeds traveled with a new posted speed limit. It would also likely cause an increase in enforcement expectations and concerns on some roadways.

If council wishes to pursue this option, speed limit changes should be consistent for roadways with similar roadway classifications. These roadways have similar characteristics and therefore, vehicle speeds are often similar. As discussed previously, the city's roads can be combined into two primary classifications - local roads and collector roads.

Based on collected speed data, a speed limit change to 25 mph on local roads appears reasonable and reflects the average operating speeds on local roads. Speed limits that are currently less than 25 mph and established by a MnDOT speed study could remain in place since they are currently signed appropriately.

A change in speed limit is expected to create an increase in the need for enforcement due to resident expectations of this change and slightly higher speeds on some local roads. For example, Lake Street Extension, east of Williston Road, is an example of an area where additional enforcement would be expected. Speed data gathered near the intersection of Lake Street Extension and Woodhill Road from this last summer showed the 85th percentile speed at 30 mph. Other areas of concern include, but are not limited to, Sparrow Road, Linner Road and Stone Road.

The one exception to establishment by classification is the Opus area, which includes several local roadways. Speed limits in this entire area were previously set at 30 mph by a MnDOT speed study and given that the roadway network is an interconnected, one-way system, it is recommended that a 30 mph speed limit be maintained in this area.

For collector roads, the average speed on collector roads is generally already over 30 mph and the 85th percentile is over 35 mph for most roadways, it is reasonable that speed limits on collector roads be maintained at 30 mph or as determined by previous MnDOT speed studies. These roads carry higher volumes of traffic and were constructed to support higher speeds than local residential roads, such as cul-de-sacs as an example.

A map of proposed speed limits is attached.

Only a few cities in Minnesota have reduced speed limits using a similar category approach which included technical analysis. Minneapolis, St. Paul, and St. Louis Park have implemented a 20 mph speed limit on minor residential roads, a 25 mph speed limit on larger roadways, and a 30 mph speed limit for a few major roads. These speed limits appear reasonable for these communities given their urban nature and the grid layout of their network; however, staff does not feel the speed limits proposed in these communities are appropriate for Minnetonka given the layout of our roadway network. Edina established a citywide speed of 25 mph for most roads, with some exceptions.

Council Direction to Staff/Next Steps

Council should consider the benefits and challenges of a citywide speed limit change on local roads and direct staff to proceed with one of the following options.

- Staff Recommendation: No change to speed limits at this time. However, staff does recommend to continue to monitor speed limits through education, enforcement and

engineering, and continue to make physical changes to roadways that encourage traffic calming as infrastructure projects are completed.

OR

- Proceed with implementing a speed limit of 25 mph on local roadways as discussed, direct staff to provide additional enforcement necessary to provide citywide reduction in speed. This option does not reduce speeds on urban collector roads which would remain at 30 mph.

If council directs staff to proceed with implementing a new speed limit, steps are needed before a new speed limit can be established. Below are the main tasks the city would need to complete as recommended in the Municipal Speed Limit report.

Finalize Technical Analysis and Implementation Plan

A final technical analysis document will be needed to justify any proposed speed limit changes.

Resident Feedback

Council would also want to consider how to engage the public prior to moving forward with speed limit changes. One option is to receive resident feedback on a council directed plan through Minnetonka Matters. This feedback would be gathered and presented to council during their consideration of the ordinance update required to enact any speed limit change.

Policy Update

The city would need to update the city code through an ordinance update to ensure the city can enforce the new speed limit.

Communications

A strong communication plan would be needed to properly inform the public prior to implementation of any new speed limit changes considered. It is anticipated that the city would utilize the Minnetonka Memo, text/email blasts, billboards, and the city website to inform the public of any changes.

To help communicate the speed limit changes in Minneapolis and St. Paul, the cities have implemented a campaign of “20 IS PLENTY”. Yard signage with this slogan was handed out to community members to help spread the message. Minnetonka would also look to develop a similar campaign with a slogan, such as “Drive 25”.

Prior to any implementation, education cards with information about the new speed limit changes would be provided to police officers for use during traffic stops. An initial trial period could also be considered by officers to educate speeders instead of ticketing.

Costs for communications and yard signage could be around $25,000 and is currently unfunded; however, staff could utilize street improvement funds as part of a CIP amendment to fund this effort. Current fund balances would support this amendment.

Signage

Appropriate signage is required to notify the traveling public of speed limits and a signage plan would need to be created. Historically, the city has chosen to limit the amount of signage in neighborhoods to preserve the city's natural features. As a method to maintain this same goal and consistent with other cities that have implemented lower speed limits, under the new law, staff suggest that gateway signage be incorporated into the plan. This type of signage would be placed on larger collector and arterial roadways to notify drivers of a citywide speed limit of 25 mph unless otherwise posted. Costs for gateway signage and additional signage on collector roads is estimated to be around $50,000 and is currently unfunded, but again, could be considered for a CIP amendment to fund this effort.

Although gateway signage reduces the number of new signs needed, there is concern that gateway signage will be insufficient in the view of the court as these signs are limited in their placement and do not provide adequate notice to the traveling public. This is especially concerning if surrounding cities maintain current speed limits on their roads and there is inconsistency as motorists travel from one similar city to another. If this became a problem, additional signage will be needed in areas where speeding tickets are being issued.

Schedule

The schedule below details the tasks for implementation of a new speed limit on local roads in Minnetonka.

Final Data Evaluation / Documentation		
Review / Fund Financial Impacts		
Resident Feedback – Minnetonka Matters		
Develop Draft Speed Limit Policy		
Final Policy to City Council		
Public Engagement Campaign		
Install Signage		
	Winter 2022 -Spring 2023	Summer 2023

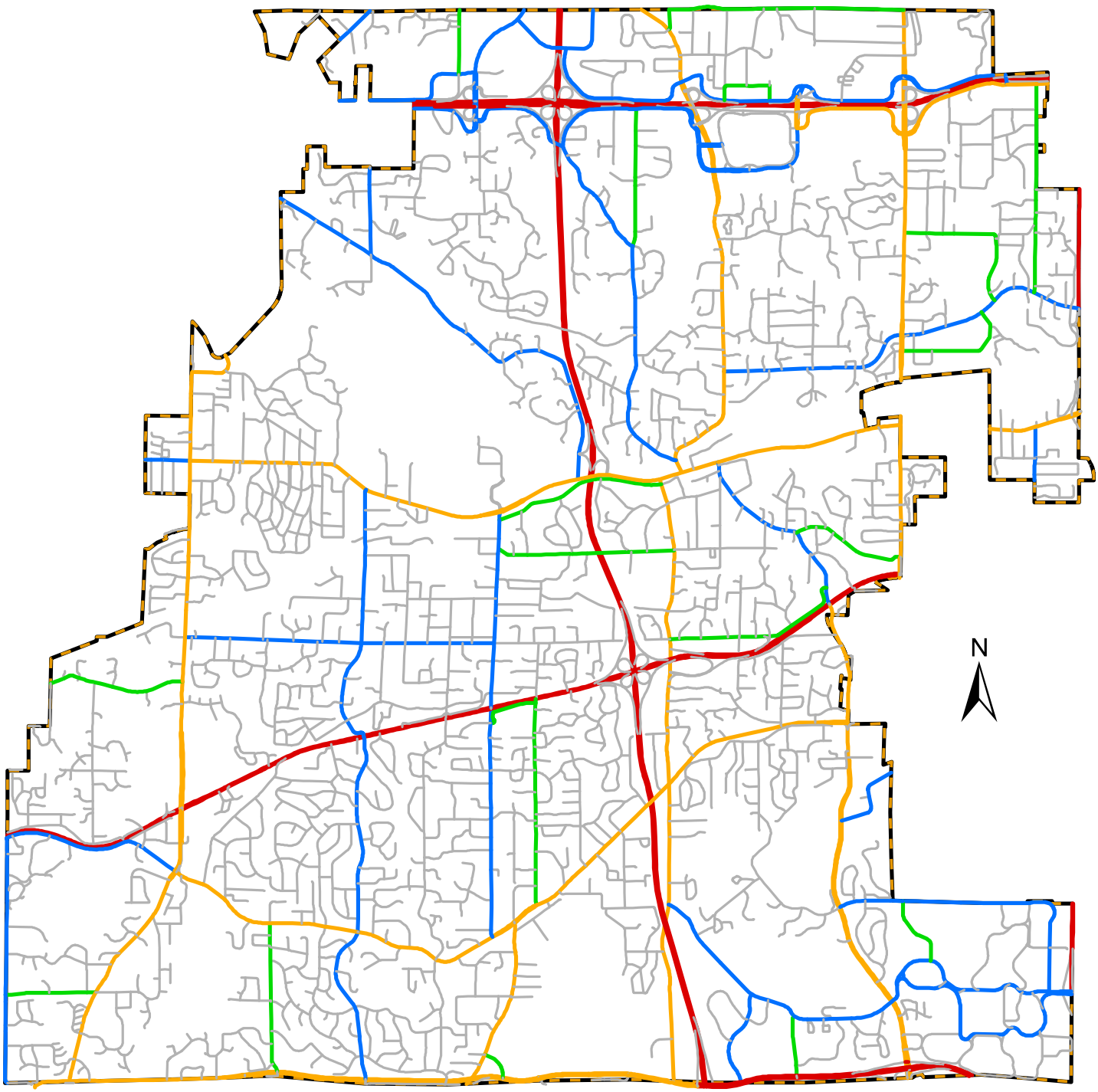
If a new speed limit is established, the city would want to gather information about its effectiveness and allow residents to become comfortable with the changes. This process would likely take several years following implementation to fully understand the effectiveness of the speed limit change. No changes to the speed limit are recommended until the evaluation period is over.

Discussion Points

- ***Is council supportive of staff's recommendation to not change speed limits and continue to monitor speed limits through education, engineering, and enforcement and pursue traffic calming measures throughout the city?***

- ***If council decides to reduce the speed limit, what is the expectation on compliance, specifically enforcement?***

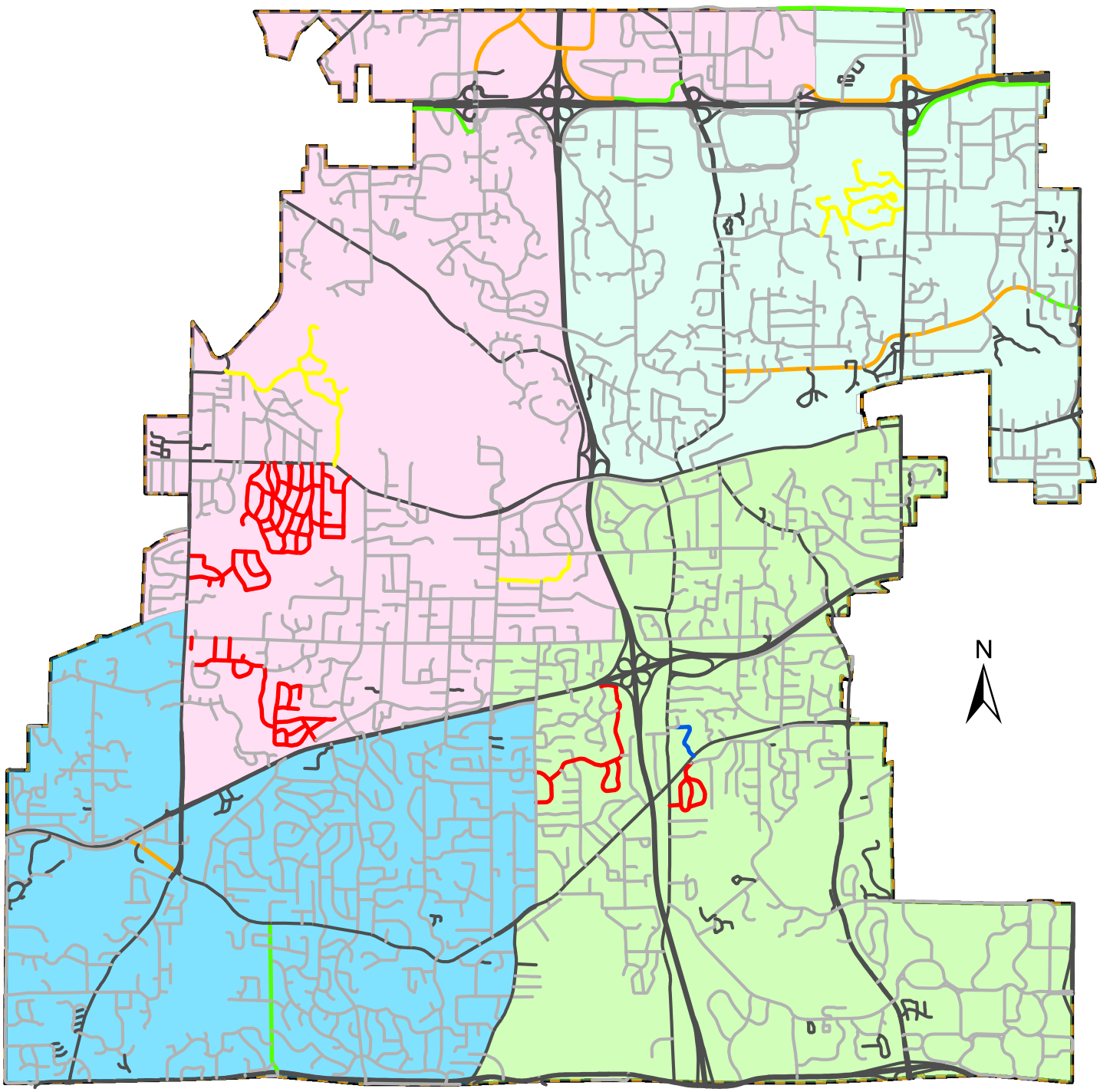
- ***If council decides to reduce the speed limit, what is the expectation on the engagement and communications on the public's feedback of this change?***



CITY OF MINNETONKA

Functional Classification

- Principal Arterial
- A-Minor Arterial
- Major Collector
- Minor Collector
- Local

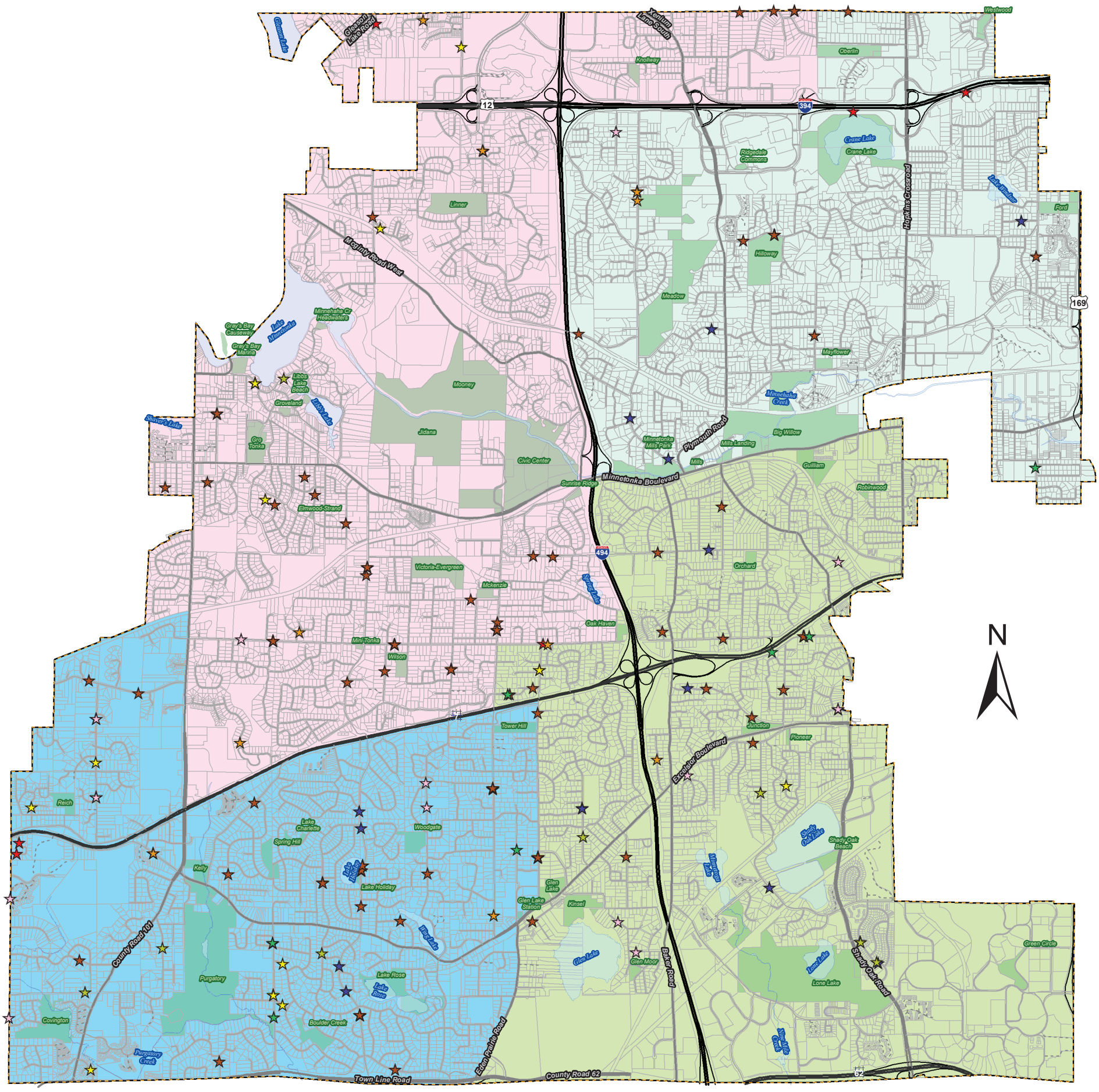


CITY OF MINNETONKA

Existing Speed Limits on City Roads

15 MPH
20 MPH
25 MPH
30 MPH
35 MPH
40 MPH
Non City or Private Roads

Wards
1
2
3
4



CITY OF MINNETONKA

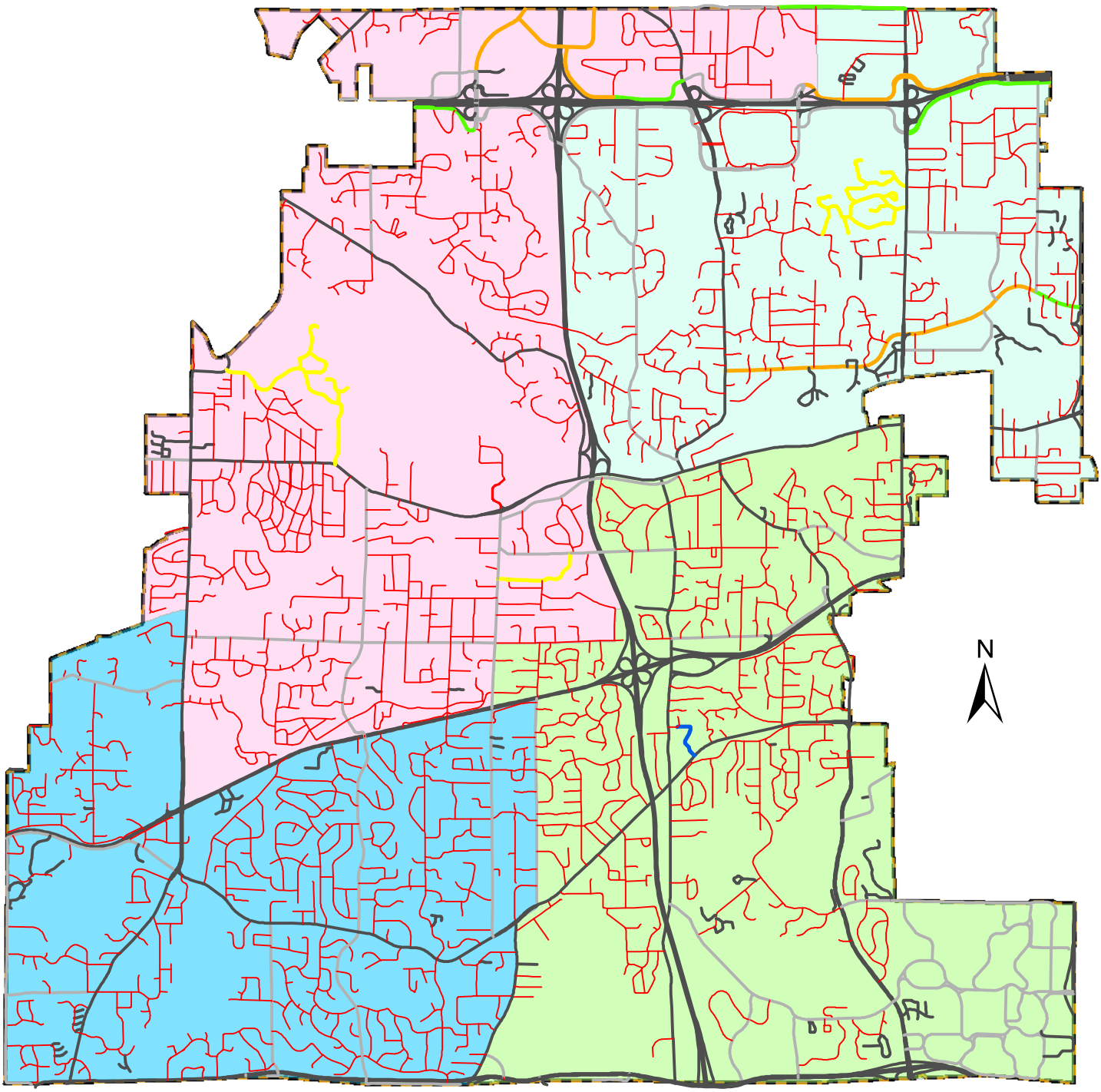
Speed Location Request 2015-Present

- 2015 (13)
- 2016 (15)
- 2017 (10)
- 2018 (6)
- 2019 (11)
- 2020 (80)
- 2021 (15)
- 2022 (15)

Wards

1 3

2 4



CITY OF MINNETONKA

Proposed Speed Limits on City Roads

- 15 MPH
- 20 MPH
- 25 MPH
- 30 MPH
- 35 MPH
- 40 MPH
- Non City or Private Roads

Wards

- 1
- 2
- 3
- 4

FINAL REPORT

Municipal Speed Limits

Submitted to MnDOT

August 29, 2022

Stonebrooke

Responsible by design

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Technical Advisory Panel

Will Manchester-City of Minnetonka
Marc Culver - City of Roseville
Dillon Dombrovski - City of Rochester
Brad Estochen - Ramsey County
John Halter - City of Sartell
Jim Johnson - City of Chisholm
Ken Johnson - MnDOT
Victor Lund - St Lous County
Chad Millner - City of Edina
Randy Newton - City of St Paul
Tim Plath - City of Eagan
Mark Vizecky - MnDOT

Consultant Team

Tim Arvidson - Stonebrooke Engineering
Howard Preston - Stonebrooke Engineering

Introduction

The issue of reducing speed limits to increase safety is an emotional, political, and controversial topic that has been debated by safety advocates, engineers, politicians, transportation officials, and the public for many years. A recent statutory change has put a spotlight on the topic, necessitating a deeper look into how speed limits are established and the effectiveness that lowering speed limits has on reducing vehicle traveling speeds. This document examines the history of speed limits, the recent statutory change, and the consequence of the change to communities. In addition, it examines the effectiveness of speed limit changes and outlines a process for agencies to follow when deciding to make a change.

In 2020, MnDOT set forth to create a vision for improving speed limits across the state[1]. The purpose of the project was not to provide quidance, but to dive deep into the topic with a diverse group. This report considers this vision and expands on its research.

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1 A Minnesota Vision for Speed Limits, MnDOT, 2020

History of Speed Limits

MN Statute 169.14 has been in place for more than 80 years. It was enacted by the Minnesota State Legislature because the previous approach of allowing local agencies to set speed zones was determined to be a failure. When established locally, speed zones were not consistent from city to city, were widely ignored and were thought to have been influenced more by local desires to generate revenue than considerations for safety.

Since the adoption of Mn Statute 169.14, the Minnesota Department of Transportation conducted traffic studies and set speed limits consistent with what is widely considered to be a best practice approach. This approach assumes that most drivers will select a travel speed that is both reasonable and proper given the actual roadway conditions and traffic characteristics of the road.

This approach resulted in a high level of consistency in the establishment of speed limits among roads that have similar characteristics and a high level of compliance by road users. This best practice approach has been demonstrated to provide the overall safest conditions with fewer crashes by ensuring uniform vehicle operating speeds. Speed limits were established for alleys, urban streets, local roads, expressways, and interstate highways by the state statute. However, if state or local authorities believe that the statutory limits would not be effective, the statute allows for speed zones to be established. Establishing a speed zone required that a study be conducted by MnDOT, and the Commissioner of Transportation approved the change.

Statutory speed limits on most roadways include:

- 10 mph in alleys
- 30 mph on streets in urban districts (can be reduced to 25 mph if a speed zone is adopted and the roadway is property signed)
- 55 mph on other roads
- 65 mph on expressways
- 65 mph on urban interstate highways
- 70 mph on rural interstate highways

How are Non-Statutory Speed Limits Determined?

Non-Statutory regulatory speed limits are set in accordance with guidance provided in the Federal Manual on Uniform Traffic Control Devices (MUTCD - Minnesota adopted their own version of this documents commonly referred to as MN MUTCD).

The MN MUTCD defines the standards used by road managers to install and maintain traffic control devices on public streets, highways, bikeways, and private roads open to public travel in Minnesota. The intent of these standards is to create uniformity and consistency on all public transportation systems.

This process involved completing an engineering and traffic investigation (Speed Study). Speeds limits are then set within 5 mph of the 85th percentile speed or within 10 mph of the pace mean speed.

Research has found that where the prevailing speeds are around seven to eight mph over the 50th percentile speed (approximately the 85th percentile speed), overall crash rates are at a minimum.

Use of the 85th percentile rule and the pace mean speed is consistent with conclusions of available transportation research as well as MnDOT and FHWA's Manual on Uniform Traffic Control Devices (MUTCD) guidance.

The process was developed based on the determination that drivers will select reasonable and safe speeds based on the roadway environment. It has been proven that this approach results in an increased level of safety for both vehicles and pedestrians due to vehicles traveling at uniform speeds.

Recent changes have been proposed to the MUTCD that would reinforce the idea that other factors, in addition to the 85th-percentile speed, also have a role in setting speed limits including:

- Road type and condition
- Location and type of access points (intersections, entrances, pedestrian access, etc.)
- Sufficient length of roadway (1/4 mile minimum)
- Existing traffic control devices (signs, signals, etc.)
- Crash history, traffic volume, sight distances (curve, hill, etc.)
- Travel speed samples
- Test drive results speed study
- Road Users (such as pedestrian activity, bicycle activity)

2019 Statute Change

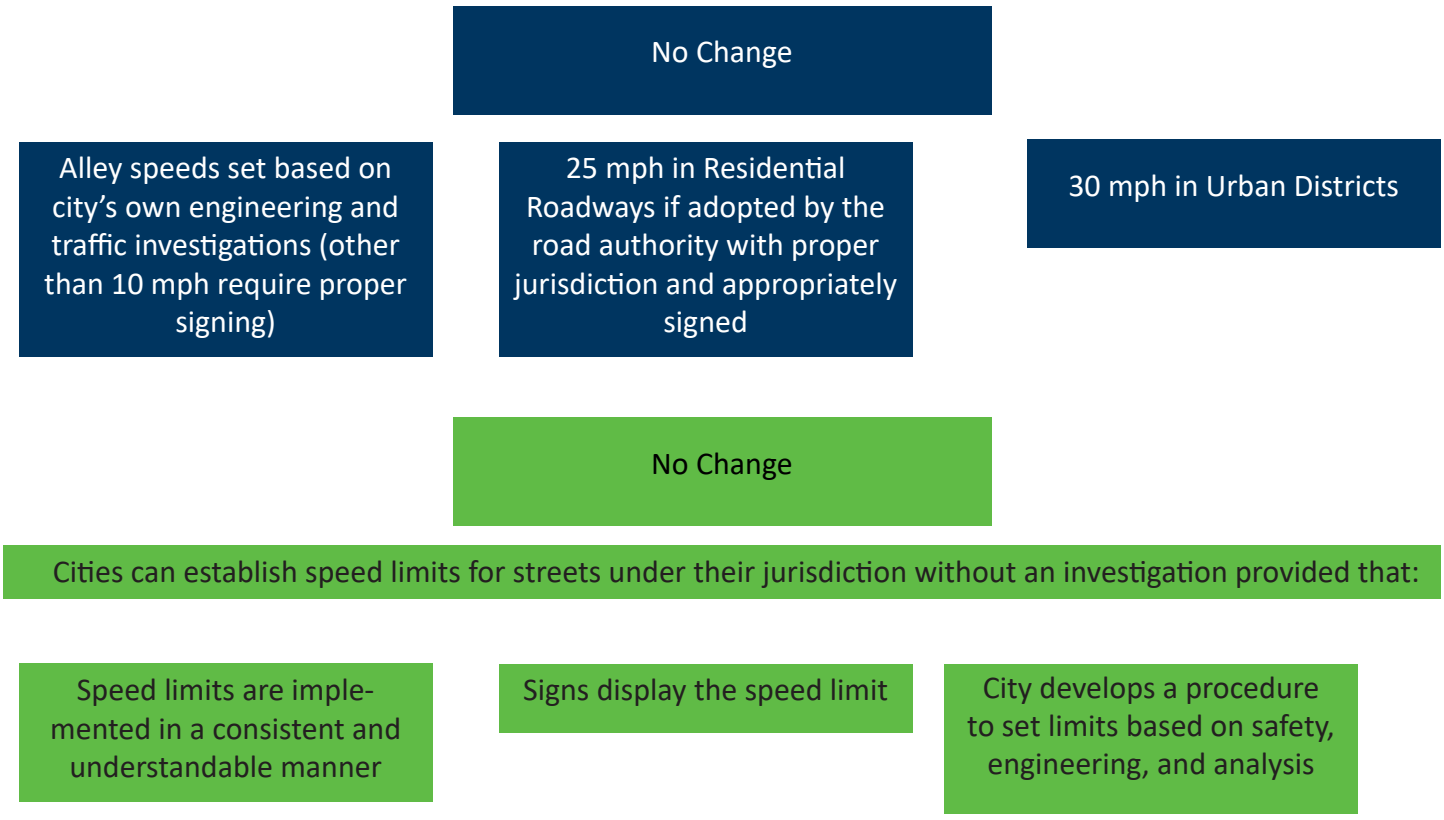
Minnesota Statute Section 169.14, subd. 2 was updated August 1, 2019, by the Minnesota State Legislature. The change gave cities the authority to establish speed limits for streets under their jurisdiction without having MnDOT conduct a speed study, and without approval by the Commissioner of Transportation provided that:

- Speed limits are implemented in a consistent and understandable manner.
- The city erects appropriate signs to display the speed limit.
- The city develops procedures to set speed limits based on the city's safety, engineering, and traffic analysis considering national urban speed limit guidance and studies, local traffic crashes, and methods to effectively communicate the change to the public

Revised Minnesota Statutes, Section 169.14, Subd. 5h.now reads:

Speed limits on city streets. A city may establish speed limits for city streets under the city's jurisdiction other than the limits provided in subdivision 2 without conducting an engineering and traffic investigation. This subdivision ***does not apply to town roads, county highways, or trunk highways in the city****. A city that establishes speed limits pursuant to this section* ***must implement speed limit changes in a consistent and understandable manner****. The city* ***must erect appropriate signs*** *to display the speed limit. A city that uses the authority under this subdivision* ***must develop procedures to set speed limits*** *based on the city's safety, engineering, and traffic analysis. At a minimum, the safety, engineering, and traffic analysis must* ***consider national urban speed limit guidance and studies, local traffic crashes, and methods to effectively communicate the change to the public.***

A comparison of the old vs new statute is provided below.



Why Did the Statue Change?

The change was the result of a request by the city of Minneapolis who wanted to have the ability to reduce speeds on local roads to help improve pedestrian safety. A consistent legislative priority for the city was to either lower the statutory speed limit or give Minneapolis or cities of the first class the ability to set their own limits.

Prior to the statute change, speed studies could only be performed by MnDOT, and any proposed change required approval by the Commissioner of Transportation. Local agencies could not perform their own studies or establish speed limits on roads under their jurisdiction. Speed study requests by a local agency could result in higher or lower limits being established depending on the findings.

The state legislature agreed to allow the statute change as requested by Minneapolis, but also felt the authority should be granted to all Minnesota Communities.

What Does that Mean for Your City?

Prior to the change, the statutory speed limit in urban districts was 30 mph unless otherwise posted. A City also had the option to reduce a limit to 25 mph provided that the change was adopted by the local road authority and the roadway was properly signed. The revised statute maintains these limits and does not require any action by a community. The change simply affords communities the opportunity to change speed limits on roads under their jurisdiction. This authority is granted only to city streets and does not apply to town roads, county highways, or trunk highways located in the city.

Understanding the Issues

Nationally, FHWA has examined over 100 sites in 22 states and found no change in vehicle speeds due to a change in the speed limit. Similar studies[1] conducted by various cities in the US and Canada as well as studies by the Insurance Institute for Highway Safety have also found that changing the speed limit alone had no effect on driver behavior.

1 Effects of Raising and Lowering Speed Limits on Selected Roadway Sections, FHWA, 1997

Speed	Before 30 MPH Limit	After 25 MPH Limit	Change
50th percentile	24.8	24.8	0
85th percentile	31.0	31.0	0
+25 MPH	47.9%	46.9%	-2%
+30 MPH	18.2%	18.1%	-0.5%

Some studies do however report the successful reduction of speeds when the speed limit change accompanies other mitigation strategies. For example, the city of Seattle examined 5 corridors[2] and reported a small reduction in both the 50th and 85th percentile speeds when the frequency of speed limit signs was increase from every 1-1.5 miles to one every ¼ mile.

Another study[3] conducted on local streets in Woodbury MN (Statutory limit 30mph) and River Falls , WI (Statutory 25 mph limit found similar 85th percentile speeds at these locations despite the difference in statutory limit. However, it did identify that the roadway width does affect travel speeds.

Based on all available data effectively lowering vehicle speeds requires a combination of physical, operational, and regulatory measures to be successful. Changing driver behavior and reducing speeds will require added enforcement and changes to the road environment to adjust driver perception.

Roadway Width	Average 85% percentile Speed (MPH)	
Feet	River Falls, WI	Woodbury, MN
30	32	32
32	33	32
36	31	34
40	34	34
42	34	36

MnDOT Speed Zoning Studies

Study Location	Before	After	Change +/- MPH	85% Before After	Change MPH
TH 65	Speed Limit 40	Speed Limit 30	-10	34 34	0
TH 65	Speed Limit 50	Speed Limit 40	-10	44 45	+1
Anoka CSAH 1	Speed Limit 45	Speed Limit 40	-5	48 50	+2
Anoka CSAH 24	Speed Limit 30	Speed Limit 45	+15	49 50	+1
Anoka CSAH 51	Speed Limit 40	Speed Limit 45	+5	45 46	+1
Hennepin CSAH 4	Speed Limit 50	Speed Limit 40	-10	52 51	-1
Noble Ave	Speed Limit 30	Speed Limit 35	+5	37 40	+3
62nd Ave N	Speed Limit 35	Speed Limit 30	-5	37 37	0
Miss. St.	Speed Limit 30	Speed Limit 35	+5	39 40	+1

2 Seattle Department of Transportation Speed Limit Case Studies, SDOT, 2020

3 Woodbury Source

The most common actions that do contribute to pedestrian and bicycle crashes include:

- Failure to yield - 11%
- Distracted Driver- 8%
- Careless/Reckless driving - 5%
- Failure to Obey Signal/Sign - 1%
- Speeding - 1%

In 50% of pedestrian and bicycle crashes no particular action by drivers could be identified that contributed to the crash.

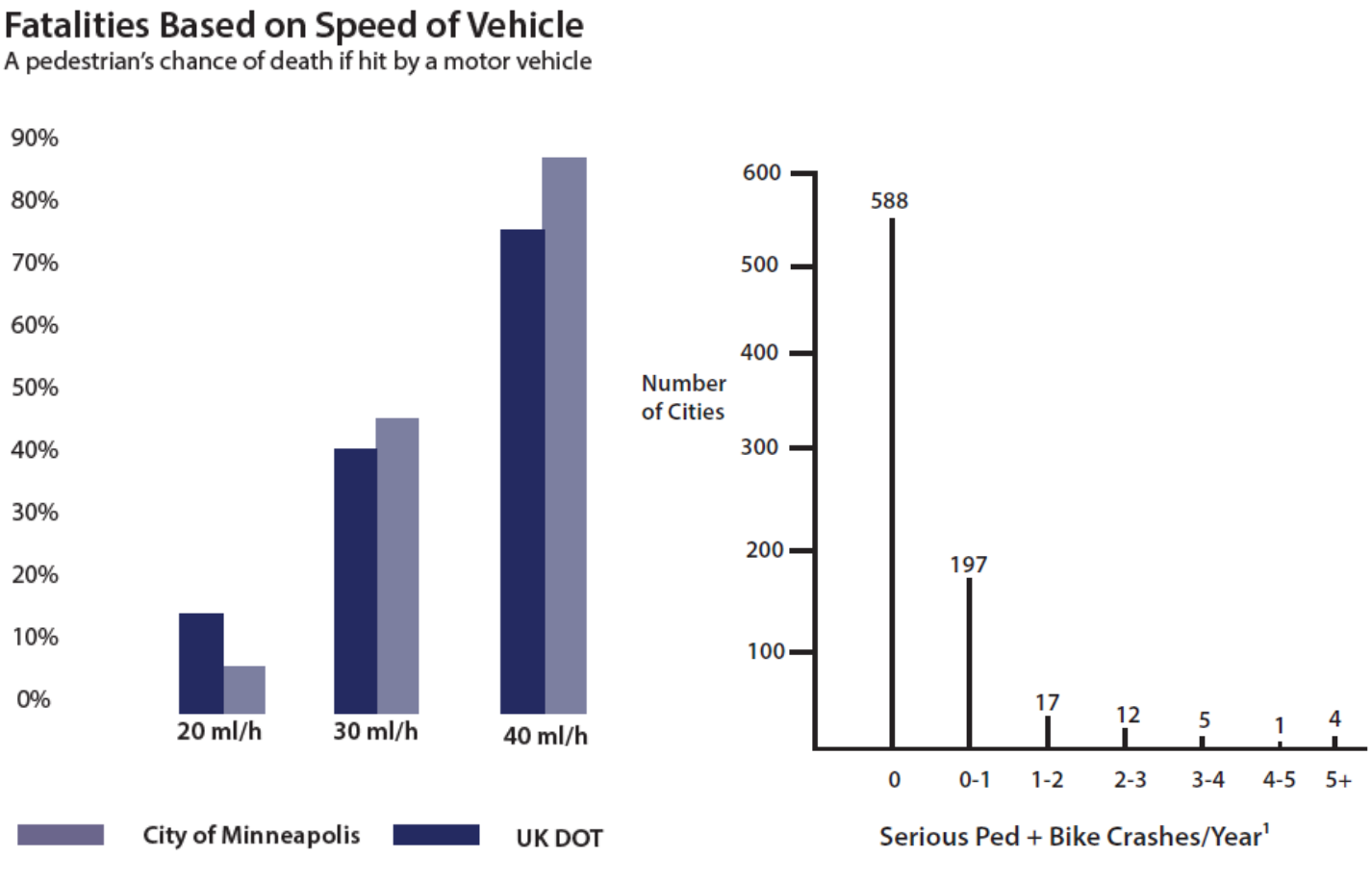
Another notable data point is that the Minnesota pedestrian and bicycle Fatal Crash rate is lower than neighboring states, despite having higher statutory speed limits.

In fact 92% of communities in Minnesota experienced 0-1 serious pedestrian and bicycle crashes in the ten-year period between 2011 and 2020.

- 69% of communities had zero serious or fatal crashes
- Law Enforcement cited speed as a contributing factor in 4% of Serious pedestrian and bicycle crashes
- A plurality of crashes occur on city streets (44%) and a majority of these occur on the Municipal State Aid (MSA) stytem
- 50% of crashes occur at intersection (42% highway and 62% MSA streets)

Of intersection crashes...

- 47% of intersection crashes occur at Signals (61% for highways and 17% for City Streets,
- 24% occur at Stop Signs (13% for highways and 44% for City Streets)



Despite this data, public perception is that reducing speeds limits will save lives. This perception is supported by the fact that the survivability of a pedestrian crash increases dramatically with lower speeds. However, studies have shown that many speeders on the local system tend to be the residents that live in the area and travel the streets most often.

Serious Ped+Bike Crashes

	Total	TH.	Co.	MSA	Municipal
Total	2,389	419 18%	694 28%	613 26%	441 18%
At Intersection	1,235 52%	177 42%	358 52%	380 62%	230 52%
At Signal	591 47%	108 61%	209 58%	185 49%	39 17%
At Stopsign	300 24%	23 13%	69 19%	89 23%	101 44%
Fail to Yield	242 11%	24 6%	69 11%	77 14%	46 12%
Distracted	168 8%	37 9%	56 9%	39 7%	29 7%
Careless/ Reckless	120 5%	18 4%	33 5%	18 3%	32 8%
Fail to Obey Signal/Sign	10 1%	1 0.2%	1 0.2%	3 0.6%	4 1%
Speeding	29 1%	10 2%	4 0.6%	7 1%	4 1%
Mileage	141,957	11,678 8%	44,589 31%	3,734 3%	19,222 14%
Serious Crash Density	0.0018	0.0037	0.0016	0.017	0.002

Source: MnDOT CMAT 2011-2020

What Tools are Available?

The newly revised statute requires that the safety, engineering, and traffic analysis done when considering a speed limit change must consider national urban speed limit guidance and studies. Therefore, it is important to understand the difference between national guidance, research, and advocacy documents.

National Guidance

The Federal "Manual on Uniform Traffic Control Devices" (MUTCD) is the national standard for all traffic control devices installed on any street, highway, bikeway, or road open to public use. It also provides guidance on establishing speed limits. Minnesota agencies are statutorily bound to comply with MUTCD guidance.

The "Minnesota Manual on Uniform Traffic Control Devices" (MN MUTCD) was developed to establish standards and to provide a uniform policy for the use of traffic control devices in the State of Minnesota. The MN MUTCD correlates with and conforms closely to the current system as approved by the American Association of State Highway Officials (AASHTO) and the national Manual on Uniform Traffic Control Devices (MUTCD).

Studies and Research

Guidance for the Setting of Speed Limits (NCHRP 17-76) [1]
This study created two tools (one with macros and one without) that could better inform speed limits beyond the 85th percentile. These tools use factors such as urban vs rural, other roadway users, and roadway type.

Design Speed, Operating Speed and Posted Speed Practices, (NCHRP Report 504) [2]
This report summarized previous research and data collected through mail surveys. The findings were that there needs to be guidance added for the relationship between the 85th percentile and the posted speed limit. Speed limits are generally set 4-6 mph less than the 85th percentile speed. This report also added the need to specify radius, grade, access density, median presence, on-street parking, pedestrian activity, and signal density when determining speed.

Effects of Raising and Lowering Speed Limits on Selected Roadway Sections (FHWA) [3]
Although the changes in vehicle speeds were small, driver violations of the speed limits increased when the posted speed limits were lowered. Conversely, violations decreased with the speed limits were raised. This does not reflect a change in driver behavior, but rather, a change in how compliance is measured. No evidence to support crash experience changing with speed limit changes.

Speed Concepts: Informational Guide (FHWA) [4]
Study found as speed increases, crash severity increases. There is not proper guidance on speed limit through the design phase. The 85th percentile may be higher than anticipated, especially on low or moderate speed roads. The design speed is NOT the maximum safe speed. Reducing the speeds without other changes is likely to result in a small reduction of operating speed. Posted speed limits should always be within 5 mph of the 85th percentile speed.

1 Guidance for the Setting of Speed Limits, NCHRP, XXXX
2 Design Speed, Operating Speed, and Posted Speed Practices, NCHRP, 2003
3 Effects of Raising and Lowering Speed Limits on Selected Roadway Sections, FHWA, 1997
4 Speed Concepts: Informational Guide, FHWA, 2009

Methods and Practices for Setting Speed Limits (FHWA and Institute of Transportation Engineers) [5]
Identifies four methods for establishing speed limits (Engineering approach, Expert System Approach, Optimization and Injury Minimization). This is the Safe Speed Approach. This report provides practitioners with guidance on how to set speed limits in their jurisdiction without making specific policy recommendations or suggestions. The Safe Speed Approach resulted in speed limits that were at the lower end of the range of speeds enacted by the practitioners.

ITE Speed Zoning Guidelines, (Institute of Transportation Engineers Committee) [6]
Identifies factors such as geometric design, roadside development, shoulder and road surface characteristics, pedestrian and bicycle activity, speed limits on adjoining highway segments, accident experience or potential that should be considered as part of an engineering speed study. In no case should the speed limit be set below the 67th percentile of free-flowing vehicles. The speed limit should be set to the nearest 5 mph increment to the 85th percentile or the upper limit of the 10-mph pace. No speed zone should be established in a location where 85th percentile speed is within 3 mph of the statutory speed limit.

Reducing Speeding Related Crashes involving Passenger Vehicles. (National Transportation Safety Board) [7]
The NTSB focused on five measures of speeding: speed limits, data-driven approaches for enforcement, automated speed enforcement, intelligent speed adaptation, and national leadership. They state higher speeds are likely to lead to a higher number of, and more serious, crashes. The Safe System approach in determining other factors leading to safety issues needs to be considered. There is not strong evidence that the 85th percentile equates to the lowest crash involvement on all road types.

Managing Speed: Review of Current Practice for Setting and Enforcing Speed Limits (TRB report 254) [8]
Limiting speed is not the only thing that should be considered for increased safety. Cutting down on impaired driving and safety belt use have higher safety reduction. An increase in the age of the population also has a toll on safety. Congestion also increases driver frustration and encourages unsafe driving. Technology can help with the speed limit considerations. Technology can help the efficiency and effectiveness of enforcement.

Advocacy

The National Association of City Transportation Officials (NACTO) is “an advocacy group of major North American cities and transit agencies formed to “exchange transportation ideas, insights, and practices and cooperatively approach national transportation issues”. A NACTO working group recently developed recommendations for setting speed limits on urban streets with the intent of providing an alternative to federal guidance. The result of this effort was a 3-method approach that is outlined in the document “City Limits, Setting Safe Speed Limits on Urban Streets”.

In addition, the Minnesota Department of Transportation recently conducted a statewide Speed Limit Vision project. This effort has resulted in a collection of educational and informative data that can be useful for addressing speed related issues. The stated goal is to develop a unified vision related to speed limits that was supported by cities, counties, and special interest groups, as well as public safety and enforcement professionals. The visioning project is based on Minnesota Speed limit history, as well as local and national research. A Technical Advisory Group was formed that included state, county, and city transportation professionals, as well as transit users, pedestrians, bicyclists, public health, law enforcement, and mobility impaired users.

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5 Methods and Practices for Setting Speed Limits, FHWA, 2012
6 ITE Speed Zoning Guidelines, ITE
7 Reducing Speeding Related Crashes involving Passenger Vehicles, NTSB, 2017
8 Managing Speed: Review of Current Practice for Setting and Enforcing Speed Limits, TRB, 1998

What are Your Options?

You have three options:

- Maintain Status Quo
- Reduce Speed Limits
- Invest in alternative safety strategies

Learn more about those options below:

Maintain Status Quo

Keeping the status quo doesn't mean do nothing, it means identifying a problem and implementing a solution on a case-by-case basis using existing countermeasures currently being employed in the city.

This approach would maintain current statutory city speeds (i.e., 30 mph on local streets) but would not prohibit reduction of speeds on certain city streets if deemed appropriate based on engineering studies and judgement.

Change Speed Limits

When considering lowering urban speed limits following a best practices process is recommended. This process is based on a review of published research, discussions with public works professionals and law enforcement in Minnesota, analysis of data from both national and Minnesota data and consideration of risk management practices. **The best practices process includes the following steps:**

1. Document Existing Conditions
2. Survey Residents and Elected Officials
3. Analyze your Data
4. Partnering with Law Enforcement
5. Evaluate Alternative Approaches/Make a Decision
6. Prepare a Policy Statement
7. Develop a Plan to Implement
8. Conduct A Follow-Up Assessment

Document Existing Conditions

Thoroughly understand the existing speed, safety, and traffic characteristics on your system. The outcome of this effort will establish the facts about how your road system is operating and will help you determine if there are real problems that need addressing or only the perception of problems.

Establishing how your system is working is a key input to the subsequent effort to evaluate and ultimately select an approach to determine speed limits on your city's streets.

Collect speed data on a representative sample of roadways, covering the spectrum of roadways, including low volume residential streets, streets in central business areas, school zones, parks, urban collectors, and urban/suburban arterials. It is likely that these different types of roadways have different operating and safety characteristics, and it is important to be aware of these differences.

Document safety characteristics using MnCMAT including total numbers of crashes, the number of serious crashes and fatalities, locations of crashes and contributing factors. MnCMAT can provide both city wide overviews of crash data and specific information about corridors, individual intersections with documentation of numbers of crashes, types of crashes, crash severity and contributing factors.

Survey Residents and Elected Officials

Understand the concerns of city residents and elected officials regarding safety and vehicle speeds. Separate fact from perception and determine if most residents and elected officials feel a certain way or if there is only a vocal minority. Conversations with public works professionals around the state have found that there is not uniform support for changing urban speed limits. It is important to know where your residents and elected officials stand on this topic as you go through the evaluation of alternatives.

Analyze Your Data

Most city streets have a 30 mph limit based on the state statute covering urban areas. Collectors and minor arterials generally have higher speed zones that were determined by MNDOT. The traditional approach to analyzing speed data involves determining three performance measures:

- 50th percentile speed – the speed at which one-half of the drivers are travelling at or less
- 85th percentile speed – the speed at which 85 percent of the drivers are travelling at or less
- 10 mph Pace – the ten mph range that contains the greatest number of vehicles

Conduct an analysis of the speed data collected and determine the 50th and 85th percentile speeds and the 10 mph Pace . Identify the current prevailing speeds across the various classes of streets in your system.

Note: Conversations with public works professionals indicate that some cities are finding the 85th percentile speed on their residential streets was around 25 mph, which supported changing the speed limit on those streets as well as an expectation that there would be a high level of compliance. Other cities with different roadway characteristics are finding prevailing speeds that supported retaining the current 30 mph limit.

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Partnering with Law Enforcement

It is well known by traffic professionals that that drivers will generally pick an operating speed based on their perception of the road environment. If a community decides to lower the speed limits on streets when drivers are comfortable traveling at higher speeds, merely announcing a new speed limit will not change their behavior.

Law enforcement can provide information about prevailing speeds and help identify of problem areas. It is also helpful to understand current levels of enforcement effort and whether they have the capacity to provide increased enforcement in support of lower speed limits. It is also important to understand if there are conditions attached to these efforts.

If you are considering lowering the speed limit on streets where prevailing speeds are higher, the best chance of changing operating speed without other changes to the roadway environment is through the application of high levels of enforcement. Therefore, it is important that law enforcement be on board with the decision.

Evaluate Alternative Approaches & Make a Decision

After evaluating your system there are two likely outcomes, retain the historic speed limits or adopt new lower speed limits across your city's system of streets.

The case for retaining historic 30 mph speed limits would be based on determining that current speed profiles (85th percentile and 10 mph Pace) indicate that prevailing speeds are near 30 mph and the opinion of residents and elected officials support no change. However, if the data supports retaining the 30 mph limit but elected officials decide that lower limits are called for, a possible plan of action would include the following steps:

Conduct an informational session with the council and residents to share information. Potential topics should include:

1. A discussion of published research
    a. Adopting a lower speed limit and changing the number on a sign has never (by itself) changed the operating speeds selected by drivers.
    b. Changing the road environment will be required and until that is achieved additional en orcement will need to be provided to have any chance of lowering speeds.
2. Discussions with law enforcement – documenting what resources they would need to provide a higher level of speed enforcement and what other conditions they would place on the effort
3. Establishment of a performance measure associated with the lowered speed limit, so that at some point it can be concluded that the lowered speed limit did or did not achieve the desired outcome.

Propose a temporary reduction in the speed limit (and an increased level of enforcement) for a specified period (six months to one year) combined with the collection of speed data to monitor the results.
The idea would be to secure an agreement with the council that at the end of the specified period of the test, if the performance measure is achieved the lower speed limit would be retained. However, if the performance measure for speed reduction is not achieved, the speed limit could revert to the statutory limit.

The case for lowering speed limits should be based on determining that current speed profiles on some parts of the system indicate that prevailing speeds are lower than the statutory limit and the opinion of residents and elected officials in fact support a change.

The suggested system-based speed limits are as follows:

- Local Residential Streets 25 mph
- Urban Collectors 30 mph
- Urban Minor Arterials 35 mph
- Multi-lane Suburban Minor Arterials 40 mph

Prepare a Policy Statement

The implementation of any new approach to managing speed along city streets creates an opportunity for claims of negligence and having a policy documenting your city's approach to managing speed limits is a proven, effective technique for improving operations and managing risk.

Specific benefits associated with policy development include:

- Guiding allocation of resources to cover initial and annual maintenance costs
- Providing direction to staff
- Establishing the procedures to be followed
- Setting priorities
- Supports establishing discretionary immunity

A typical policy for establishment of speed limits on city streets should include the following:

- Background, Purpose and Goal
- Which roadways are to be covered by the policy – all city streets, low volume streets, various roadway classifications – residential, collectors, minor arterials, etc.
- Document the approach/approaches selected for implementation – no change, new approach to all city streets, new approach to some city streets, combination of approaches, etc.
- How will changes be communicated to drivers – will speed limit signs be added to all roads or will notification of the changes be placed at entrances to the city?
- Document the impact of signing decisions on your sign maintenance budget
- Document the level of coordination with law enforcement and any changes in enforcement practices.
- Document the effect of speed limit changes on future street design practices – design speed selection, street widths, etc.
- Commitments to deploy other infrastructure-based safety strategies, including expansion of sidewalks and trail systems, road diets, installation of curb extensions and median refuge islands, additions of rectangular rapid flash beacons and pedestrian hybrid beacon systems, and pedestrian enhancements at traffic signals (count-down timers and leading pedestrian interval).

Develop a Plan to Implement

The objective of the implementation plan is to successfully convey the message to both drivers and residents that speed limits in your city have changed. Even though most drivers on your city streets are residents, many are not. Therefore, it is important to communicate any change or variance from state statute in a variety of ways. Suggestions to communicate a planned or pending change include:

- As part of the publication of city council minutes and in your city's newsletter.
- Placing traffic signs (either permanent or temporary on Type III Barricades) on the major entrances to your city notifying drivers that there is a change in traffic control.
- Social media campaign
- Finally, installing new speed limit signs on all streets where there has been a change in the limit.

To provide uniformity between communities and minimize driver confusion it is important to effectively convey the speed limit to drivers. Conveying speed limit in a consistent and uniform manner that drivers are accustomed to will minimize driver confusion as well as enforcement issues.

While seemingly easy to implement the changing limits using a citywide approach opens several question and concerns regarding "appropriate" signing. Some communities are choosing to install Gateway signs at their jurisdictional boundaries.

The use of the gateway signing alone is likely to cause confusion if motorists enter the community on a non-jurisdictional road such as a state highway or county road where a gateway sign may not be allowed. Additionally, gateway signs are not something that motorists are accustomed to in Minnesota. As a result, a motorist traveling between jurisdictions, or transitioning between non signed local streets and other roadway motorists may not be aware when a speed limit has changed. Discussion with law enforcement officers has also identified a reluctancy to write citations without a visible regulatory sign.

The citywide approach may provide consistent expectations across a city, however, to avoid confusion given that regulatory speeds are also still in effect, it is recommended that regulatory speed limit signs be installed at appropriate locations and intervals. At a minimum that regulatory signs should be placed anywhere a transition of speed occurs including at community boundaries, and when transitioning from major roads onto local streets.

Conduct a Follow-Up Assessment

To know if any changes in speed limits have been effective, a follow-up assessment is required. The best practice begins with documenting existing conditions and then conducting annual assessments each year following the change. Be aware that small changes, especially in vehicle speeds, may be statistically significant but they may not be practically significant.

The outcome of the assessment could prove that the changes in speed limits achieved the performance measures and the effort to match driver behavior with the lower speed limit was a success. On the other hand, if the outcome indicates that driver behavior was not changed two possible courses of action are suggested. First, continue the experiment with lower speed limits but add more features to modify the driver's perception of the road environment – for example, median refuge islands and curb extensions – and increase enforcement efforts. Second, revert to the previous statutory limit.

Invest in Alternative Pedestrian Safety Strategies

If your city decides to take actions to improve pedestrian and bicycle safety, you will need to consider two important items – (1) WHERE to make improvements and (2) WHAT strategies to invest in. However, research into pedestrian and bicycle safety suggests that traditional thinking about WHERE and WHAT is unlikely to yield positive results.

WHERE to make Improvements:

Traditionally, safety analysts would review their road systems and then focus their safety investments on locations with large numbers of priority crash types (Road Departure, Right Angle, etc.) However, after Minnesota adopted serious crashes (those involving severe injuries and fatalities) as the State's safety performance measure, it was determined that this reactive approach of chasing after serious crashes around the system was not an effective strategy. Serious crashes were widely scattered and for the most part occurred at locations that did not have any prior serious crashes during the study period. It was concluded that the presence of one serious crash at a particular location was NOT a good predictor of a second serious crash.

It appears that safety analysts focused on serious crashes involving pedestrians and bicyclists face these same challenges:

- Serious pedestrian and bicycle crashes are widely scattered among cities in Minnesota
- 588 (69%) of Minnesota's 856 cities had NO serious pedestrian and bicycle crashes during a ten-year study period (2011-2020).
- 228,000 (99%) of the approximately 230,000 locations in Minnesota's crash mapping tool had NO serious pedestrian and bicycle crashes during the ten-year study period.
- Only 6 (0.7%) cities (Brooklyn Center, Duluth, St. Cloud, Columbia Heights, St. Paul, and Minneapolis) had two or more locations with multiple serious pedestrian and bicycle crashes during the ten-year study period.
- Only ONE location in the entire State (University Avenue at Northtown Drive in Blaine) had TWO pedestrian and bicycle crashes that resulted in fatalities during the study period.

This information supports a conclusion that using a reactive approach based on prior serious crashes would not be effective in identifying high priority locations for safety investment. This information also supports the use of a proactive, systemic approach that is based on identifying the characteristics of the locations with serious pedestrian and bicycle crashes and then searching road systems for other locations with similar characteristics.

Previous safety studies have identified several roadway characteristics as being over-represented at the locations with serious pedestrian and bicycle crashes, including:

- Streets with a MSA designation: Streets on the MSA system account for 3% of statewide road mileage but 26% of serious pedestrian and bicycle crashes.
- Intersection Traffic Control: Along MSA streets, more than 60% of serious pedestrian and bicycle crashes occur at intersections and almost 50% of these are controlled by traffic signals.
- Transit Stops: In Minnesota cities, approximately 80% of locations with a serious pedestrian and bicycle crash had a transit stop.

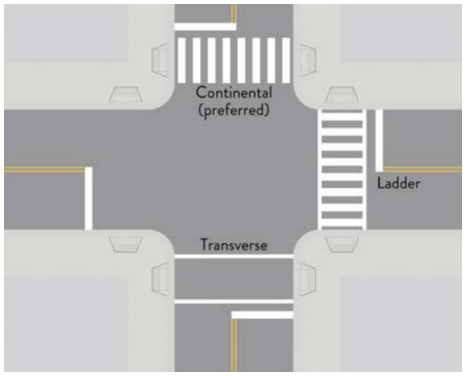
All of this suggests that the determination of WHERE to invest in safety improvements be based on a systemic review of a city's road system that is primarily focused on MSA streets and secondarily at signalized intersections with transit stops.

WHAT strategies to invest in:

The process of evaluating the dozens of potential safety strategies to address pedestrian and bicycle safety is often complicated by perceptions held by residents and elected officials that are based on their intuition, but are often contrary to the facts. A way to deal with the challenge of addressing these perceptions is for city staff to be aware of facts documented by research regarding the effectiveness of ped and bike strategies and where on the spectrum of proven not effective to proven effective does each strategy fall.

Examples of Strategies proven NOT effective include:

- Marked Crosswalks: The addition of marked crosswalks alone, without more substantial roadway or traffic control treatments, has NOT been found to reduce pedestrian crash rates.
- Traffic Signals: Traffic signals are used to assign right of way to conflicting streams of traffic (vehicles, pedestrians and bicycles) at intersections. By themselves, traffic signals are



Source: MnDOT

not considered to be effective safety devices for vehicles, pedestrians or bicycles. Signalized intersections have the highest rate and severity of crashes among intersection traffic control devices and more than one-half of pedestrian and bicycle crashes in Minnesota occur at signalized intersections.

- Reduced Urban Speed Limits: There is NO information in published research to support the notion that lowering urban speed limits either reduces actual operating speeds or serious crashes involving pedestrians and bicycles. MnDOT has conducted more than a dozen local studies and FHWA conducted a national study where speed limits were artificially lowered by changing the numbers on regulatory speed limit signs. In NO case was driver behavior changed. Regarding the safety effect of lowering urban speed limits on serious pedestrian and bicycle crashes, it should be noted that each of the four states that border Minnesota have a 25 mph statutory urban speed limit but has a fatal pedestrian and bicycle crash rate that is 11% to 64% higher than Minnesota's.
- On-Road Bike Lanes: On-Road bike lanes have been deployed extensively around the country and in Minnesota but are not considered to be an effective safety strategy because research results are almost equally divided between locations where bike crashes increased versus locations where bike crashes decreased.

Examples of Strategies proven effective include:

- Sidewalks: Constructing Sidewalks have been found to decrease "Walking in Roadway" pedestrian crashes by 50%-90%.
- Median Crossing/Refuge Islands: Adding Median Crossing/Refuge Islands have been found to reduce pedestrian and bicycle crashes by 39%-46%. urb extensions have been found to reduce pedestrian and bicycle crashes by 39%-46%.
- Crosswalk Lighting: Adding Crosswalk lighting has been found to reduce pedestrian and bicycle crashes by 33%-44%.
- Road Diets: "Road Diet" is a term used for the reallocation of roadway lanes and/or space to integrate features such as bike lanes or pedestrian refuge islands on existing roadways. A common roadway reconfiguration involves converting an undivided four-lane (two-way) road into a three-lane road made up of one through lane in each direction, a center two-way left turn lane and a shoulder/bike lane. Modifying roads from four lanes to two travel lanes with a left turn lane has been found to reduce vehicle crashes by 29%-46%. Safety effects on crashes involving pedestrians and bicyclists associated with Road Diets are still being documented but positive benefits have been noted including:
    - Typically lower speeds due to one travel lane in each direction and no passing,
    - The reduction to a single travel lane in each direction eliminates the possibility of a "multiple-threat" crash (where a driver in one lane stops to yield to a pedestrian but the

driver in the adjacent lane continues at speed because the other vehicle blocks the line of sight to the pedestrian)
- The reallocation of space creates an opportunity to construct median refuge islands at pedestrian crossing locations.

- Pedestrian Hybrid Beacon: A Pedestrian Hybrid Beacon system is a traffic control device that remains dark until a pushbutton is activated by a pedestrian, at which time the beacon flashes a sequence of amber warning followed by a red stop for vehicles. The system has been found to have a 97% compliance rate for vehicles stopping during the steady red beacon phase and a 69% reduction in vehicle-pedestrian crashes.
- Rapid Rectangular Flashing Beacon: A Rapid Rectangular Flashing Beacon is a dynamic warning device that is activated when a pedestrian pushes a button at the crosswalk. The system uses an irregular flash pattern similar to emergency flashers on police vehicles with a pulsing light source. Studies are still under way to document pedestrian and bicycle crash reductions but completed studies have found "yield to pedestrians" compliance rates ranging from 80% - 100% and these rates are four to five times higher than at standard beacons.
- Leading Pedestrian Interval: Use of a LPI extends the All-Red portion of the traffic signal cycle and provides the pedestrian walk indication 2 to 3 seconds ahead of the vehicle green, allowing pedestrians a head start and the ability to enter the crosswalk before right turning vehicles can turn into the crosswalk. Studies have found the LPI to reduce pedestrian crashes by up to 60%.
- Countdown Timers: Countdown timers replace the traditional Walk/Don't Walk pedestrian indications and are flashing timers which provide the number of seconds remaining during the pedestrian phase. Studies have found that converting from standard pedestrian signals to countdown timers was associated with up to a 25% reduction in pedestrian crashes.

Addressing Citizen Concerns

Creating an open dialogue with citizens is an important step in understanding perceived and actual safety issues of the public. The "Addressing Citizen Requests for Traffic Safety Concerns" Local Road Research Board Report 2017RIC05 from 2017 identified steps for addressing citizen concerns for safety.

1. Problem Identification – Record their concern and ask questions regarding pertinent details to best understand their issue.
2. Evaluation – Arrange for a site inspection and collect necessary data. Identify if there is an issue and what steps can be made to mitigate. If there is no issue, communicate the appropriate reasoning.
3. Response / Follow-up – If the evaluation takes more than a month, periodically update the citizen. If the decision is to make a change, document this change and understand your agencies processes.

This report also examines things to make the public aware of surrounding speed and safety.

- Speed complaints are often the residents "perceived" safety concern rather than an "actual" safety concern. Collect data using a radar gun to determine if this is a perception or a reality.
- Speed humps/tables are larger issues involving more time and money to evaluate. They often do not affect speed between humps.
- A change in speed is not likely to affect the safety concern. If speed is the key issue, install a speed trailer to inform drivers of their speeds.
- Speed limits in neighborhoods are already likely at the state minimum based on law.

- Speed limit signs often advertise a given speed is acceptable even though it is desired that drivers drive slower.
- Roadway narrowing to reduce speeds can be effective, but expensive. On-street parking can be a lower-cost solution.
- Often the speed offenders are people that live in the neighborhood. Encourage citizens to talk to their neighbors to have the discussion.
- Other measures to help reduce speed include posting yard signs or figures mentioning to slow down, and also increasing compliance patrols with the police department.

Summary

When considering the effects of vehicle speeds on public safety, pedestrian and bicyclists' safety is always a primary concern. It is often difficult to pinpoint causes and identify the best countermeasures due to the rarity and randomness of these crashes.

Minneapolis and St. Paul are the only communities in Minnesota that have enough serious pedestrian and bicycle crashes to obtain statistically reliable data to analyze the causes of crashes and potential mitigations. All other cities will need to rely on statewide summaries to indicate trends, causes and possible mitigation strategies.

Our analysis of statewide serious ped + bike crashes found that the MSA system was more at risk than other city streets. The MSA system was found to have a serious pedestrian and bicycle crash density that is almost nine times higher than on other city streets. It is speculated that this higher risk is associated with typically wider streets, higher volumes and adjacent commercial development. Our analysis also found that the almost half of serious pedestrian and bicycle crashes occurred at intersections, and almost half of these had traffic signal control. Police crash reports cited speed as a contributing factor in only 4 percent of serious pedestrian and bicycle crashes.

The 85th percentile speed continues to be a reasonable approximation of the prevailing speed selected by drivers on local streets based on their perception of the road environment. However, this approach has been criticized, especially by pedestrian safety advocates in urban area because it does not directly consider pedestrians and bicycles. That critique is correct, but most city streets have speed limits based on statute and not the analysis of prevailing speeds.

There is no evidence to suggest lowing speed limit will result in lower travel speeds. Reducing speed will require changes to the roadway environmental and/or increased enforcement. However, speeds on local roads in some communities already lower than statutory limits lending credibility to a reduction in speed limits.

Recommendation

Reduce speed limits on local roads when travel speeds are less than the statutory limit.

Whenever possible implement proven alternative strategies and modified the roadway environment to reduce travel speeds.

Public outreach and a robust public involvement campaign should be implemented. It is crucial to separate fact from perception and determine most residents and elected officials support a change, or is there only a vocal minority.

Partnering with law enforcement is essential, while often challenging and unpopular a true reduction in speeds without modifications to the roadway environment will require increased enforcement.

If a speed change is desired, it is recommended to install regulatory signs instead of gateway signing alone. Regulatory signs should be installed whenever speed zones change, and at community boundaries.

The suggested system-based speed limits include:

- Local Residential Streets 25 mph
- Urban Collectors 30 mph
- Urban Minor Arterials 35 mph
- Multi-lane Suburban Minor Arterials 40 mph

Changing speeds limits is new to Minnesota, as there is insufficient data to support a conclusion as to weather or not it will improve pedestrian safety. To this end it is strongly encouraged that communities track their results so additional future evaluations and recommendations can be performed.

APPENDIX A: Full Language of the Statute

Minnesota Statutes, Section 169.14, Subd. 5h.

Speed limits on city streets. A city may establish speed limits for city streets under the city's jurisdiction other than the limits provided in subdivision 2 without conducting an engineering and traffic investigation. This subdivision does not apply to town roads, county highways, or trunk highways in the city. A city that establishes speed limits pursuant to this section must implement speed limit changes in a consistent and understandable manner. The city must erect appropriate signs to display the speed limit. A city that uses the authority under this subdivision must develop procedures to set speed limits based on the city's safety, engineering, and traffic analysis. At a minimum, the safety, engineering, and traffic analysis must consider national urban speed limit guidance and studies, local traffic crashes, and methods to effectively communicate the change to the public.

APPENDIX B: Case Studies: Category Speed Limit

City of Minneapolis:

The City of Minneapolis took utilized the category speed limit approach. Their minor roads under their jurisdiction are 20 mph for minor roads and 25 mph on their major roads. After the new Minnesota State Statute was passed, the City of Minneapolis passed an ordinance giving the city engineer the authority to set the speed limits. Minneapolis decided to change changed their speeds limit based on a technical analysis of existing data and other nation and local reports. The city had a goal to make the city a safer place for the community walking and biking. Along with these goals, Minneapolis used the collected 50th percentile speeds as well. Once they decided on a speed limit of 20 mph on minor roadways and 25 mph on major roadways, the education process began. The city created an educational campaign to educate the community. They also teamed up with the City of St. Paul to do joint events in the community to educate the public on the new speed limit change. The city also changed the signs in the city and then added gateway sign that the city worked with MnDOT to create. There is still some education left to be done and after a few years of these speed changes they hope to reevaluate to see how the speed limit change has impacted crash and speed data.

City of St. Paul:

In October 2019, the Saint Paul City Council passed an ordinance to allow the City Engineer to set speed limits on city-owned streets. Saint Paul Public Works completed a technical evaluation to determine speed limits on city streets following new legislation enabling City governments to set the speed limits on roadways under their jurisdiction. They utilized the category speed limits similar to Minneapolis. New speed limits are 20 mph for local residential streets; 25 mph for larger, arterial and collector city-owned streets; and 30-plus mph for a few city-owned streets. Saint Paul has completed installation of new “gateway signs” at entry points into the city, indicating the citywide speed limit is 20 mph unless otherwise posted. The cities will generally not be posting 20 mph signs on local residential streets.

City of St. Louis Park:

The City of St. Louis Park also took the approach of implementing the category speed approach. limits. When the Minnesota State Statute was changed the public and City Council pressured the engineering staff to make a change. One thing that St. Louis Park did that other cities did not, is when they went to pass the ordinance, they had their research and recommendation already done. Once the city passed the ordinance the council the ordinance, they recommend that the engineering staff evaluate in more detail some specific locations. They took an extremely data heavy approach for evaluation what to do. The city evaluated their speed data and their crash data. The traffic study that they conducted evaluated the medium, average, and 85th percentile of all their streets and the they broke it down by low, medium and high traffic roads. The also looked at what they had set forth in their 2040 comprehensive plan. National standards and the speed limit goal they have for the city. After evaluating all these criteria’s criteria’s, it was recommended that 20 mph on local neighborhood streets, 25 mph on connecting streets, and 30 mph on select streets/segments. After speed change is fully implemented a traffic speed study will be conducted to evaluate the effects of the new speed change.

City of St. Anthony Village

St. Anthony Village adopted a city-wide speed limit of 25 mph on local streets. Bordering Minneapolis, city officials faced pressure from the public and elected officials to review their speed limits. It was decided that 20 mph (adopted by Minneapolis) was too slow so the city adopted a citywide 25 mph limit. The city changed and updated speed limit signs and added gateway signs to notifying drivers as they enter the city limit.

City of Falcon Heights

The City of Falcon Heights also adopted a city-wide speed limit. After analyzing past speed studies, the city concluded that they didn't have a speed issue. However, pressure from the council resulted in a speed limit change anyway. The engineering staff employed state statute Section 169.14, Subd. 2.7b. , which allowed them to change their local streets to 25 mph without conducting an engineering study or establishing a process. The city installed regulatory speed limit signs at gateways and key entry points into the city. This approach was appealing to the city because it was an easy and inexpensive option.

City of Shoreview

The City of Shoreview has the taken the approach of leaving their speed limits the same. Shoreview, unlike St. Paul and Minneapolis, were developed much more recently so they have implemented design and layouts that are reflected in the speed limit that is posted. The staff collected traffic speeds around the city and found that the 85th percentile was in the 22-28 mph range. On top of the design factors the City of Shoreview has a good deal of speed and crash data that reinforces the decision to keep their local speed limit 30 mph. The council also looked at the 2 other options of setting a city-wide speed limits or a category approach. On the advice of the engineering staff the council decided not to change any of the local speed limits.

City of Edina

To align with locals plans and attempt to increase safety within the City of Edina, the City reduced speed limits on most local roads. New speed limits include: 25 miles per hour on most local streets, 30 miles per hour on major streets with high non-local traffic, 15-20 miles per hour in School Zones, 10 miles per hour on alleys.Through this initiative, no changes will be made to roads owned by Hennepin County or the Minnesota Department of Transportation (MnDOT).

Seattle Department of Transportation: Speed Limit Case Studies

Article Summary: The Seattle Department of Transportation evaluated how placing speed limit signs closer together and changing the speed limit together effect speeds. The SDOT evaluated 5 locations throughout Seattle. Before the change the speed limit was set to 30 mph and signs were spaced out 1 to 1.5 miles apart. At the new locations the speed was changes to 20 mph spaced at ¼ mile intervals. The SDOT estimate that cost of the sign installation is about $4,000 to $5,000 per mile, this cost includes design, materials and labor. The results from the study showed that there was a significant reduction number of 40+ mph speeds. The next steps were to continue to implement the speed limit reduction and have new speeds limits done by May 2021.

APPENDIX C: Research Fact Sheets

Study Session Agenda Item 5
Meeting of Nov. 7, 2022

Title:	Communications and marketing presentation
Report From:	Andrew Wittenborg, Communications and Marketing Manager
Submitted through:	Mike Funk, City Manager Moranda Dammann, Assistant City Manager
Action Requested:	Informational

Summary Statement

Communications and Marking Manager Andrew Wittenborg will present on the topics of branding, critical incident communications and social media presence.

Background

In January 2017, following a request for the proposal process, the city hired a local independent communications consultant – Deb Garvey Communications – to guide the effort. The project included three phases: Research, Creative Brief Development and Logo Design. This brand went live in December of 2018.

Since this time, the city of Minnetonka has transformed itself through this brand and continues to enhance all communications platforms and practices as times continue to change. Andrew Wittenborg will give an update to council on branding, critical incident communications and the cities social media presence with statistics. This presentation is informational only.

Discussion Questions

1. Does the city council have any feedback or questions for staff?

Study Session Agenda Item 6
Meeting of Nov. 7, 2022

Title: Nov. 21 Study Session – topics and date

Report From Mike Funk, City Manager

Submitted through:

Action Requested: Affirm upcoming topics and date

Summary Statement

This item is informational and is intended to provide the council with the upcoming study session agenda items and study session schedule.

Background

The Minnetonka city council is scheduled to hold a total of eleven (11) study sessions in 2022. To maximize study session meetings, provide staff direction and focus on council priorities, council members ranked specific topics they expressed interest to review. At the Jan. 10, 2022 Study Session the city council reviewed these rankings, discussed priorities and provided direction to staff.

At the Feb. 7, 2022 regular council meeting the city council unanimously approved the 2022 Study Session Work plan. See attached. Staff committed that at each proceeding study session the topics for the upcoming study session will be provided.

Section 1.5 of the City Council Rules of Procedure states, individual council members may propose agenda items for future meetings at a study session, and the council may provide direction to the city staff regarding scheduling such matters. In essence, this document can be modified throughout the remainder of the year by a majority of council members.

Unless modified by the city council, the 2022 Study Session Work Plan agenda items for Nov. 21, 2022, are:

- 2023 Enterprise budget discussion, including utility billing/senior discount
- 2023 budget discussion

Discussion Questions

1. Does the city council confirm upcoming topics and date?

2022 Council Study Session Work Plan

City Manager Recruitment

Quarter 1	
10-Jan	
	Establish 2022 Council Work Plan
	Study Session: streaming/broadcasting
14-Feb	
	Joint EDAC/CC wealth building buy-down program
	Boards & Commission Interviews
	2022 Community Survey questions review
17-Mar	
	Director presentation: Chief Scott Boerboom, Police
	Director presentation: Julie Wischnack, Community Development
	Strategic Profile
Quarter 2	
TBD	Joint meeting with City of Hopkins: Southwest Light Rail & Dual city contracts
04-Apr	
	Director presentation: Mike Funk/ Moranda Dammann, Administration
	Director presentation: Corrine Heine, Legal
	Director presentation: Kelly O'Dea, Recreation programming overview
	Director presentation: Chief John Vance, Fire
16-May	
	Director presentation: Will Manchester, Public Works
	Director presentation: Darin Nelson, Finance
	2023 Kick-Off Budget discussion
08-Jun	Recheduled Annual Park Board tour
20-Jun	
	NRMP/POST Plan, park dedication fees, funding, priority list
	2023 CIP/EIP
13-Jul	Boards & Commissions dinner
Quarter 3	
15-Aug	
	2023 budget discussion
	Recap RCV
	Sign ordinance in reference to elections
25-Aug	Annual joint Planning Commission, EDAC and City Council tour
19-Sep	
	Housing: homelessness
	City wide, curb-side pick up
	Affordable Housing
Quarter 4	
02-Nov	Annual Park Board and City Council joint meeting
07-Nov	
	Sustainability commission young adult interviews
	Speed limits
	Communications and marketing presentation
21-Nov	
	2023 Enterprise budget discussion, including utility billing/senior discount)
	2023 budget discussion
12-Dec	
	2023 Strategic Profile Action Steps
	2023 Study Session Work plan
	2023 Legislative Breakfast - confirm priorities

Other Potential Topics

- Technology security and data practice training
- Council meeting length/meeting effeciencies
- Review solar energy programs and offerings
- Noise discussion: Lawn mowers, leaf blowers
- Storage of garbage/recycling containers
- Council member compensation
- Noise discussion/hardscape discussion: outdoor pickleball
- Personal property tax
- Review of business programs
- Permitting work flow: informational
- Human Rights/DEI Commission
- Community Engagement
- New Low to Medium Density Zoning Discussion Along Identified Corridors
- Buckthorn pick-up

annual survey and/or a question through MinnetonkaMatters

city council retreat item; Spring 2022