Speed limit evaluation
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1. Executive summary

In May 2019, provisions passed by the Minnesota legislature gave cities increased authority to set speed limits. In March 2020, the St. Louis Park City Council directed staff to continue to investigate the feasibility and impacts of changing speed limits within the city.

Existing City of St. Louis Park policies prioritize equitable traffic safety and access for people walking, rolling, biking, and taking transit. These policies include the city council's strategic priorities, comprehensive plan, Active Living: Sidewalk and Trails plan, and the Climate Action Plan.

Staff established goals to frame setting speed limits citywide. The goals affirm similar goals in city policies, including to eliminate traffic fatalities and serious injuries, prioritize pedestrians over vehicular traffic, and to ensure equitable outcomes for all people using the city's transportation system.

National research shows that lower traffic speeds reduce both the likelihood and severity of traffic crashes. All of Minnesota's neighboring states have a 25 mph default urban speed limit. The research also shows that the traditional approach of using 85th percentile speed to set speed limits is no longer "best practice" for urban streets. Instead, considering the median (50th percentile) speed is more contextually appropriate. Larger cities such as Portland, Seattle, and Boston have found success with the category speed limit approach and have seen decreases in injury crashes and vehicle speeds.

The city also researched local and national examples of changing speed limits to inform the evaluation. This included talking with cities with populations under 100,000 to better understand impacts to similar sized communities.

A citywide crash analysis was conducted to understand the causes of fatal and serious injury crashes as well as pedestrian- and bicyclist-involved crashes. Crashes were concentrated on higher-traffic streets, which often have higher design and operating speeds. Streets with higher speed limits were more likely to have fatal or high injury crashes when compared to streets with lower speed limits. Pedestrians and bicyclists are overrepresented in severe and fatal crashes. The city also meets or nearly meets regional and statewide targets for fatal and serious injury crash rates. However, the overall desired crash rate is zero in which there are no fatal and serious injury crashes.

Vehicle speed data from 668 locations were used in this evaluation. Median vehicle speeds on low-volume local roads were 21 mph. On higher traffic streets, median vehicle speeds were 27 – 29 mph.

As a part of the city's strategic priorities and goals, a race equity lens was applied to the evaluation. Based on our existing speed data, people drove vehicles slower in areas with a higher percentage of White residents. The correlation of higher percentages of White residents and slower streets is affected by factors including housing discrimination, land use, and the existing road system. Historically, lowered speed limits by petition occurred in

more White and affluent neighborhoods when implemented or those neighborhoods over time have become more White than the city as a whole.

To work to counter these inequities, a targeted universalism approach was taken to ensure equitable distribution of safety improvements. To target the safety of non-vehicle trips, which are more likely to be Black, Indigenous, and People of color (BIPOC) residents, transit service, continuous sidewalks or trails, and residential zones (multi- and single-family) were incorporated into the speed limit evaluation. Lower speed limits were also prioritized in residential areas and places where there are no sidewalks or trails, even if median speeds were slightly higher.

With the above information, the current default speed limits do not reflect the expectations of residents, drivers, and other road users. The current speed limit is higher than most drivers are comfortable traveling and lowering it will support safety on those streets. For St. Louis Park, a category approach to speed limits is the most appropriate: generally with 20 mph on lower traffic roads, 25 mph on medium traffic roads, and 30+ mph on high traffic roads.

The city has an implementation plan set to educate and inform residents, employees, and visitors to St. Louis Park. Through in-person, print, and virtual methods, the city will work to show the connection between lower speed limits and safety. The city will partner with community organizations and contacts to further spread the message outside of the city's official communication channels.

The city will also complete an initial evaluation of speed limit changes. The evaluation is expected to include a comparison of speeds driven on city roads as well as a comparison of crash data. Additionally, speed limits will be re-evaluated as a part of planned construction projects and transit route changes.

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2. **Legislative authority**

In May 2019, the Minnesota legislature passed two provisions that give cities increased authority to set speed limits. They went into effect on Aug 1, 2019. The full language of the first provision is provided below:

> 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.

The second provision (Section 169.011, Subd. 64) expands the definition of a residential roadway to include city streets or town roads in areas zoned exclusively for housing that are not collector or arterial streets. To utilize this provision, cities are not required to do a study. Instead, the city must post speed limit signs at the beginning and end of the roadway section.

The City of St. Louis Park plans to use the new laws to change speed limits from the state statutory urban speed limit of 30 mph. Cities must do so "in a consistent and understandable manner…based on the city's safety, engineering, and traffic analysis". They must also provide "appropriate signs" and consider "methods to effectively communicate the change to the public".

3. **Local policy**

Existing City of St. Louis Park policies prioritize equitable traffic safety and access for people walking, rolling, biking, and taking transit. Details of existing city policies and plans that inform speed limits are included in the following sections.

   a) **City council speed limit staff direction**

   On March 9, 2020, staff provided a written report to the city council, updating them on the status of speed limits in Minnesota. In the report, staff provided information regarding the new local legislative authority to change speed limits, existing speed limit data in the city, and staff's proposed path forward. The council was asked if they wish staff to continue to investigate the feasibility and impacts of changing speed limits within the city. Following the meeting, staff was given direction to continue to investigate changing speed limits.

b) Active Living: Sidewalks and Trails Plan (2008)

As a part of Vision St. Louis Park in 2007, the city heard from community members that we needed more infrastructure for pedestrians and bicyclists. A group of community members was brought together to create a Community Advisory Committee. That committee, along with city staff, created the Active Living: Sidewalks & Trails Plan. The plan called for the creation of a connected network of bikeways, sidewalks, and trails throughout the community. Some of the goals and strategies established for this system inform the setting of speed limits:

- Bicycle and Pedestrian Goals
  - Establish safe crossings of highways, arterial roads and rail corridors using innovative traffic calming strategies, improved traffic control systems and, where possible, grade separations.
- Objectives
  - Reduce the number and severity of pedestrian and bicycle accidents in St. Louis Park.
- Strategies
  - Sidewalks
    - Use innovative designs to calm traffic and enhance streetscapes to make streets safer and more pleasant for pedestrians.

c) St. Louis Park Complete Streets policy (2013)

In 2013, the city council approved a resolution that it is the city's policy to utilize complete streets principles and to work with partner agencies so that complete streets elements are evaluated with city transportation projects. The term Complete Street is defined by Minnesota Statute 174.75.

Complete Streets considers the needs of motorists, pedestrians, transit users and vehicles, bicyclists, and commercial and emergency vehicles moving along and across roads, intersections, and crossings in a manner that is sensitive to the local context and recognizes that the needs vary in urban, suburban, and rural settings.

The applicable benefits that inform setting speed limits as described in the city's policy are:

- Improve the safety of all users on roadways.
- Create transportation networks that support more walking and biking that encourage more physical activity and improving physical health.
- Create equity in access and transportation options for individuals not able to operate a vehicle.

- Positive impacts to the environment by creating transportation options other than the single-occupant vehicle.
- Improve the quality of life by creating walkable neighborhoods.

d) **Healthy Eating and Active Living (HEAL) policy (2013)**

In 2012, the city council directed city staff to identify best practices for further development and promotion of the Minnesota GreenStep Cities Program, including the adoption of an Active Living Policy. In 2013, the city council approved an active living policy that included healthy eating to more holistically address community health. The applicable parts of the HEAL policy that inform setting speed limits are:

Built Environment

The City of St. Louis Park recognizes that the built environment influences active living opportunities and that the City of St. Louis Park influences the built environment at many scales through infrastructure investments, land use policies and regulations, and city financial assistance. The city will:

- Plan and construct a built environment that encourages walking, biking and other forms of physical activity.
- Utilize Complete Streets principles to design and maintain streets in a manner that is appropriate to the community context and safe for all users, including pedestrians, bicyclists and transit passengers of all ages and abilities, as well as trucks, buses, and automobiles.

e) **Vision 3.0 (2017)**

In October 2017, the city council approved Vision 3.0. Every ten years, the city launches an ambitious grassroots effort to ask residents about their hopes and dreams for the future of St. Louis Park. The third installment of the vision process produced five recommendations from the community for St. Louis Park's future. Two of the five recommendations highlight creating an equitable and forward-thinking transportation system:

- Develop future-focused transit and mobility solutions
- Commit to being a leader in racial equity and inclusion
    - Work with community partners to make diversity and inclusion a priority in all components of city business.

f) **St. Louis Park strategic priorities (2018)**

In May 2018, the city council approved strategic priorities. The strategic priorities are a result of the recommendations brought forward during the Vision 3.0 process. The five priorities are intended to articulate and provide direction to staff on those things the city council feels will have the most powerful and

positive impact on the St. Louis Park community by 2028. Two of the strategic priorities speak most to setting equitable speed limits:

- St. Louis Park is committed to being a leader in racial equity and inclusion in order to create a more just and inclusive community for all.
    - Expanding racial equity as an ongoing discussion within all areas of city business.
    - Creating awareness and a learning environment where consequences and unintentional impact of our work and decisions are addressed.
- St. Louis Park is committed to providing a variety of options for people to make their way around the city comfortably, safely, and reliably.
    - Researching and implementing multiple and affordable mobility solutions for all.

g) Climate Action Plan (2018)

In 2018, the city council passed a Climate Action Plan with the goal of achieving carbon neutrality – having a net-zero carbon footprint – by 2040. The plan provides guidance for residents, businesses, and the city on reducing the greenhouse gas emissions and impacts of climate change. The plan was created by the St. Louis Park Environment and Sustainability Commission in partnership with the youth of St. Louis Park.

One of the seven major goals of the plan is to reduce vehicle emissions by 25% by 2030 as compared to the business-as-usual forecast. One of the initiatives under this goal informs the setting of citywide speed limits:

i. Initiative 6.4: Enable reduction of vehicle miles traveled (VMT) from single-occupancy vehicles
    1. Continue to modify land use and encourage alternative modes of transportation, consistent with the city's complete streets policy and any future living streets policy.

h) **St. Louis Park 2040 Comprehensive Plan (2019)**

In 2019, the city council adopted the city's 2040 Comprehensive Plan. The plan carries out the city's future vision and sets goals, strategies, and priorities in a comprehensive manner and sets a clear image of the values the city as a governing body wants to achieve. Many goals and strategies across multiple departments and city services reinforce creating a safe transportation system prioritizing vulnerable road users and focusing on elevating the role race plays in all aspects of city business.

- **Racial equity goals and strategies**
  - Break down barriers in creating a just and inclusive community for all
    - Expand racial equity conversations within all areas of city business
  - Ensure racial equity in city services and programs to make a tangible difference for all.
    - Apply a racial equity lens to all city work and city decisions
    - Re-evaluate established city systems and processes to effectuate change in how the city conducts its business.
- **Mobility system goals and strategies**
  - Plan, design, build, and operate the city's mobility system in a way that prioritizes walking first, followed by bicycling and transit use, and then motor vehicle use.
    - Incorporate an approach that is based on surrounding land use context when planning and designing transportation projects
    - Continue to explore and evaluate flexible and innovative designs and seek guidance from established best practices to achieve desired outcomes.
    - Promote and support adaption of the mobility network to take advantage of improved technologies and mobility modes.
  - Ensure the quality and function of the transportation system contributes to the equitable outcomes for all people
    - Promote public awareness of the range of travel choices and the beneficial impacts travel choices have on household finances, personal quality of life, society, and the environment.
  - Eliminate fatalities and serious injuries that are a result of crashes on city streets
    - Prioritize safety investments in line with the modal hierarchy
    - Protect pedestrians and bicyclists through design decisions that strive to eliminate fatalities and serious injuries
    - Use enforcement, design decisions, and operational norms to reflect an acute awareness for protecting all users of the mobility systems.
- **Pedestrian mobility goals and strategies**
  - Provide for the needs of pedestrians by removing barriers
    - Employ traffic management measures where appropriate to enhance safe pedestrian mobility.
- **Bicycle mobility goals and strategies**

        - Provide for the needs of bicyclists, removing barriers to active transportation
            - Implement emerging best practices in bikeway design
    - **Vehicular mobility goals and strategies**
        - Provide well-designed and well-maintained city streets that balance the needs users, residents, businesses, and property owners.
            - Identify traffic management measures in conjunction with upgrades to the mobility system.
            - Maintain the roadway network in a safe and fiscally responsible manner
        - Work to ensure roadways efficiently connect residents, employees, and visitors to local and regional destinations.
            - Promote and support the use of Travel Demand Management strategies to achieve more efficient use of the existing community mobility network and reduce congestion problems.

i) **Living Streets Policy (2019)**

In 2019, the city council approved the Living Streets Policy. Living Streets is an effort to balance the important role of our right of way to move traffic and accommodate utilities with the equally important need for a multi-modal transportation system and a cleaner environment. The purpose of living streets is to build community, provide environmental benefits, and provide economic benefits.

The city's Living Streets vision statements that are most applicable to inform setting speed limits are:

- The city will plan, design, build, and operate the city's mobility system in a way that prioritizes walking first, followed by bicycling and transit use, and then motor vehicle use.
- Transportation will occur via complete, integrated, efficient, safe, and comfortable networks for all users regardless of age or abilities, including pedestrians, bicyclists, and transit passengers, as well as trucks, buses, and automobiles.
- The environment, in terms of local air and water quality and in terms of global impacts like climate change, will be positively impacted by the city's transportation-related decision-making.
- The transportation system will benefit all users equitable, particularly vulnerable users and the most underinvested and underserved neighborhoods.

Living Streets is built on six principles that guide the implementation of the policy, two of which are most applicable to setting speed limits:

- Traffic management
  - Traffic is an important element of livability. The methods for traffic management depend largely on the type of roadway, its function, and the modes of travel expected on the roadway.
  - The concept of traffic management is usually focused on limiting cut-through traffic, decreasing the speed of vehicles, and enhancing safety for pedestrians and bicyclists.
  - …data will be collected on existing conditions. Recommendations will be made on which traffic management measure(s) could be utilized based on the context of the specific transportation project.
- Creating a sense of place
  - Creating an atmosphere that is positive, pleasant, and safe, helps attract and retain residents in the community.
  - Elimination of signals, signs, or utility poles.

4. Speed limit goals

Staff established goals to help frame this speed limit evaluation. The goals are based on applicable existing city policies and the new Minnesota speed limit statutes.

a) To support the city's goal to eliminate fatalities and serious injuries that are a result of crashes on city streets.
b) To reflect the city's goal in creating a mobility system that prioritizes walking first, then bicycling and transit, and then motor vehicle use.
c) To ensure the quality and function of the transportation system contributes to equitable outcomes for all people.
d) To support the movement of people and goods.
e) To be understandable, consistent, replicable, reasonable, and contextually appropriate in setting speed limits.
f) To clearly communicate and educate the new speed limits and their connection to safety, especially as people enter the city.

5. National guidance

In recent years, the transportation industry has sought change in the approach to setting urban speed limits and that is now beginning to yield new and updated guidance. This guidance is moving toward a safe-systems approach to setting speed limits on urban streets rather than one focused on current observed traffic speeds. This section outlines this new and updated guidance.

a) National Transportation Safety Board (NTSB)

In 2017, the NTSB released a comprehensive report Reducing Speeding-Related Crashes Involving Passenger Vehicles[1]. The report directly addresses the traditional methods for setting speed limits and the challenges with those methods:

"Typically, speed limits are set by statute, but adjustments to statutory speed limits are generally based on the observed operating speeds for each road segment – specifically, the 85th percentile speed of free-flowing traffic. Raising speed limits to match the 85th percentile speed can result in unintended consequences. It may lead to higher operating speeds, and thus a higher 85th percentile speed. In general, there is not strong evidence that the 85th percentile speed within a given traffic flow equates to the speed with the lowest crash involvement rate for all road types. Alternative approaches and expert systems for setting speed limits are available, which incorporate factors such as crash history and the presence of vulnerable road users such as pedestrians" (Executive Summary, Page x)".

The report goes on to say:
"The relationship between speed and injury severity affects more than just speeding vehicle occupants. This is particularly true in urban areas where the interaction between vehicles and vulnerable road users such as pedestrians is considerably higher. A safe system approach to setting speed limits emphasizes the consideration of human biomechanical tolerances and shifts the focus from vehicles to all road users. Especially in urban areas, it has emerged as an alternative to the use of the 85th percentile speed in setting speed limits in speed zones" (Rethinking How to Set Speed Limits, page 29).

The report recommends changes to the Federal Highway Administration's (FHWA) Manual on Uniform Traffic Control Devices "MUTCD":
"…to, at a minimum, incorporate the safe system approach for urban roads to strengthen protection for vulnerable road users" (page 29).

b) Manual on Uniform Traffic Control Devices (MUTCD)

The MUTCD sets minimum standards and provides guidance to ensure uniformity and consistency on the public transportation system. In the State of Minnesota, the Minnesota Manual on Uniform Traffic Control Devices (MnMUTCD) is used. The MnMUTCD and MUTCD are, in general, identical in language, and exact in language as it references speed limits. It is routine that new and addendum language of the MUTCD is adopted by the MnMUTCD.

[1] NTSB. "Reducing Speeding-Related Crashes Involving Passenger Vehicles" *Safety Study* (2017)

Based on the NTSB recommendation, the National Committee on Uniform Traffic Control Devices (NCUTCD) began collecting feedback and considering changes to the MUTCD related to setting speed limits.

The current MUTCD[2] offers the following standards (not guidance) for setting speed limits:

- *"Speed zones (other than statutory speed limits) shall only be established on the basis of an engineering study that has been performed in accordance with traffic engineering practices. The engineering study shall include an analysis of the current speed distribution of free-flowing vehicles".*
- *"The Speed limit sign…shall display the limit established by law, ordinance, regulation, or as adopted by the authorized agency based on the engineering study. The speed limits displayed shall be in multiples of 5 mph" (Section 2B.13 page 56).*

The current MUTCD offers the following guidance (not standard) on setting speed limits:

- *"States and local agencies should conduct engineering studies to re-evaluate non-statutory speed limits on segments of their roadways that have undergone significant changes since the last review, such as the addition or elimination of parking or driveways, changes in the number of travel lanes, changes in the configuration of bicycle lanes, changes in traffic control signal coordination, or significant changes in traffic volumes".*
- *"When a speed limit within a speed zone is posted, it should be within 5 mph of the 85th-percentile speed of free-flowing traffic" (Section 2B.13, page 58).*

The current MUTCD offers the following option (not guidance nor standard) on setting speed limits:

- *"Other factors that may be considered when establishing or re-evaluating speed limits are the following:*
    - *A. Road characteristics, shoulder condition, grade, alignment, and sight distance;*
    - *B. The pace;*
    - *C. Roadside development and environment;*
    - *D. Parking practices and pedestrian activity; and*

[2] FHWA. "Manual on Uniform Traffic Control Devices for Streets and Highways" (2012)

E. *Reported crash experience for at least a 12-month period" (Section 2B.13, page 58).*

The NCUTCD recently approved recommended changes to the current MUTCD related to setting speed limits[3]. These recommendations are provided to the FHWA for consideration in the next edition of the MUTCD, which requires federal rulemaking. The FHWA has not initiated rule making for the next edition of the MUTCD yet, but this is expected to begin within the next year. The recommendations approved by the NCUTCD include:

- *"Removing from standard that "The engineering study shall include an analysis of the current speed distribution of free-flowing vehicles".*
- Upgrading and revising the considerations for establishing speed zones to read:
  "Factors that should be considered when establishing or re-evaluating speed limits within speed zones are the following:
  A. *Speed distribution of free-flowing vehicles (such as current 85th percentile, the pace, and review of past speed studies).*
  B. *Reported crash experience for at least 12-month period relative to similar roadways.*
  C. *Road characteristics (such as lane widths, curb/shoulder condition, grade, alignment, median type, and sight distance).*
  D. *Road context (such as roadside development and environment including number of driveways and land use, functional classification, parking practices, presence of sidewalks/bicycle facilities).*
  E. *Road users (such as pedestrian activity, bicycle activity)".*
- Revising the guidance statement regarding the posted speed limit being made within 5 mph of the 85th percentile speed to apply only *"on freeways, expressways, or rural highways".*

On Dec. 14, 2020, the Federal Highway Administration released their proposed changes to the MUTCD. These proposed changes were open for comments until March 15, 2021. Among these proposed changes, the FHWA notes a decreased priority in considering 85th percentile speeds in setting speed limits[4].

- "…proposes changes to reinforce the stated understanding that other factors, in addition to the 85th-percentile speed, have a role in setting speed limits".

[3] NCUTCD. "18B-RW-03" *Proposal for Changes to the Manual on Uniform Traffic Control Devices* (2019)
[4] National Standards for Traffic Control Devices; the Manual on Uniform Traffic Control Devices for Streets and Highways; Revision, 85 Fed. Reg. 80898 (Dec 14, 2020).

- "…85th percentile speed…should be considered, particularly for freeways and expressways…".

The FHWA also requested comment on additional recommendations from the NTSB report:

- "Removal of the 85th-percentile speed as a consideration in setting speed limits regardless of the type of roadway (this recommendation was based in part on the assumption that that the 85th-percentile speed can increase over time as a result of the posted speed limit)".
- "The requirement to use an expert system to validate a speed limit that has been determined through engineering study".

These changes are in-line with previously discussed findings in this report.

c) National Association of City Transportation Officials (NACTO) speed limit guidance

The National Association of City Transportation Officials (NACTO) guide *City Limits: Setting Safe Speeds for Urban Streets*[5] provides urban speed limit guidance and was released in late July 2020.

NACTO's guide identifies two general approaches for setting default speed limits and states the following:

> *"Cities have two options for setting default speed limits: citywide or by category of street (e.g., major, minor, alley).*
>
> *Citywide speed limits are generally easier to implement and may be easier for drivers to follow. However, in cities where there is clear differentiation between major arterial streets and local or minor streets, setting speed limits based on category of street can sometimes allow cities to lower speed limits on a number of streets below what would be allowable citywide (i.e., 20 mph on minor streets vs. 25 mph citywide).*
>
> *If cities have the authority to set default speed limits, they should decide whether to implement citywide limits or category limits based on what makes the most sense given the total conditions" (page 46).*

If setting a default citywide speed limit, NACTO recommends using 25 mph:

> *"Setting or lowering default citywide speed limits is an inexpensive, scalable way to quickly improve safety outcomes, and establish a basis for larger safety gains. Default cityside limits also provide consistent*

[5] NACTO. "City Limits: Setting Safe Speed Limits on Urban Streets" (Summer 2020)

expectations and messages about speed across the jurisdiction, which is easy for drivers to follow" (page 47).

If setting speed limits using categories, NACTO recommends:

- Major streets: 25 mph.
  "A 25 mph speed limit on urban multi-lane streets has demonstrable safety benefits for all users. Major streets feature a combination of high motor vehicle traffic volume, signalization of major intersections, and an inherently multimodal street environment" (page 49).
- Minor streets: 20 mph.
  "A 20 mph speed limit on minor streets supports safe movement and contextually appropriate design on the majority of city streets. Since minor streets tend to have either very low volumes or operate at the speed of the most cautious driver, cities can apply a category speed limit to minor streets without detailed review of street characteristics. Minor streets include physically small streets where low speeds are often already present, as well as low-vehicle-volume streets with few or no transit stops" (page 50).
- Alleys and shared streets: 10 mph

NACTO identifies that cities can define "slow zones":

"Slow Zones are specifically designated areas with slower speeds than otherwise similar streets in the same jurisdiction. Neighborhood-scale or site-specific zones are useful for addressing high-priority areas such as areas with elevated collision rates or sensitive land uses (schools, parks, etc.). Cities should create slow zones based on their own location-specific needs, but several types of slow zones are relatively common" (page 54).

The NACTO guide includes additional details for analyzing speeds on major streets if a jurisdiction is not able to set default citywide or category speed limits. The guide recommends setting safe speed limits by evaluating conflict density and activity level.

Their recommendations say that streets with high activity and high conflict density should have 20 mph speed limits while urban streets with low activity levels and low conflict density should have maximum speed limits of 35 mph.

d) **National Cooperative Research Program (NCHRP) report on speed limit guidance**

On June 6, 2021, the NCHRP completed a report titled *Posted Speed Limit Setting*

Procedure and Tool[6] , which was sponsored by AASHTO and in cooperation with the FHWA. The report explains a speed limit setting procedure as well as an online tool to determine a suggested speed limit.

The first step is to consider a roadway segment's context and type. Five contexts (rural, rural town, suburban, urban, and urban core) are used from the Expanded Functional Classification System (Expanded FCS). For reference, the Metropolitan Council considers St. Louis Park an "Urban Center" city under their "ThriveMSP 2040 Community Designations".

The Expanded FCS also identifies five roadway types: interstates/freeways/expressways, principal arterials, minor arterials, collectors, and locals. The contexts and types are then distilled into four speed limit setting groups: limited-access, undeveloped, developed, and full-access. St. Louis Park's local road system, which is urban, would fall into the developed and full-access groups.

The report lists four possible speed limit options from highest to lowest:

- The 85th percentile speed rounded to the closest 5-mph increment (C85)
- The 85th percentile speed rounded down to the nearest 5-mph increment (RD85)
- The 50th percentile speed rounded to the closest 5-mph increment (C50)
- The 50th percentile speed rounded down to the nearest 5-mph increment (RD50)

Tables are provided for each speed limit setting group on when to use each speed limit option. The tables show factors to consider when setting the speed limit. These include:

- Signal and access density
- Number and type of lanes
- Bicyclist and pedestrian activity and infrastructure
- On-street parking activity and type
- Crash rates

Notably, the full-access group table only suggests to consider 50th percentile (median) speeds. The full-access group includes urban collectors and local roads.

[6] National Academies of Sciences, Engineering, and Medicine. 2021. *Posted Speed Limit Setting Procedure and Tool: User Guide*. Washington, DC: The National Academies Press. https://doi.org/10.17226/26216.

The report also provides minimum segment lengths when considering changing speed limits. These come from FHWA's USLIMITS2. For speed limits 30 mph and lower, they suggest a minimum length of 0.3 miles. For 35 mph, they suggest 0.35 miles.

e) Federal Highway Administration (FHWA)

USLIMITS

In 2008, the Federal Highway Administration (FHWA) developed a knowledge-based expert system called USLIMITS for recommending speed limits in speed zones that are considered to be credible and enforceable while taking pedestrians and bicyclists into consideration.

The current version, USLIMITS2, was created in 2012 as a "user-friendly, logical, and objective tool for local communities and agencies with limited access to engineers experienced in conducting speed studies for setting appropriate speed limits. For experienced engineers, USLIMITS2 can provide an objective second opinion and increase confidence in speed limit setting decisions.

Optimization

In 2012, The FHWA published *Methods and Practices for Setting Speed Limits: An Informational Report*[7]. In the report, the FHWA describes the method of optimization for setting speed limits.

The optimum speed limit is the speed limit that yields the minimum total societal cost, which includes vehicle operation costs, crash costs, travel time costs, and other social costs. This method of setting speed limits is rarely used due to the difficulty of quantifying key variables.

6. National and local examples

a) Speed limits in other states

A 2010 report by NHTSA provides a summary of state speed laws for all fifty states plus the District of Columbia and Puerto Rico. According to the study, statutory speed limits for city streets range from 20 to 45 mph. However, most states set default speed limits of 25 or 30 mph. Of the 52 statutory speed limits for city streets:

- 40% (21) set speed limits at 25 mph
- 29% (15) set speed limits at 30 mph
- 19% (10) did not set a statutory speed limit for city streets
- 6% (3) set speed limits at 35 mph
- And 6% (3) had a combination of 25 and 35 mph limits depending on the categorization of the road or area type

[7] FHWA. "FHWA-SA-12-004" *Methods and practices for setting speed limits: An informational report* (2012)

In 2017, a majority of states (30) had a default urban speed limit of 25 mph, including all of Minnesota's neighboring states (see Figure 1). In addition, 17 states allow 20 mph speed limits if certain conditions are met. Since 2017, some states have made changes to their speed limits under various conditions.

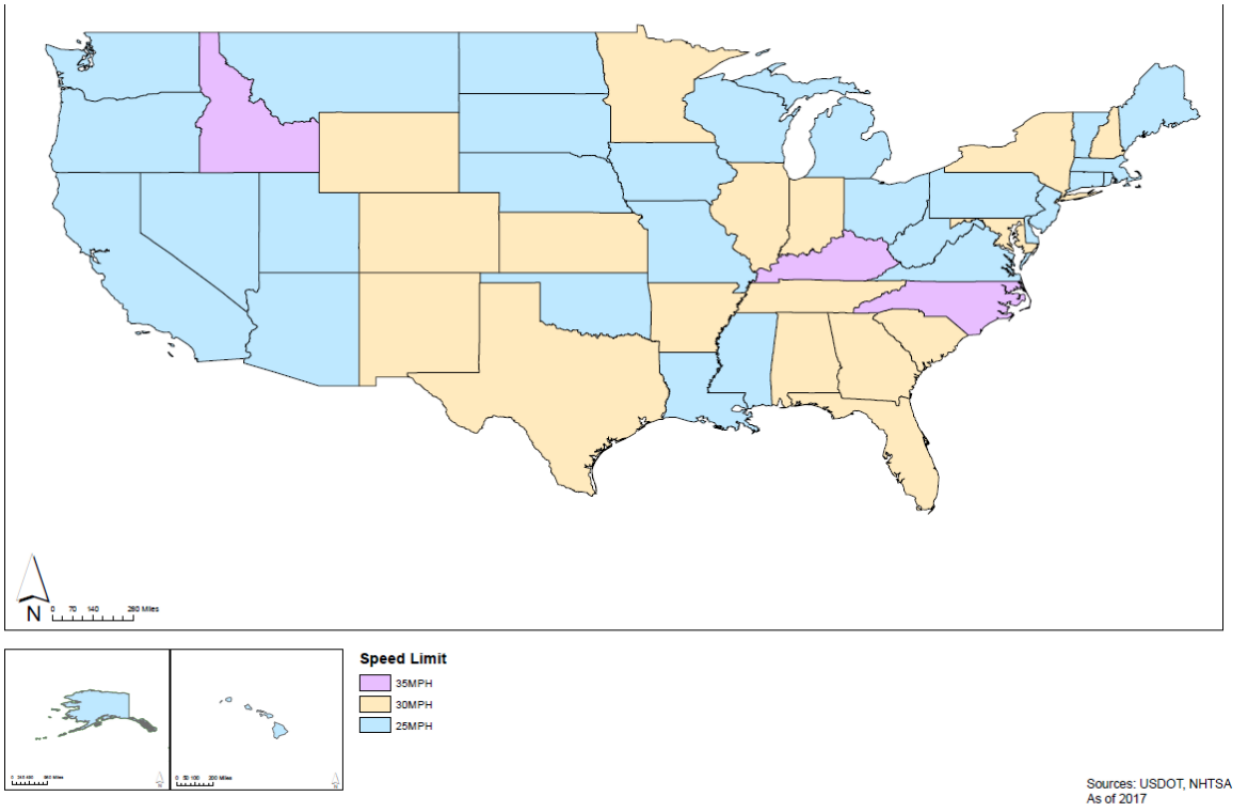


Figure 1: Default urban speed limit by state as of 2017

b) Speed limit changes from local cities

In May 2018, the cities of Minneapolis and Saint Paul announced their intentions to change their speed limits citywide. Both have completed their speed limit implementations.

i. Minneapolis

The City of Minneapolis reduced their speed limits on local streets as follows:

- 20 mph on City of Minneapolis minor streets. These are predominately local residential streets.
- 25 mph on most major City streets. Major streets are generally arterial and collector streets.
- 35 mph on four short segments of major City streets based on conditions.
- Alleys and Nicollet Mall will retain speed limits of 10 mph.

ii. Saint Paul

The City of Saint Paul reduced their speed limits on local streets as follows:

- Principal and Minor Arterial streets are major streets and will generally have 25 mph speed limits and were evaluated to determine whether a higher speed limit is appropriate based on context and design.
- Collector streets are generally major streets with 25 mph speed limits and were evaluated to determine whether a lower speed limit is appropriate based on context and design.
- Local streets are generally minor streets with 20 mph speed limits and were evaluated to determine whether a higher speed limit is appropriate based on context and design.
- Alleys will retain speed limits of 10 mph.

iii. Edina

The City of Edina is considering changing their speed limits. In late July 2020, their engineering staff presented a draft speed limit evaluation. Their recommendations were:

- 30 mph on four-lane major streets
- 25 mph on two-lane major streets
- 20 mph on major streets within School Zones (no change from current restriction)
- 20 mph on minor streets
- 15 mph on minor streets within School Zones (no change from current restriction)
- 10 mph on alleys (no change from current restriction)

Their council indicated a preference for a uniform approach rather than a tiered approach. Therefore, Edina is reworking their speed limit evaluation and plan to report updated recommendations in 2021. Their implementation, if they move forward, could occur as early as Fall 2021.

c) Speed limit changes from similar-sized cities

While the policies from local cities did include resources and other expected impacts, much of the understanding from their policies and those available from NACTO and others focus on large cities. Large cities often have more resources or in-house capacity to accomplish certain tasks. So, the city sought information and lessons learned from other smaller communities who have also changed their speed limits to understand possible impacts for a city of our size.

i. Renton, WA

Renton, Washington is a first-ring suburb of Seattle with a population of about 100,000. In 2019, Renton created a process for neighborhoods to lower their default speed limit from 25 mph to 20 mph.

In order for Renton to consider a request to reduce speed limits from 25 mph to 20 mph the following must occur:

- Staff consults the MUTCD
- The requestor gathers signatures on a petition in which each property, dwelling unit, or business is allowed one signature.
- The petition must be signed by at least 60% of property owners, business owners, and residents in the neighborhood.
- The request will be brought to the city council where staff may recommend approval, denial, or modification of the request.
- City council may approve, deny, or modify the speed limit request.

The City of Renton estimated the cost of changing out approximately 450 existing "Speed Limit 25 mph" signs to "Speed Limit 20 mph" signs is $20,500.

The city has yet made any changes to neighborhood speed limits. Only one neighborhood has come forward wanting to pursue this petition, but the COVID-19 pandemic has stopped further activity.

ii. Wheaton, IL

Wheaton, Illinois is a western suburb of Chicago with a population of roughly 50,000. In 2018, Wheaton lowered the speed limit for residential neighborhoods from 30 mph to 25 mph. The changes were based on a traffic study the city had conducted through a consultant.

While 25 mph is the new speed limit for the majority of residential streets, some streets considered "major collector" and "arterial" streets where traffic volumes were above 6,000 vehicles a day remained at a 30-mph speed limit. Two streets retained their 35-mph speed limit.

For Wheaton's implementation plan, they estimated the total cost to be about $250,000. These costs included $174,000 for two additional police officers and an additional patrol vehicle to "effectively complete an outcome driven enforcement effort". Without the police department components, the speed limit changes amounted to about $55,000.

iii. Marana, AZ

Marana, Arizona is a northwest suburb of Tucson with a population of about 35,000. In 2020, Marana lowered and raised the speed limit on a variety of streets. The changes were categorized as the following:

- **Updates** – new streets added and changes made to reflect existing conditions

- **Simplifications** – posting the same speed limit for both directions or eliminating short speed zones
- **Adjustments** – changes based on engineering judgement or study

The analysis behind the changes varied depending on the segment ranging from looking at horizontal curvature of the road to formal speed studies. The new speed zones range from 25 mph to 45 mph.

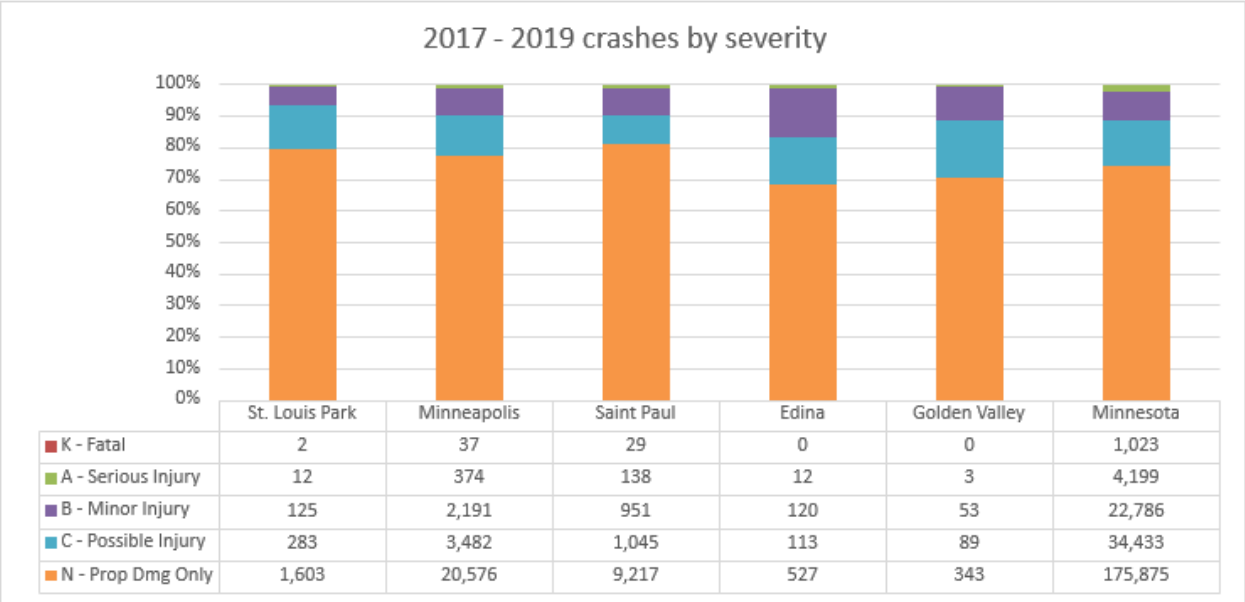
The engineering work and sign replacements were all done in-house. The costs for the changes was lumped into the annual sign replacement budget.

7. **Local crash analysis**

Crash data from 2017 to 2019 was reviewed and analyzed by a consultant (Spack Solutions) to understand trends and patterns. The full crash analysis report will be ready for release in 2021.

Key findings from the crash analysis that help inform future speed limits include:

- While crashes happen on all types of streets, crashes are concentrated on higher-traffic streets, which often have higher design and operating speeds.
- Streets with higher speed limits were more likely to have fatal or high injury crashes when compared to streets with lower speed limits.
- People walking and biking are overrepresented in severe and fatal crashes in St. Louis Park. While both combined make up less than 2% of all crashes (out of 3775 total), pedestrians and bicyclists make up 33% of fatal crashes (out of 3 total) and 43% of high injury crashes (out of 21 total).
- 34% of crashes in St. Louis Park happen at intersections. However, those crashes make up 67% of fatal crashes and 70% of high injury crashes. Failing to yield the right of way was a frequent cause of pedestrian and bicycle crashes.

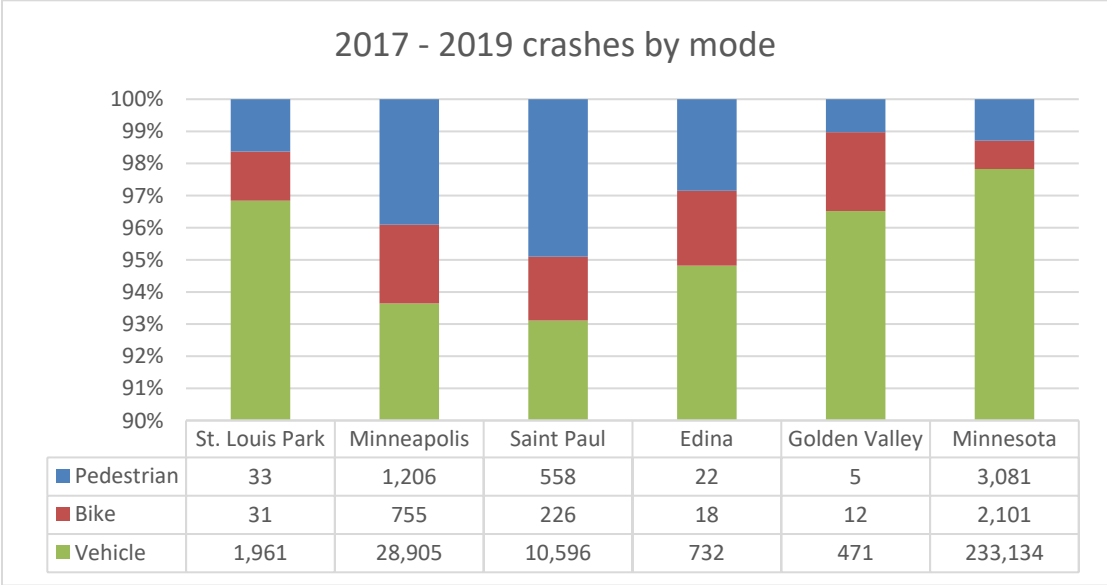


	St. Louis Park	Minneapolis	Saint Paul	Edina	Golden Valley	Minnesota
K - Fatal	2	37	29	0	0	1,023
A - Serious Injury	12	374	138	12	3	4,199
B - Minor Injury	125	2,191	951	120	53	22,786
C - Possible Injury	283	3,482	1,045	113	89	34,433
N - Prop Dmg Only	1,603	20,576	9,217	527	343	175,875

Figure 2: 2017 – 2019 crashes by severity
Sources: MnCMAT2, Minnesota Department of Public Safety

Over the study period, the city had a smaller percentage of fatal, serious injury, and minor injury crashes compared to nearby cities. The city had a similar proportion of possible injury and property damage crashes compared to nearby cities.

Crashes by mode



	St. Louis Park	Minneapolis	Saint Paul	Edina	Golden Valley	Minnesota
Pedestrian	33	1,206	558	22	5	3,081
Bike	31	755	226	18	12	2,101
Vehicle	1,961	28,905	10,596	732	471	233,134

Figure 3: 2017 – 2019 crashes by mode
Sources: MnCMAT2, Minnesota Department of Public Safety

Over the study period, the city had a smaller proportion of pedestrian and bike crashes compared to most nearby cities.

Fatal crash rate and targets

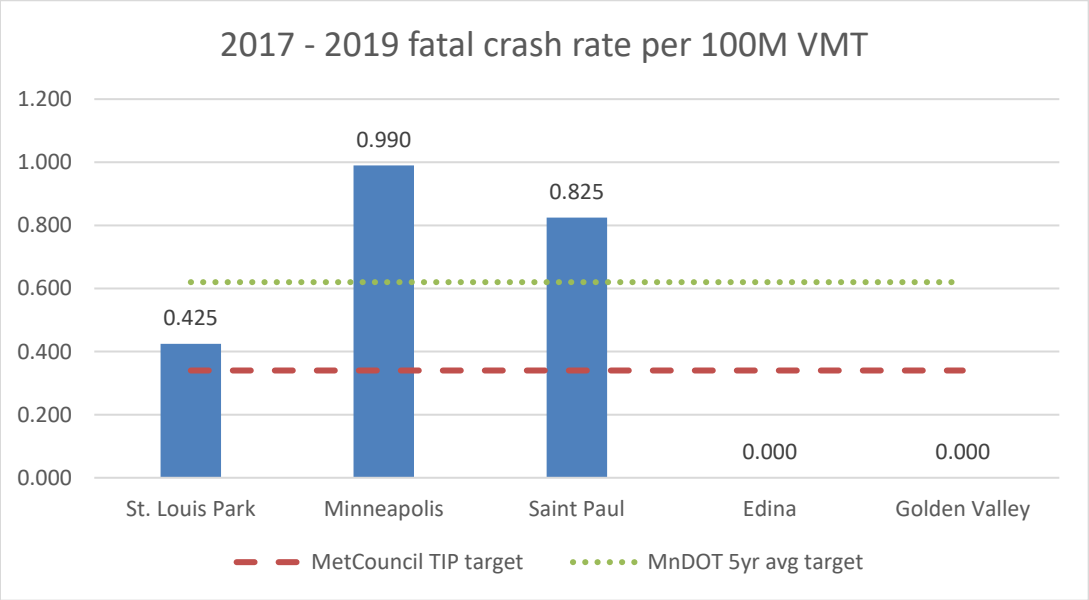


Figure 4: 2017 – 2019 fatal crash rate per 100 million vehicle miles traveled
Sources: MnCMAT2, Minnesota Department of Public Safety, Metropolitan Council, Federal Highway Administration, city calculations

The city meets or nearly meets regional and statewide targets for fatal crash rates. The city also has lower fatal crash rates than other cities with non-zero rates. However, the overall desired crash rate is zero in which there are no fatal crashes in the city.

The metro area's target is set by the Metropolitan Council in their Transportation Improvement Program (TIP). The statewide target is set by MnDOT. Crash rates are measured per 100-million vehicle miles traveled (VMT) to better compare different sized and differently used transportation systems.

Serious injury crash rate and targets

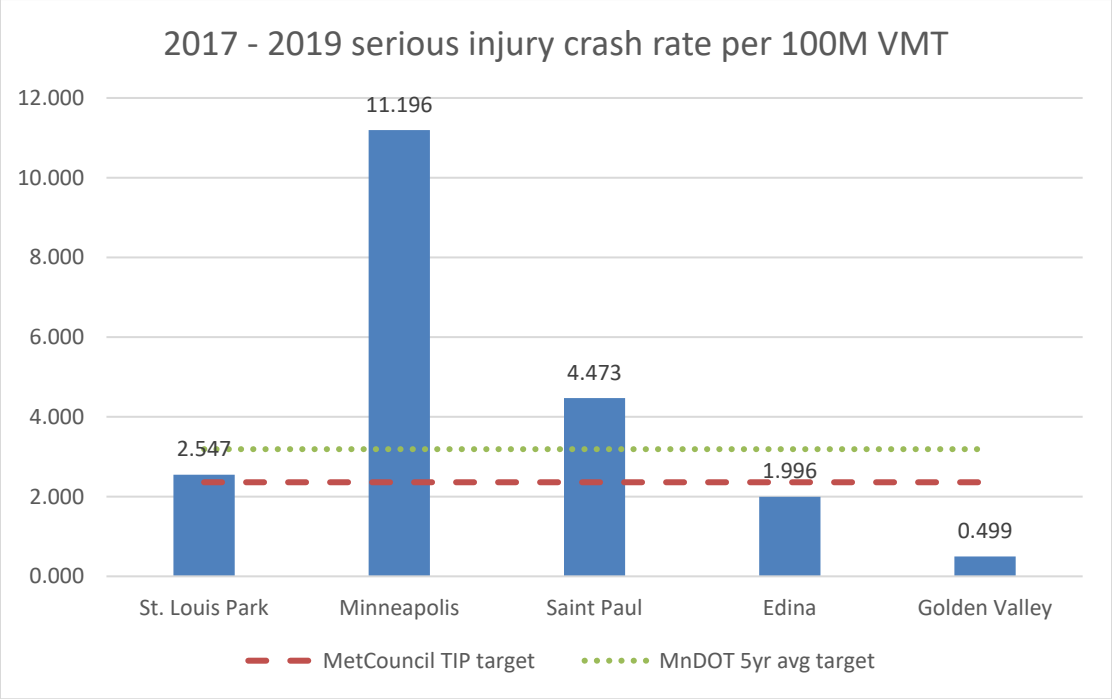


Figure 5: 2017 – 2019 serious injury crash rate per 100 million vehicle miles traveled
Sources: MnCMAT2, Minnesota Department of Public Safety, Metropolitan Council, Federal Highway Administration, city calculations

The city meets or nearly meets regional and statewide targets for serious injury crash rates. The city also has a lower or comparable serious injury crash rate compared to nearby cities. However, the overall desired crash rate is zero in which there are no serious injury crashes in the city. The crash rate targets and comparison measurements are the same as the fatal injury crash graph.

8. **National safety research**

Studies demonstrate the relationship between speed and road safety. Generally, higher speeds increase the likelihood of a crash and the likelihood that a crash will be severe or fatal.

The NTSB 2017 report *Reducing Speeding-Related Crashes Involving Passenger Vehicles*[8] summarizes the connection between speed and safety:

> *"Speed – and therefore speeding – increases crash risk in two ways: (1) it increases the likelihood of being involved in a crash, and (2) it increases the severity of injuries by all road users in a crash.*

[8] National Transportation Safety Board. 2017. *Reducing Speeding-Related Crashes Involving Passenger Vehicles.* Safety Study NTSB/SS-17/01. Washington, DC.

The relationship between speed and crash involvement is complex, and it is affected by factors such as road type, driver age, alcohol impairment, and roadway characteristics like curvature, grade, width, and adjacent land use. In contrast, the relationship between speed and injury severity is consistent and direct. Higher vehicle speeds lead to larger changes in velocity in a crash, and these velocity changes are closely linked to injury severity. This relationship is especially critical for pedestrians involved in a motor vehicle crash, due to their lack of protection" (Executive Summary page ix).

A key factor in the likelihood of a crash is how far it takes to stop. Figure 6 outlines the relationship between stopping sight distance and speed. Stopping sight distance grows with speed. According to the American Association of State Highway and Transportation Officials (AASHTO), it takes the average driver 301 feet to stop at 40 mph, 197 feet at 30 mph, and 112 feet at 20 mph. A change from 30 mph to 20 mph results in an average driver stopping 85 feet sooner, which is almost five car lengths of 18 feet each. Note that other research yields different stopping sight distances based on different reaction times and speeds of breaking (AASHTO guidance is conservative), but it always takes longer to stop at higher speeds.

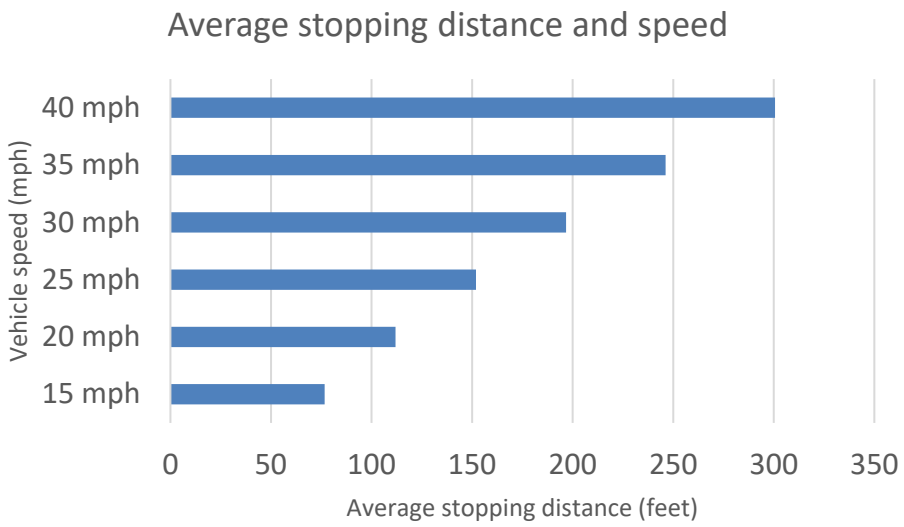


Figure 6: Average stopping distance and speed
Source: American Association of State Highway and Transportation Officials (AASHTO). A Policy on Geometric Design of Highways and Streets. Washington, DC: AASHTO, 2011. "Assumes 2.5 second perception-braking time and 11.2 ft/sec2 driver deceleration".

Figure 7 shows the relative crash risk for a pedestrian hit at different speeds. A person is significantly more likely to lose their life or sustain a serious injury as the speed at impact increases. A person hit at 30 mph is three times as likely to be killed than at 20 mph.

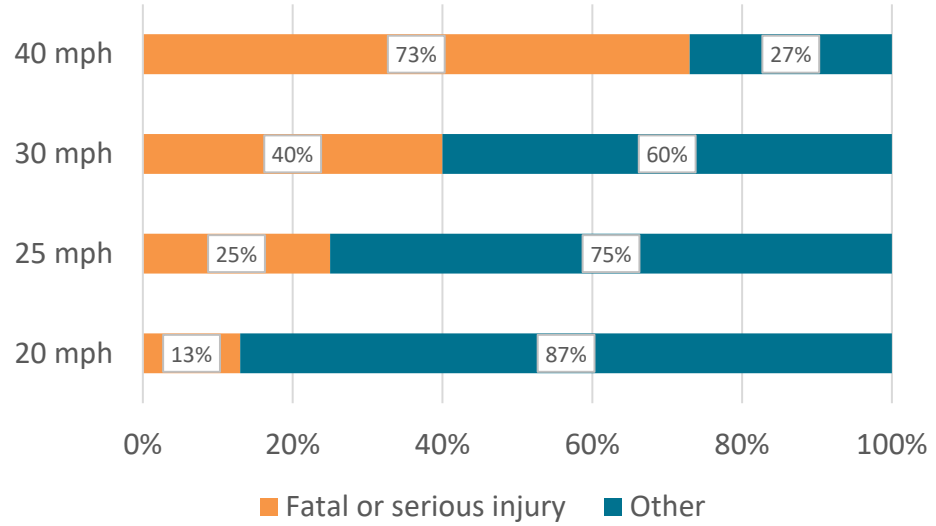


Figure 7: Pedestrian Risk and Impact Speed
Source: Brian C. Tefft. 2013. AAA Foundation for Traffic Safety. Impact speed and a pedestrian's risk of severe injury or death

While the fact that lower traffic speeds increase safety is well established, there has been less study on the impact of speed limits on traffic speeds. A 2018 Insurance Institute for Highway Safety study *Lowering the Speed Limit from 30 to 25 mph in Boston: Effects on Vehicle Speeds*[9] is the most recent detailed look at the impact of a change in speed limits on vehicle speeds. The study concluded that "…lowering the speed limit in urban areas is an effective countermeasure to reduce speeds and improve safety for all road users".

The study found significant reductions in the probability of vehicles exceeding 30 mph and 35 mph. There was a 29.3 percent decline in the odds of speeding for vehicles traveling faster than 35 mph. Reduction in higher urban speeds is especially valuable because risk to pedestrians increases dramatically between 25 mph and 35 mph.

The study showed only a small change in the average traffic speed in Boston after the speed limit change, reinforcing that people generally drive to what they feel is comfortable given the context and design of the street. These results also suggest that there was less speed differential with the 25-mph limit than with the 30-mph limit since higher-end speeds decreased.

Minimizing speed differential has been one of the long-standing rationales for using the 85th percentile for setting speed limits. But, this study reinforces that behavior on urban streets is different than rural and highway conditions.

[9] Hu W, Cicchino JB. *Lowering the speed limit from 30 mph to 25 mph in Boston: effects on vehicle speeds.* Injury Prevention. (2020)

In 2020, The City of Seattle began to evaluate traffic conditions after they lowered their arterial road speed limit to 25 mph. In their case study report[10], they saw a 18% decrease in injury crashes and 22% decrease in all traffic crashes. In addition, traffic speeds on arterial roads have decreased. Most notably, drivers speeding over 40 mph have decreased by 54%.

In 2020, The City of Portland, Oregon began to evaluate traffic conditions after they lowered their default speed limit to 20 mph. In their report[11], they observed less drivers exceeding 25, 30, and 35 mph. Most notably, they estimate a 50% less likelihood of observing vehicles driving above 35 mph.

9. **Local traffic evaluation**

To develop an understanding of how motorists currently behave on different types of streets under existing speed limit regulations, the city performed an evaluation of existing speeds on roadways within St. Louis Park.

Vehicle speed data from 668 locations were used in this evaluation. The collected data came from multiple sources, some of which overlap on locations:

- The city frequently conducts speed studies to evaluate existing driving conditions to determine the appropriate action to take in response to a citizen concern (through the traffic committee) or to aid in the engineering design process. This review utilizes data collected within the previous four years and includes speeds from 375 locations on city streets.
- Every four years, the city takes traffic counts on Municipal State Aid System (MSAS) roads in accordance with MnDOT. During the latest round of counting, the city elected to collect speed information as well. This review utilizes data collected in 2017 and includes speeds from 123 locations on city streets.
- The city often uses speed feedback boards deployed through our police department. These boards display the speed in which drivers are traveling and reminding them of the existing speed limit. This review utilizes data collected within the previous three years and includes speeds from 314 locations on city streets.

Data from MSAS and city traffic counts were typically collected via traffic tubes for at least 48 hours in the middle of a typical weekday. When traffic tubes can't be used, the counts are conducted using video analysis. Speed feedback boards measure the speed of vehicles in one direction only and are also taken over at least 48 hours on typical

[10] *Speed Limit Case Studies*. Seattle Department of Transportation (2020).
[11] *Effect of Residential Street Speed Limit Reduction from 25 to 20 mi/hr on Driving Speeds.* Portland State University (2020).

weekdays. Speed data was collected by direction and all data points count each direction as an individual study.

Staff's initial speed findings are divided into three groups:

a) Low traffic roads (less than 2,000 vehicles a day)
b) Medium traffic roads (between 2,000 and 12,000 vehicles a day)
c) High traffic roads (more than 12,000 vehicles a day)

The general findings are shown in the figure below:

	Median speed	Average speed	85th percentile speed
All city streets	23.5 mph	23.4 mph	27.8 mph
Low traffic roads	21.1 mph	21.0 mph	25.5 mph
Medium traffic roads	28.9 mph	28.4 mph	33.4 mph
High traffic roads	27.6 mph	29.5 mph	34.7 mph

Figure 8: Vehicle speed summary

Key takeaways from the speed study include:

- The average and median speed across all low volume streets was 21 mph.
- Low traffic streets are the city's safest streets based on the citywide crash study, although severe and fatal crashes have happened on them.
- The city regularly receives resident concerns about vehicles driving too fast on roads of all traffic levels. These complaints, when compared with the existing speed data, suggest that the current speed limit does not reflect the expectations of residents and that the city can support this by setting a speed that supports safety and community expectations on these streets.
- The median speeds of medium and high traffic roads are similar, ranging from 27 to 29 mph. This indicates that the current speed limit is higher than most drivers are comfortable traveling and lowering it will support safety on those streets. These roads are posted at 30, 35, and 40 mph. Characteristics of higher traffic roads, when compared to medium traffic roads, are the higher number of lanes. The increased width of the road makes it more difficult for pedestrians and bicyclists to cross.

10. Race equity and inclusion (REI)

Race and road safety

As a part of the city's strategic priorities and goals, a race equity lens should be applied to all city work and city decisions. Race is a factor in the safety outcomes of road users of all modes. Similarly, structural and individual racism (conscious or unconscious) further existing disparities in safety for Black, Indigenous and People of Color (BIPOC).

From a study done by Smart Growth America[12], BIPOC were more likely than White people to be struck and killed by a driver. Drivers yield less often to Black pedestrians compared to White pedestrians as observed from a study in Portland, Oregon[13]. A different study in Las Vegas[14] found that in higher-income neighborhoods, drivers failed to yield to Black pedestrians 21% of the time compared to White pedestrians at 3%. The same study found that drivers yielded more often for women compared to men.

The city's existing vehicle speed data was compared to demographic information collected by the American Community Survey in 2018. Based on our existing speed data, people drove vehicles slower in areas with a higher percentage of White residents. The dots represent census block groups and the dashed line is a linear trend line.

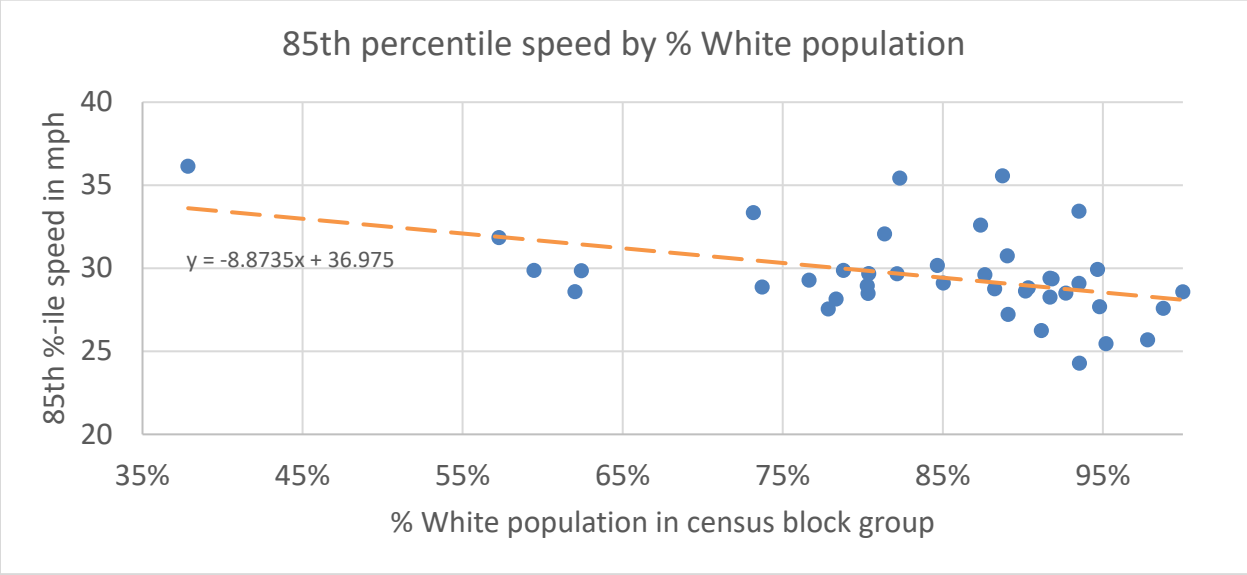


Figure 9: Vehicle speeds per census block group by race
Sources: City traffic data, 2018 American Community Survey

The correlation of higher percentages of White residents and slower streets is affected by factors including housing discrimination, land use, and the existing road system.

Racial covenants (racially restrictive housing deeds) beginning in the 1910s and formally ending with the 1968 Fair Housing Act, prevented non-White people from purchasing single-family housing. According to Mapping Prejudice[15], racial covenants existed and remain on many housing deeds in St. Louis Park. Legacies of racial covenants include lower BIPOC house ownership and less diversity in areas that had covenants. Also,

[12] *Dangerous By Design* (2019) by Smart Growth America
[13] *Racial bias in driver yielding behavior at crosswalks* (2015) by Goddard, Kahn, and Adkins
[14] *Examining racial bias as a potential factor in pedestrian crashes* (2017) by Coughenour et al.
[15] https://mappingprejudice.umn.edu/

single-family housing areas are often placed away from the busiest roads in the city, while multi-family housing are often built closer to busier roads.

Multi-family housing is also often adjacent to more traffic-intensive land uses such as other multi-family housing, commercial, office, planned unit development (PUD), business park, and industrial uses. In contrast, single-family housing is often set near other single-family housing or parks and open space which are less traffic-intensive.

Land use sets the needs of the transportation system. Because multi-family housing is set around other traffic-intensive uses, the adjacent road system is built for more vehicles and often designed for faster speeds. Single-family housing is often in areas designed for less vehicles with narrower, disconnected, or cul-de-sac streets, which decrease traffic volumes and vehicle speeds.

Race and speed limits
Historically, lowered speed limits by petition occurred in more White and affluent neighborhoods when implemented or those neighborhoods over time have become more White than the city as a whole.

There are four areas in the city that obtained lower speed limits through petition: Westwood Hills, Lake Forest, Cobblecrest/Aquila, and Willow Park. These neighborhoods petitioned the city and MnDOT to conduct a speed study ranging from the late 1960s to the early 1980s. In each instance, the speed limit was lowered from 30 mph to 25 mph. Shown in the tables below are the census tracts where those changes occurred, the percentage of White population, and the mean and median incomes.

Sources for figures 10 - 13: 2018 American Community Survey, 1970 decennial census, 1980 decennial census

Figure 10: *Aquila/Cobblecrest – Census tracts 223.01 and 223.02*
Aquila Ave, 34th St and Aquila Ln were lowered to 25 mph from 30 mph in 1969.

	223.01	**223.02**	**citywide**
1970 % White population	98.6%	99.4%	99.2%
2018 % White population	87.2%	78.7%	82.4%
1970 median income (1970$)	$ 17,707.00	$ 11,203.00	$ 12,483.00
2018 median income (2018$)	$ 70,121.00	$ 50,903.00	$ 75,690.00
1970 mean income (1970$)	$ 19,499.00	$ 11,419.00	$ 14,203.00
2018 mean income (2018$)	$ 87,457.00	$ 77,759.00	$ 95,972.00

Figure 11: *Willow Park – Census tract 221.02*
22nd St and Quebec Ave were lowered to 25 mph from 30 mph in 1969.

	221.02	citywide
1970 % White population	99.2%	99.2%
2018 % White population	81.2%	82.4%
1970 median income (1970$)	$ 13,563.00	$ 12,483.00
2018 median income (2018$)	$ 61,908.00	$ 75,690.00
1970 mean income (1970$)	$ 14,690.00	$ 14,203.00
2018 mean income (2018$)	$ 78,598.00	$ 95,972.00

Figure 12: *Westwood Hills – Census tract 222*
Westmoreland Ln and Franklin Ave were lowered to 25 mph from 30 mph in 1979.

	222	Citywide
1980 % White population	97.6%	97.9%
2018 % White population	90.4%	82.4%
1980 median income (1980$)	$ 28,732.00	$ 21,362.00
2018 median income (2018$)	$ 77,612.00	$ 75,690.00
1980 mean income (1980$)	$ 35,252.00	$ 25,344.00
2018 mean income (2018$)	$ 107,368.00	$ 95,972.00

Figure 13: *Lake Forest – Census tract 228.01*
Parkwoods Rd, Cedarwoods Rd, Parklands Rd, and Forest Rd were lowered to 25 mph from 30 mph in 1984.

	228.01	Citywide
1980 % White population	98.6%	97.9%
2018 % White population	90.1%	82.4%
1980 median income (1980$)	$ 36,937.00	$ 21,362.00
2018 median income (2018$)	$ 141,458.00	$ 75,690.00
1980 mean income (1980$)	$ 52,776.00	$ 25,344.00
2018 mean income (2018$)	$ 176,967.00	$ 95,972.00

Having more time or resources to petition the city should not determine whether you have lower speed limits. Furthermore, while petitions themselves can be seen as “race neutral”, the positive outcomes tend to benefit White and affluent residents compared to BIPOC and less affluent residents.

Framework

To work to counter these inequities, a targeted universalism approach was taken to ensure equitable distribution of safety improvements. As defined by john a. powell[16], targeted universalism is:

> *"…setting universal goals pursued by targeted processes to achieve those goals…universal goals are established for all groups concerned…[and] the strategies developed to achieve those goals are targeted, based upon how different groups are situated within structures, culture, and across geographies to obtain the universal goal".*

In short, to make a policy equitable, one has to actively target marginalized groups through policy decisions in order for those groups to achieve the same (or better) outcomes. This framework comes through the speed limit evaluation in two ways, speed limit setting factors and evaluation.

Speed limit setting factors

A universalist mindset for speed limits (where all people will realize safer streets) is to lower the speed limit on all streets equally, therefore everyone has safer streets. Missing from that evaluation is acknowledging that neighborhoods have a different racial, economic, or land use make-up. Instead, by using a targeted universalism approach, setting speed limits can acknowledge that different sections of our population use different modes of transportation and that pedestrian and transit infrastructure differ from neighborhood to neighborhood.

For instance, BIPOC residents of St. Louis Park are less likely to commute by personal vehicle and less likely to work from home[17]. To target the safety of non-vehicle trips, which are more likely to be BIPOC residents, transit service, continuous sidewalks or trails, and residential zones (multi- and single-family) were incorporated into the speed limit evaluation.

If a street does not have a continuous sidewalk or trail, the street is first considered for 20 mph. If there is not a dedicated off-street place to walk, residents have to walk on the street. Slower vehicle speeds on those roads are safer for pedestrians and bicyclists.

If a street has some form of transit (bus or future SWLRT), it is first considered for 25 mph. Keeping transit streets at 25 mph allows buses to maintain reliable schedules while also lowering their current posted speed limit (30 mph). However, in cases where there is no sidewalk or trail, transit users must use the street to get to and from transit. So, the road is considered for 20 mph.

[16] *Targeted Universalism: Policy & Practice*, powell, Menendian, and Ake, haas institute (2019)
[17] *Means of transportation to work,* American Community Survey (2019)

After a first round of speed limit assignments, a second round was taken with average and median speeds in mind. Generally, if roads met a higher speed limit criteria, but average drivers traveled lower than that speed limit, the lower limit was recommended. The goal of new speed limits is to meet the expectations of drivers, other road users, and residents. This was done especially in residential zones and areas where there are no sidewalks or trails. A similar approach was taken with roads with faster average speeds than the first speed limit assignment. Lower speed limits were prioritized in residential areas and places where there are no sidewalks or trails, even if average speeds were slightly higher.

Enforcement

Like safety outcomes, race is a factor in the enforcement of speed across the country. Studies in Lafayette, Louisiana[18], Detroit[19], and North Carolina[20] have found that Black drivers are more likely to receive a speed warning stop, receive a speeding ticket, and be arrested for speeding, especially when police officer discretion was the most pronounced.

A person's race or ethnicity is not currently recorded at the state or local level when they are stopped by police. So, those numbers are not available for this study to compare to the above research. If a statewide or other study is completed in the future, or if that kind of data becomes available, the results will be considered with any further implementation of new speed limits.

No additional police staffing or resources are proposed around the enforcement of new speed limits. The police and engineering departments will monitor traffic conditions throughout and after implementation and make changes to enforcement as necessary.

11. Environmental benefits

In consulting with the building and energy department, staff did not find research showing a direct positive or negative environmental benefit by lowering speed limits. If any such research is found or published after implementation, it will be reviewed and considered in later changes to speed limits.

12. Findings and conclusions

Based on data and research documented in this evaluation, the key findings from our evaluation are:

- Lower traffic speeds reduce both the likelihood and severity of crashes.

[18] *Man vs. Machine: An investigation of speeding ticket disparities based on gender and race* (2017) by Sarah Marx Quintanar

[19] *Driving while Black in suburban Detroit* (2010) by Timothy Bates

[20] *Police stops, pretext, and racial profiling: Explaining warning and ticket stops using citizen self-reports* (2008) by Kirk Miller

- A majority of states have lower default speed limits than Minnesota. All of Minnesota's neighboring states have a 25 mph default urban speed limit.
- The traditional approach of using 85th percentile speed to set speed limits is no longer considered the best practice for urban streets.
- When setting urban speed limits with broad authority, there are two common options from guidance and recent city speed limit changes:
    - Default citywide speed limit of 25 mph
    - Category speed limits with 20 mph on local residential streets and generally higher on more busy and connecting streets.
- Success in changing speed limits in smaller cities has yet to be realized as they have been recent and have not yet re-evaluated traffic conditions. However, larger cities such as Portland, Seattle, and Boston, have found success with the category speed limit approach.
- The current speed limits do not reflect the expectations of residents, drivers, and other road users. The current speed limit is higher than most drivers are comfortable traveling and lowering it will support safety on those streets.
- There is a correlation between a higher percentage of White residents and lower vehicle speeds in the city.
- Historically, lowered speed limits occurred in more White and affluent neighborhoods or those neighborhoods over time have become more White than the city as a whole.

The key findings above led to the following conclusions:

- Speed limits lower than the statutory default are justified because they:
    - Promote public health, safety, and welfare
    - Support city policies
    - Align with emerging national best practices for safe urban street operations
    - Support the city's traffic safety goal to eliminate fatalities and serious injuries on city streets
    - Support the city's strategic goal of being a leader in racial equity and inclusion.

13. Speed limit recommendations

Based on the above findings and conclusions, staff recommends that speed limits be set using a category approach. For St. Louis Park, a category approach to speed limits is the most appropriate generally with 20 mph on lower traffic roads, 25 mph on medium traffic roads, and 30+ mph on high traffic roads because:

- It is easier to communicate when compared to a single default speed limit. Hennepin County and MnDOT-owned roads will continue to have 30 mph speed

limits or higher and it is unknown when or if those will change. Many residents assume our county roads are city-owned.

- These lower speed limits prioritize public health and safety (a person hit at 30 mph is three times as likely to be killed or severely injured than a person hit at 20 mph).
- A citywide 25 mph speed limit does not reflect the design, land use, mode use, and expectations of city streets.
- Low traffic roads generally serve short, local connections, have on-street parking, are narrow and require slow speeds when two cars pass each other. In addition, they have frequent entrances to residences or businesses. The median speed of low traffic roads is 21 mph.
- Medium traffic roads generally serve longer trips, have traffic signals at higher volume intersections to support safe crossing of all modes, are wider in width, and sometimes have on-street parking. The median speed of medium traffic roads is 28 mph.
- High traffic roads generally serve longer trips, have traffic signals at high volume intersections to support safe crossing of all modes, are wider in width, often do not have on-street parking, and have more than two traffic lanes. The median speed of high traffic roads is 27 mph.

The following criteria were taken into consideration while determining appropriate speed limits:

- The default speed limit for roads in St. Louis Park is recommended to be 20-mph speed limit.
- A street or segment was recommended for a 25-mph speed limit if it met all of the following:
    - Half-mile segment or more
    - Regular bus service OR adjacent to SWLRT platform OR ADT > 2,000
    - Continuous sidewalk/trail or predominantly non-residential zone
- A street or segment was recommended for a 30-mph speed limit if it met the 25 mph criteria and all of the following:
    - Half-mile segment OR road with split border with another city
    - ADT > 12,000 OR four or more driving lanes
- A street or segment was recommended for a 35-mph speed limit if it met the 30 mph criteria and all of the following:
    - 0 – 2 intersections or major crossings per half mile
    - Limited or no pedestrian access
- Alleys will retain a 10 mph speed limit.

After these initial speed limit assignments, a second consideration was taken looking at average speeds.:

- If roads met a higher speed limit criteria, but average drivers traveled lower than the speed limit, the lower limit was recommended. Additional consideration was made for areas with predominantly residential zoning and areas without sidewalks or trails.
- A similar approach was taken with roads with faster average speeds than the first speed limit assignment. Lower speed limits were prioritized in residential areas and places where there are no sidewalks or trails, even if average speeds were slightly higher.

Staff finds that a category speed limit approach accomplishes the original goals of the evaluation because it:

- Supports the city's traffic safety goal to eliminate fatalities and serious injuries on city streets.
- Reflects the city's priority in creating a mobility system that prioritizes pedestrians first, then bicyclists and transit users, then drivers.
- Aligns with current national speed limit guidance.
- Is understandable, consistent, replicable, reasonable, and appropriate for an urban context.
- Contributes to equitable outcomes for all people.
- Supports the movement of people and goods.
- Sends a clear message to the driving public that "slower is safer" on all streets.

14. Implementation

This section includes a summary of next steps to support these speed limit changes. It is recommended that the implementation of the speed limits laid out in this report be accomplished in 2021.

Establishing city authority

Staff has consulted the city attorney to understand the process for the city to establish speed limits on city streets. He has indicated that first, the city must meet the standards in Minn. Stat. §169.14 subd. 5h, which are:

1. The implementation of the speed limit changes must be consistent and understandable.
2. The city must erect appropriate signs to display the speed limit.
3. The city must develop procedures to set speed limits based on safety, engineering and traffic analysis, which at minimum must consider:
   a. national urban speed limit guidance and studies
   b. local traffic crashes
   c. methods to effectively communicate the change to the public

This speed limit evaluation report is intended to be the public document that lays out the procedures to set speed limits in St Louis Park, thereby meeting the standards in

statute. The city attorney further indicated an ordinance would enable the city authority to set speed limits.

Signs
The city will provide appropriate signage to communicate speed limits. The core features of the signage plan:

- Speed limit signs will be salvaged or replaced citywide with changes in speed limits. The new signs will resemble existing signage.
- Signage will be installed at gateway locations on major collector and arterial roadways showing the citywide speed limit in St Louis Park is 20 mph unless otherwise posted. These signs may also be placed periodically in non-gateway locations as appropriate.
- Speed limit signage on streets where the speed limit is above 20 mph. Locations of signs for speed limits above 20 mph will be guided by:
    - At speed limit transition points;
    - Near intersections with arterial or other high-traffic streets; and
    - At least once every mile and at least 1/4-mile apart.
- Signage for streets with 20 mph speed limits may be posted at speed limit transition points.

The implementation of speed limit signage will occur in four stages. First, Hennepin County and MnDOT will adjust any speed limit signage as needed on their roads and ramps. Then, roads with a recommended speed limit of 25 mph or higher will be signed. These are signed corridor-by-corridor. After, 20 mph signs will be installed on streets that transition from higher speed limits. Lastly, gateway signs will be installed on the perimeter of the city. The gateway signs, similar to Minneapolis and Saint Paul, will read "CITYWIDE SPEED LIMIT 20 UNLESS OTHERWISE SIGNED".

Traffic signals
To implement new speed limits, traffic signals need to be retimed. The calculations for traffic signal timing are based on existing speed limits. So, the city will contract with a consultant to retime city-owned traffic signals. Hennepin County, MnDOT, and the City of Minneapolis also own signals that are affected by the changes. The city will work with our agency partners to make the necessary changes to those signals. All signalized intersections in the city will be reviewed in 2021.

Enforcement
St. Louis Park will start with focusing on education of the speed limit change through communications and outreach rather than enforcement. No additional police staffing or resources are proposed around the enforcement of new speed limits.

15. Communications and education plan

The city will implement a proactive communications and outreach plan to educate community members about the new speed limits. The city will use the speed limit

changes as an opportunity to highlight the important connection between traffic speed and safety.

Core message: Slower is safer. Slower speeds on our local streets make travel safer for everyone, no matter how they get around.

Messages around new speed limits

- To support safer streets, St. Louis Park is lowering speed limits on most streets.
- The new speed limit will be 20 mph on low traffic city-owned streets unless otherwise signed.
- Medium traffic city-owned streets will generally be signed at 25 mph.
- Speed limits on high traffic city-owned streets, county roads and MnDOT highways will continue to be signed at 30 mph or higher.
- If you are in doubt about the speed limit, go 20 mph. Slower is always safer for you and people around you.
- Follow all posted speed limit signs. If there are no signs, the speed limit is 20 mph.

Additional messages will explain the safety benefits of lower speeds and the details of the process around selecting and implementing the new speed limits.

Communications and outreach strategies

In working with the communications department, staff has developed a toolkit of resources to inform and educate community members on speed limit changes. They include, but are not limited to:

- Virtual communications
    - City webpage dedicated for speed limits
    - Social media posts
    - Email blasts
    - PSA video
- Print communications
    - Park Perspective
    - Mailed postcards
    - Newspapers
- Other outreach
    - Yard signs
    - Stickers
    - Neighborhood and city events (pending COVID)

Detailed communications and outreach tactics based on these strategies will be used. Education strategies and actions will be evaluated and adapted as needed.

16. Evaluation

Engineering will complete and present an initial evaluation of speed limit changes to the city council within three years of implementation of speed limit changes. The evaluation is expected to include:

- Results from a traffic speed study in the summer of 2022
- A comparison of crashes on city streets with two years of data before and after the speed limit change.
- The police and engineering departments will monitor traffic conditions throughout and after implementation to inform the evaluation.
- Any future recommendations around speed limits, supporting safe traffic speeds, or additional evaluation.

Additionally, revaluation of speed limits would occur as a part of planned construction projects and transit route changes.

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