Village of Mount Prospect

FRIENDLY NEIGHBORHOOD STREETS PROGRAM

"Where Friendliness is a Way of Life"

Engineering Division – Adopted May, 21st 2024

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EXECUTIVE SUMMARY

The Village of Mount Prospect's Friendly Neighborhood Streets Program serves as a guideline to further develop Village streets to be welcoming places to all users. This program will take a holistic approach to address current issues within our neighborhood transportation network. Roads and streets outside of Village jurisdiction, or arterial roads under Village control, are not included.

This program builds upon the 2011 Traffic Calming Program and the 2004 Residential Speed Limit Program while incorporating ideas laid out in the Village's Complete Streets Policy and Sustainability Action Plan. It also directly supports the Guiding Principals 1 and 2 of the Village's 2017 Comprehensive Plan Update. These previous plans and policies have guided the Village to become friendlier to all users, but an update is needed to incorporate the latest changes in vehicle design, driving habits, policy guidelines and multi-modal user accessibility.

Design guidelines included in this program provide the Village with a toolkit for how the right-of-way can be modified to improve comfort and safety for users of all ages and abilities while maintaining access for vehicles.

Residents have the most at stake when it comes to the streets they live on, as such, this program includes ways for residents to get involved in making their streets friendlier, including how residents can request changes to their street.

The primary outcome of this program is to increase safety by reducing vehicle speeds and excessive volumes on neighborhood streets. Vehicles traveling at or below the speed limit is a significant safety improvement compared to speeds of 10 mph or more above the speed limit, while also reducing noise pollution. Changing speed limit signs is not a responsible way to achieve this goal as drivers tend to drive the speed they are comfortable with, regardless of the posted speed limit. Instead, infrastructure needs to be modified to induce lower speeds. The program only includes neighborhood streets. With the many arterial streets in the Village, vehicles will be on neighborhood streets for a minor part of their journey, minimizing the impact on travel times while creating friendlier streets for all.

I - GOALS

- Enhance neighborhood safety and livability by reducing excessive speeding and traffic volumes on neighborhood streets.
- Encourage alternative forms of transportation by increasing the comfort and safety of biking and walking on neighborhood streets.
- Reduce noise pollution by slowing down vehicles to create friendlier streets.
- Promote safety for children by reducing traffic speeds and volumes around schools and promoting alternative means to get to school.
- Leverage the data collected from the Neighborhood Traffic Study and past individual traffic studies to target areas with the highest recorded speeds and volumes first.
- Encourage reasonable and responsible driver behavior through education and enforcement.
- Make efficient use of Village resources including personnel and funding by following the established process of evaluating and prioritizing traffic calming requests.
- Foster a collaborative working relationship between Village Staff, elected officials, residents, business owners and street users in the development of traffic calming projects.
- Respond to recent changes in car design and capabilities.

II - TRAFFIC CALMING PROCESS
INTRODUCTION

The Friendly Neighborhood Streets Program is more than just a traffic calming program, its goal is to improve the experience for all street users. This is primarily done though traffic calming measures to slow vehicles, but this program also places an emphasis on making neighborhood streets accessible for all users. Specifically, by considering pedestrian improvements and making select streets bikeable for all ages and abilities.

Vehicle speed and vehicle volume are the primary issues on neighborhood streets; high speeds and volumes impact safety for all street users. This program focuses on reducing those metrics. Additionally, the program will add infrastructure specifically designed to improve the street experience for bikes and pedestrians beyond just reducing vehicle volume and speeds.

The Village's policy is that traffic calming measures have a positive impact on neighborhoods. Therefore, there needs to be a demonstrated majority in opposition to a traffic calming project to prevent construction, instead of a majority in favor of the project to start construction.

Most traffic calming programs are set up to be reactive, resident-initiated and target one street. That is, a resident or group of residents petition the local government for traffic calming measures on a particular street and staff responds to the request. Typically, a process is in place to determine whether the street qualifies for traffic calming measures and if so what steps must be taken to receive approval. Two advantages to this approach are:

1. Public interest has been generated early in the process
2. Overstretched staffs' keep the project scope limited to the street in question.

However, a major disadvantage to this approach is that solving one problem on a particular street may have repercussions on surrounding streets and throughout the neighborhood.

INTRODUCTION CONTINUED

In 2007 – 2010, the Village conducted the Neighborhood Traffic Studies to review intersection traffic control and speed limits on a neighborhood-wide basis. This comprehensive approach was created to assure that consistent decisions would be made, and the neighborhood would operate safely. Based on the results of our post-studies, this neighborhood-wide approach is achieving our goal of improving safety. Those studies established consistent speed limits and traffic control but did not address speeding directly.

In 2011, the Village developed the Neighborhood Traffic Calming Program (NTCP) and over the past 10 years, the Village has completed many projects to address excessive speeding and traffic volumes on local streets. The Friendly Neighborhood Streets Program will further the efforts of the NTCP and to incorporate pedestrian and bicycle improvements into the program.

The Village supports a traffic calming program that involves an area-wide approach to best serve the community. Like installing a stop sign at one intersection without giving thought to the impact on the adjacent intersection, constructing traffic calming measures on one street without considering the impact on the adjacent street(s) may create new problems. When a traffic issue is present on one street, the Village will look at surrounding streets and the neighborhood when developing a traffic calming project.

Additionally, the Village will be proactive in developing traffic calming projects by incorporating traffic calming into the Street Resurfacing Program. This will allow the Village to increase the friendliness of neighborhood streets for an economical cost and with the least disturbance to residents.

Traffic calming measures increase safety at conflict points with pedestrians or bicycles by having a driver switch their foot from the accelerator to the brake as they approach the conflict point. Drivers need to slow down as they approach traffic calming measures. This removes crucial seconds from the driver's reaction time if they need to apply brakes to avoid a crash with pedestrians or bicyclists.

INITIATION

There are three options to initiate traffic calming projects:

- Resident Initiated Projects

    1. Resident reaches out to the Engineering Division with a speeding, traffic volume, bike or pedestrian complaint that could be addressed by the program
    2. The Engineering Division responds with the petition form, initial project area and an introduction to the Friendly Neighborhood Streets Program
    3. Resident returns petition with signatures from at least ten (10) residents or 30% of the total number of dwelling units and commercial spaces in the initial project area, whichever is greater
    4. The Engineering Division reviews the petition then initiates the traffic calming process

- Village Initiated Projects

    The Engineering Division will review historical traffic data throughout the Village and consult with the Police Department to identify key areas where traffic calming would be appropriate. At the direction of the Director of Public Works, the Engineering Division will initiate the traffic calming process for select streets as funding is available.

- Street Resurfacing Program

    All streets included in the Street Resurfacing Program will be reviewed for potential traffic calming measures as this will be the most cost-effective way to implement traffic calming. The Engineering Division will develop a list of eligible streets and, at the direction of the Director of Public Works, the Engineering Division will initiate the traffic calming process for select streets.

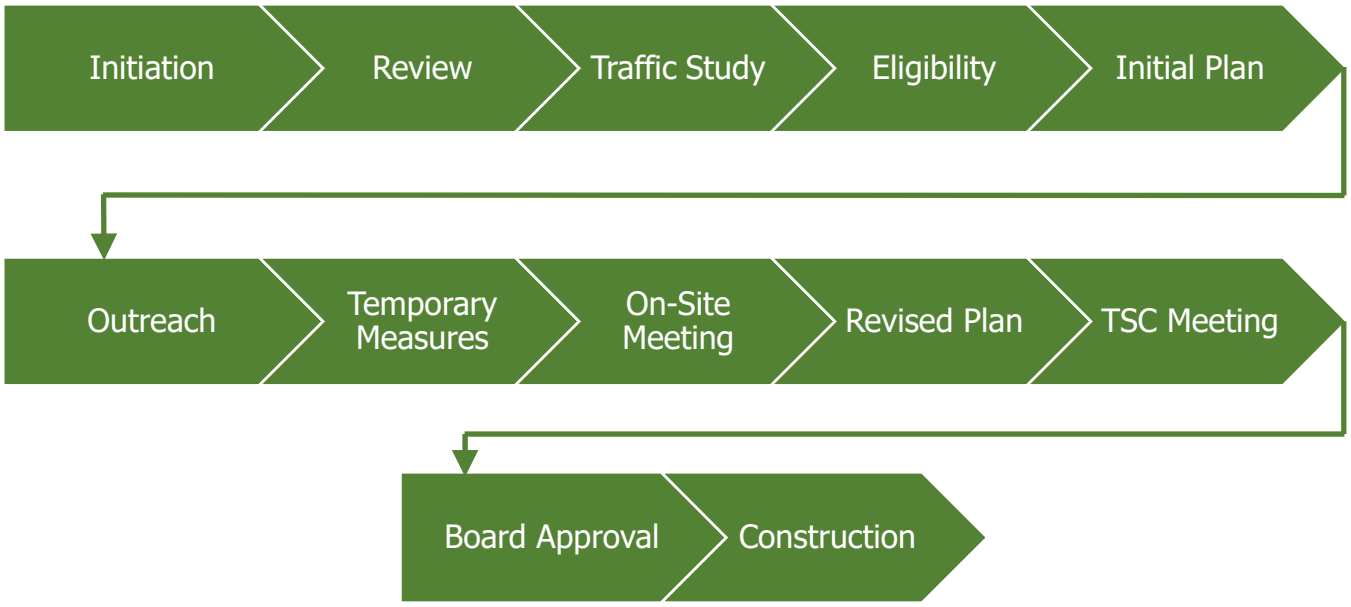
TRAFFIC CALMING PROCESS

After a project is initiated, the following process will be used to develop the traffic calming project.

1. Project initiated through one of the previously stated options
2. The Engineering Division reviews request to determine initial project area
3. Traffic studies conducted
4. Eligibility for traffic calming determined
   A. If streets are eligible, moves to step 5
   B. If not eligible, refer to Police for enforcement, inform residents
5. Project prioritized to determine when project will be addressed
6. Initial public outreach to all properties within the project area
7. The Engineering Division develops plan to address traffic issues
8. Second public outreach informing properties of the issues identified in the initial public outreach, proposed solution, that temporary traffic calming measures will be installed (as needed), invites them to on–site meeting to discuss the project, and solicits feedback
9. Temporary traffic calming measures (as needed) installed by Public Works, mostly consisting of cones and temporary paint, to show residents the proposed traffic calming measures, remains for two weeks minimum
10. The Engineering Division hosts a public meeting within the project area while temporary calming measures are installed (if used) to solicit feedback
11. Temporary traffic calming measures removed, the Engineering Division revises the design as necessary and prepares a presentation to the Transportation Safety Commission
12. Residents balloted on the traffic calming measures and invited to the Transportation Safety Commission (TSC) to discuss the final project design
13. The ballots are counted, TSC discusses the project and votes for approval, revisions or denial.
14. Approved projects will be forwarded to the Village Board for approval and, if approved, will be incorporated into the Street Resurfacing Program or bid as a stand-alone project as funding allows

TRAFFIC CALMING TIMEFRAME

Project timing for each of the steps:



1. Week 0 Project Initiated
2. Week 1 Engineering Division Review
3. Week 2-5 Traffic Study depending on Weather, Holidays and Availability
4. Week 6 Eligibility Determined
5. Week 6 Project Prioritized
6. Week 6 Initial Public Outreach
7. Week 7-8 The Engineering Division Develops Plan
8. Week 9 Second Public Outreach
9. Week 10-11 Temporary Traffic Calming Measures Installed (as needed)
10. Week 11 On-Site Meeting
11. Week 12-13 Design Revised, Temporary Measures Removed
12. Week 14 Residents Balloted on Revised Traffic Calming Design, Invited to Discuss Project at TSC Meeting
13. Week 16 TSC Meeting and Vote for Approval
14. Week 17-24 Sent to Village Board for Approval, Bid Documents Prepared and Project is Incorporated into Street Resurfacing Program or Stand-Alone Traffic Calming Project

TRAFFIC CALMING TIMEFRAME

The most cost-effective process will be to incorporate traffic calming projects into the yearly Street Resurfacing Program, whether the project is located on a resurfacing street or not. This is targeted to be bid in February of each year; therefore, the traffic calming process needs to be initiated by July at the latest to ensure projects can be included in the following year's resurfacing program. If the deadline is not met, the Traffic Calming Process will proceed, but construction may be delayed a year until the next resurfacing program.

The Village may bid a stand-alone traffic calming project at any time at the discretion of the Director of Public Works and the Village Board. There is not the need to meet the deadlines above if this is the case.

If there are more projects than funding or staff time available, they will be prioritized based on criteria outlined in the Friendly Neighborhood Streets Program. Projects may be re-prioritized at the discretion of the Director of Public Works. Residents will be informed of the current backlog when they initially reach out to the Engineering Division.

The next pages will detail each step of the Traffic Calming Process.

DETAILED TRAFFIC CALMING PROCESS

Step 1: Initiation

The project will be initiated as described previously. For a resident-initiated project, the Engineering Division will provide a response to the initial resident request that includes:

- Petition requirements, including initial location limits for petition
- A copy of the Friendly Neighborhood Streets Program
- Current backlog
- Deadlines for potential project construction

Once the resident returns the completed petition with the required signatures, the project will move on the Step 2. To preserve staff time, the Engineering Division will not proceed with the traffic calming project until the petition has been received. The Engineering Division will communicate directly with the Primary Resident Contact as shown on the petition. This contact can be updated at any time.

Step 2: Project Area

Staff will determine the appropriate project area for traffic calming implementation. This project area may expand or contract as the project develops depending on the type of traffic calming measures selected. Staff will carefully consider how traffic calming measures on one street will affect adjacent streets and the neighborhood. Additionally, staff will consider the following factors when determining the project area:

- Bike Routes
- Schools
- Access to Arterial Streets
- Parks
- Other Pedestrian Generators
- Adjacent Street Vehicle Speed and Volume

Additional information on Project Areas is given in the Policy Statements section of the Friendly Neighborhood Streets Program.

DETAILED TRAFFIC CALMING PROCESS

Step 3: Traffic Studies Conducted

Staff will review historical traffic data within the project area. If recent traffic data is not available, updated traffic studies will be required to determine existing traffic conditions in the neighborhood. This will be required for most streets as the Village Wide Studies, where a large portion of our traffic data comes from, were conducted from 2007 through 2010.

Traffic studies include installing pneumatic tube traffic counters at strategic locations within the project area to collect speed and volume data of vehicles. Staff may also conduct separate pedestrian and bicycle counts as required to develop a complete picture of how the existing project area is functioning. Crash reports will also be reviewed to get an accurate crash history of the project area.

A limited number of counters and other projects requiring traffic counts may delay traffic studies, especially in the summer months. For resident-initiated projects, the petitioner will be notified of any delays in collecting traffic data. Traffic studies cannot be conducted in the fall during leaf removal operations or in winter due to snow events.

DETAILED TRAFFIC CALMING PROCESS

Step 4: Eligibility Determined

After the traffic studies are completed, the results will be compared to the Minimum Criteria as outlined in Exhibit A. If the project is eligible, it will move on to Step 5.

If a project is not eligible for traffic calming, the Engineering Division will consider less intrusive solutions such as:

- Education Resources
- Selective Speed Limit / Intersection Traffic Control Enforcement
- Use of Speed Display Trailer
- Use of Police Department Drone Vehicle
- Improving Sight Distance at Intersections
- Additional Signing, Striping or Pavement Markings

Petitioners for ineligible projects will be notified of other measures the Engineering Division will be taking. This will conclude the traffic calming process for the project.

Step 5: Project Prioritization

Eligible projects will have their prioritization score calculated to determine when the Engineering Division will be able to address the issue. The Project Prioritization Worksheet is shown in Exhibit B. If there is a backlog and staff is unable to address the project immediately, the resident representative will be informed. Projects with the highest scores will be addressed first.

A project can go through the traffic calming process without a funding guarantee. When funding becomes available, all approved projects will be ranked by their prioritization score and the highest scores will be constructed first, except for projects included in the Street Resurfacing Program. This allows the Village to address the highest ranked streets first.

DETAILED TRAFFIC CALMING PROCESS

Step 6: Initial Public Outreach

The Engineering Staff will select the highest priority project and send out the initial public outreach to continue with the traffic calming process. This initial outreach will provide a background of the project, introduce the Friendly Neighborhood Streets Program and request issues and current traffic conditions the neighborhood is looking to change.

Step 7: Plan Development

The Engineering Division will develop a draft plan to address the issues raised by the petitioners and identified in the initial public outreach or by the Engineering Division using a combination of measures taken from the Traffic Calming Toolbox (Appendix A). When developing the plan, special attention will be paid to safe routes to schools, bike routes, pedestrian generators and traffic patterns. Once the draft plan is complete, the Engineering Division will develop a temporary installation plan (as needed) to demonstrate the traffic calming measures to the public and solicit feedback. The plan and temporary measures will be reviewed internally and approved by the Village Engineer prior to installation. This may include temporary parking restrictions as necessary to demonstrate the project. The Engineering Division will add the project to the traffic calming page on the Village Website to keep the public informed.

DETAILED TRAFFIC CALMING PROCESS

Step 8: Second Public Outreach

Once the draft traffic calming plan is approved by the Village Engineer, the Engineering Division will reach out, via mail, to the residents and businesses within the identified project area with the following information:

- Update on the project's status
- Identified issues to be addressed by the project
- Proposed traffic calming measures
- Information on temporary traffic calming measures to be installed (as needed)
- Invitation to the on-site meeting to discuss the project and the temporary traffic calming measures
- Contact information and ways to provide feedback
- Next steps

Step 9: Temporary Traffic Calming Measures Installed (as needed)

Public Works will install temporary traffic calming measures if needed as developed in Step 6 to demonstrate the project and solicit feedback from the neighborhood. The temporary measures will most likely consist of cones, barricades, signs, and temporary pavement markings. Temporary measures will remain installed for at least two weeks and one weekend to ensure residents have an opportunity to experience the temporary traffic calming measures. Engineering Staff will also invite Public Works, Police, Fire Department and school representatives to drive and observe the temporary traffic calming measures and to provide feedback. The use of temporary traffic calming measure will be determined on a case-by-case basis.

Step 10: On-Site Meeting

Engineering Staff will hold a meeting during the second week of the temporary traffic calming installation to explain the project and solicit feedback.

DETAILED TRAFFIC CALMING PROCESS

Step 11: Plan Revisions

The Engineering Division will revise the plans based on feedback received at the on-site public meeting, from Public Works, Police, Fire Department and schools and any additional feedback sent to the Engineering Division. The outreach letter will include a way for residents to send in feedback if they are unable to attend the meeting. The revised plans will be reviewed and approved by both the Village Engineer and the Director of Public Works.

Once the final plans are approved, Engineering staff will prepare a presentation for the Transportation Safety Commission.

Step 12: Third Public Outreach and Balloting

The third public outreach will be mailed to all residents and businesses in the project area and will consist of:

- An overview of the project
- The revised plan
- An invitation to the Transportation Safety Commission meeting to discuss the issue
- A ballot to vote on the improvements

For balloting purposes, the following will apply:

- Single family properties count as one
- Single use properties (churches, businesses, schools, parks, etc.) count as one
- Each unit within small-scale multi-unit properties without a management company will count as one, and will be mailed individual ballots
- Each unit within large-scale multi-unit properties with a management company will count as one, but the ballots will be mailed to the management company for them to distribute to residents

DETAILED TRAFFIC CALMING PROCESS

Step 13: Transportation Safety Commission Meeting and Ballot Counts

Ballots will be tallied prior to the Transportation Safety Commission. The Engineering Division will determine the total number of ballots within the project area. If more than 50 percent of the total ballots possible are returned against the project, then it will be presented to the Transportation Safety Commission as the neighborhood is not in favor of the project. If 50 percent or less is returned against the project, no matter how many are returned in favor of the project, then it will be presented to the Transportation Safety Commission as the neighborhood is in favor of the project. The Village's policy is that traffic calming projects will improve a neighborhood's livability and safety. Therefore, there needs to be a demonstrated majority against the project to not recommend it. The default is that the neighborhood is in favor of the project.

The following will be presented to the Transportation Safety Commission for their consideration:

- Project History
- Summary of Project Development
- Proposed Design
- Summary of Feedback Received
- Results of Balloting

The Commission will discuss the project, ask questions of staff and listen to comments from residents present at the meeting.

The Commission can then act at their discretion, but staff will provide the following recommendations to the Commission based on the results of balloting:

DETAILED TRAFFIC CALMING PROCESS

Step 13: Transportation Safety Commission Meeting and Ballot Counts – Continued

1. If the neighborhood is in favor of the project, as outlined on the previous page, then the Commission will vote to
   A. Approve the project as is
   B. Approve the project with changes as directed by the Commission
   C. Deny the project

2. If the neighborhood is not favor of the project, as outlined on the previous page, then the Commission will vote to
   A. Have staff revise the project and re-ballot
   B. Deny the project

If the project is not approved by the Transportation Safety Commission and there is not neighborhood support, then no further action will be taken on traffic calming in the project area for at least 5 years.

If the project is not approved by the Transportation Safety Commission and there is neighborhood support, it may be forwarded to the Village Board for final decision at the request of the resident representative. Otherwise, the project may be revisited in 2 years time with a new petition submittal from the neighborhood.

If the project is not approved by the Transportation Safety Commission and there is not neighborhood support, the minority in favor of the project may file a request with the Village within 30 days of the TSC meeting to have the plan forwarded to the Village Board for a final decision. Should the Village Board agree to hear the plan, an extraordinary vote will be required to approve the project.

If the project is approved by the Transportation Safety Commission, then it will be forwarded on to the Village Board for approval.

DETAILED TRAFFIC CALMING PROCESS

Step 14: Village Board Approval and Bidding

Projects approved by the Transportation Safety Commission will be presented to the Village Board of Trustees. Residents within the project area will be notified of the meeting.

The Engineering Division will present the following to the Village Board for consideration:

- Project History
- Summary of Project Development
- Proposed Design
- Summary of Feedback Received
- Final Ballot Totals
- Summary of Transportation Safety Commission Meeting
- Transportation Safety Commission Recommendation

The Village Board can then discuss the project and will vote to:

- Approve the plan by simple majority
- Direct the Engineering Division to make revisions and bring the plan back for further discussion
- Deny the plan
- Take other action as it deems appropriate

Should a plan be approved, final construction drawings will be developed, and the project will be scheduled for construction once funds are allocated by the Village.

Should a plan ultimately be denied by the Village Board of Trustees, less intrusive education, enforcement, and engineering measures will be considered as described in the Program. If there is neighborhood support for the project, a new petition can be submitted to start the traffic calming process at least 2 years after the Village Board decision.

DETAILED TRAFFIC CALMING PROCESS

Post Project

At such time the Engineering Division determines reasonable after completion of the project, a post-study will be performed to determine its effectiveness and to determine if any additional action is necessary. The findings will be included in a report to the Village Board of Trustees, Transportation Safety Commission and appropriate Staff. Interested residents within the Project Area will be notified via e-mail and the report will be posted on the project web page.

III – POLICY STATEMENTS

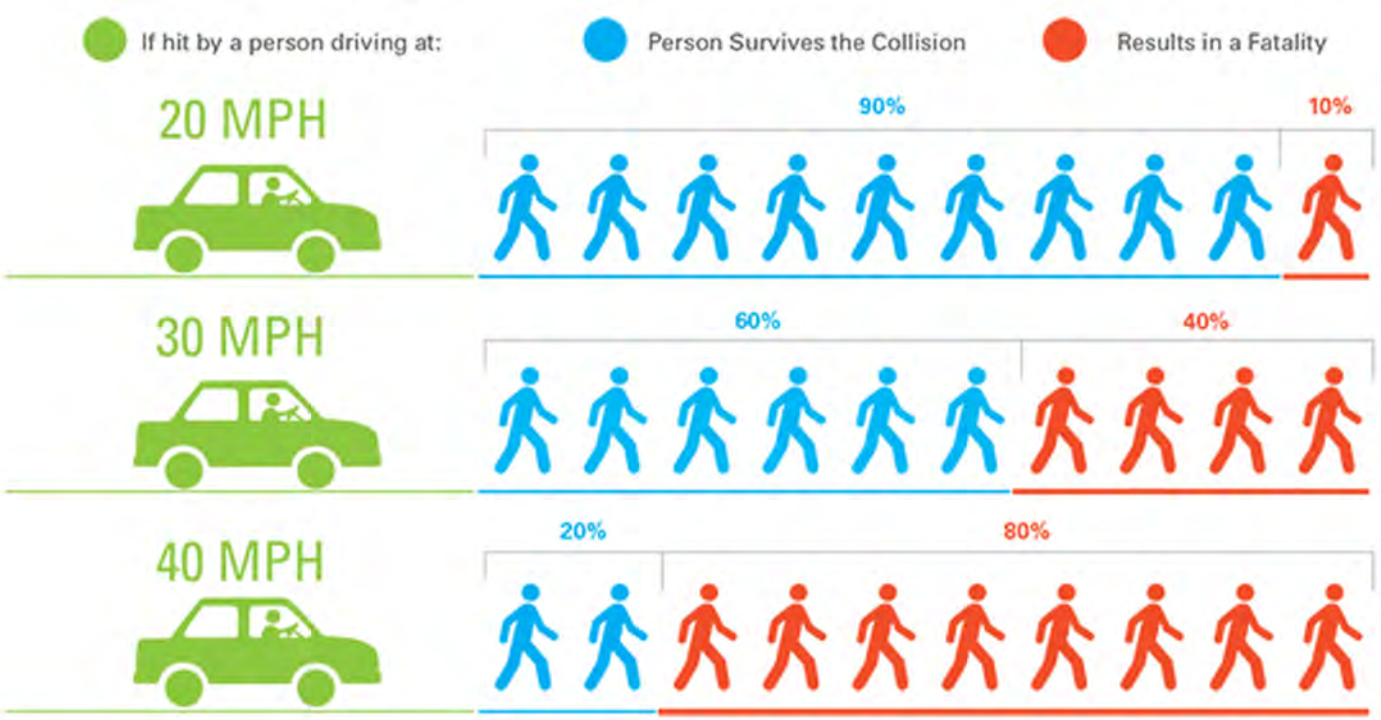
The below Policy Statements form the basis of the Friendly Neighborhood Streets Program. They are described on the following pages.

- Speed
- Residential Focus
- Addressing Vehicle Design
- Schools
- Biking
- Pedestrians
- Education and Enforcement
- Minimum Criteria
- Project Areas
- Project Initiation
- Project Prioritization
- Traffic Calming Measures
- On-Street Parking
- Emergency Response
- Maintenance
- Funding
- Removal

SPEED

Policy Statements

Speed is the primary factor when it comes to survivability of pedestrians in collisions. The below chart shows survivability percentages based on vehicle speeds. This is the primary reason the Friendly Neighborhood Streets Program exists, to increase safety and livability of our neighborhood streets by reducing speeds of vehicles. All items in the Program work together to reduce vehicle speed.



Vehicle Speed comparison to chance of Pedestrian Injury and Fatality
Data source: US Department of Transportation, Literature Reviewed on Vehicle Travel Speeds and Pedestrian Injuries. March 2000.
Image credit: San Francisco MTA Vision Zero Action Plan, February 2015: https://view.joomag.com/vision-zero-san-francisco/06851970014235944 55?short

RESIDENTIAL FOCUS

Policy Statements

- Traffic calming measures will only be considered on residential streets
- Residents and business owners will be encouraged to participate in the identification of the traffic issues as well as development of the solution
- At least 10 signatures or 30% of the total number of dwelling units and commercial spaces in the initial project area, whichever is greater, are required to initiate the traffic calming process. Once criteria are met for the program, a negative response from at least 51% of the properties along the qualifying street is needed to reject the traffic calming measures

The Friendly Neighborhood Streets Program is focused on residential areas only. Local residential and collector streets will be considered in this program. Arterial streets are specifically excluded from this program. Other means and resources will be used to address issues on arterial streets.

Neighborhood participation is important to develop a consensus of the issues that adversely affect the neighborhood, evaluate the pros and cons of the various traffic calming measures, and ensure that the issues are adequately addressed. It is essential to consider a wide range of perspectives and observations in addition to engineering data. The program is designed so that residents can become actively involved in defining the problem(s) and in the decision-making process to have a sense of ownership in the outcome.

Neighborhood participation begins with a petitioner gathering at least 10 signatures or 30% of the total number of dwelling units and commercial spaces in the initial project area, whichever is greater, on the initial request for traffic calming on the street or at an intersection. This is followed by mailings to each resident and on-site meetings. It is shown that traffic calming measures slow drivers and improve safety on streets, a Village priority. Therefore, the balloting process to approve the final design will treat a non-response as a vote for the traffic calming measures. If the street or neighborhood is against the project, they will be required to achieve at least 51% of the votes. The limits of the petition area will be determined by the Engineering Division. This is further explained in the Traffic Calming Process section.

RESIDENTIAL FOCUS

Policy Statements

The projects are funded by the Village; there will not be a direct monetary requirement for the residents.

The following Village owned streets are not included in the Friendly Neighborhood Streets Program due to not meeting the residential focus. These streets are shown in gray on the maps in exhibits and appendices:

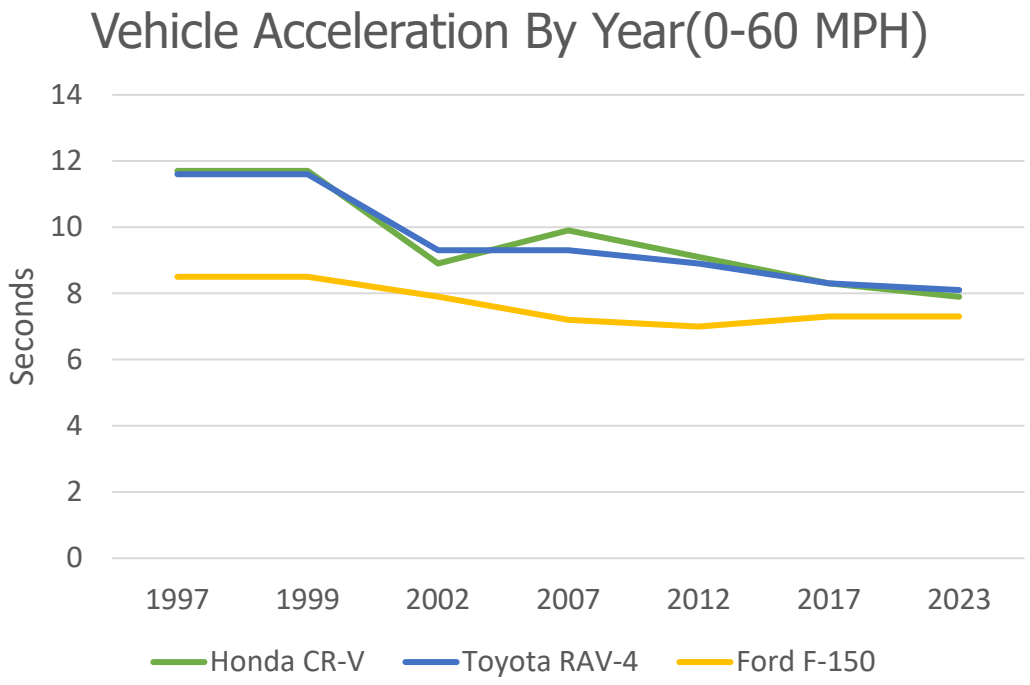
- Addison Court
- Biermann Court
- Bishop Court
- Business Center Drive
- Carboy Road
- Central Road (Rand Road to Wolf Road)
- Feehanville Drive
- Imperial Court
- Kenneth Drive
- Kingston Court
- Lakeview Court
- LaSalle Street
- Linneman Road (Algonquin Road to Dempster Street)
- Malmo Road
- Midway Drive
- Nordic Road
- Schoenbeck Road
- Slawin Court
- Wall Street
- Wheeling Road (Kensington Road to Business Center Drive)
- Wolf Road

ADDRESSING VEHICLE DESIGN

Policy Statements

- Vehicles have gotten bigger, faster, and heavier in recent years increasing risks toward pedestrian and bicyclist safety
- This shows a need for a change in infrastructure to force vehicles to slow down and drive a safer speed in neighborhoods

In general, vehicles will drive at a speed they are comfortable regardless of the posted speed limit. Many of the Village's neighborhood streets are wide and straight with limited utilization of on street parking. These long, open sight lines encourage speeding. Modern vehicles are quicker, smoother and quieter for occupants than in the past, allowing drivers to travel at higher speeds more comfortably. By changing the physical infrastructure of the street, it becomes more uncomfortable to drive at high speeds, but comfortable at low speeds, reducing vehicle speeds on streets. Additionally, faster acceleration in newer vehicles allows them to reach higher speeds quicker after passing traffic control devices on neighborhood streets, necessitating multiple traffic calming measures to be installed on a street to calm traffic.

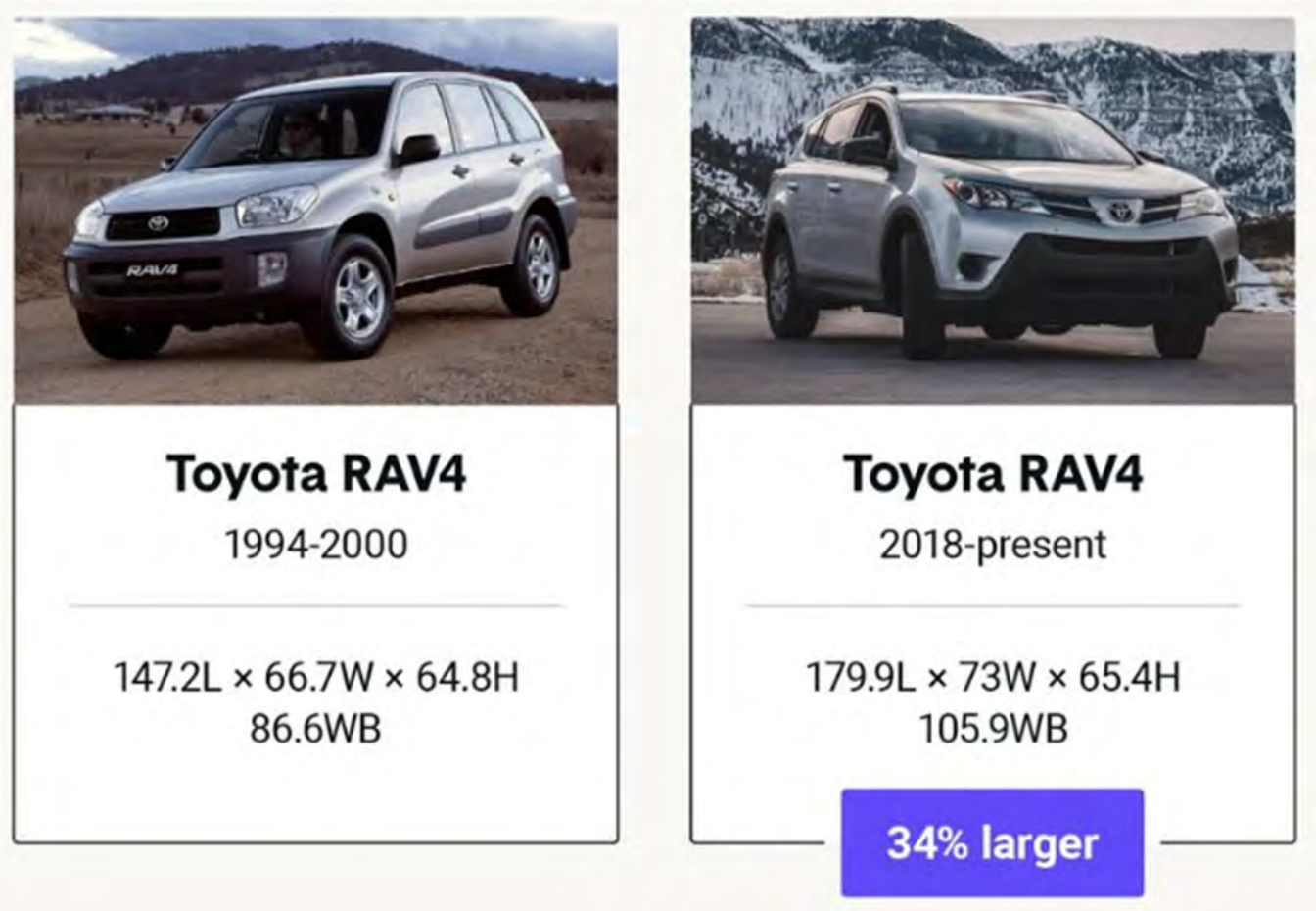


Source: Motor Trend and Car and Driver Website Databases

ADDRESSING VEHICLE DESIGN

Policy Statements

Vehicle size and weight have increased. This leaves less room on streets for other users and reduced visibility from the vehicle. Additionally, consumers are generally switching to SUV's from cars. SUVs are more likely to injure or kill pedestrians compared to cars. Dedicated spaces for bicyclists and pedestrians on streets are required to address the increase in vehicle sizes.



SUVs are twice as likely as cars to kill pedestrians in an accident.

Source: https://www.thezebra.com/resources/driving/average-car-size/

ADDRESSING VEHICLE DESIGN

Policy Statements

The adoption of electric vehicles will only heighten these issues. Electric cars are faster, quieter and heavier than their internal combustion counterparts. The Friendly Neighborhood Streets Program is designed to address safety issues that modern cars pose to pedestrians and other street users through infrastructure changes.

By making streets less comfortable to drive at high speeds, vehicles will slow down regardless of the posted speed limits. They will also pay attention to their surroundings more when the street design is not uniform for long stretches.

These large vehicles may be safer for the occupants, but as demonstrated in numerous studies, they are less safe for anyone outside of them, including in other vehicles.

SCHOOLS

Policy Statements

- Areas around schools deserve special attention to facilitate alternative forms of transportation to get to and from schools
- In recent years, there has been anecdotal evidence showing an increase of parents driving their children to and from school instead of walking, biking or taking the bus leading to traffic and safety issues at schools

Traffic issues have been increasing around schools in recent years. This, combined with larger vehicles being used to transport children to and from school, has led to increased safety issues. Traffic calming projects can be used to slow vehicles and promote alternative modes of transportation by making the streets friendlier for everyone. Safety increases as the number of personal vehicles transporting children to and from school decreases.

The importance of keeping children safe is why projects near schools will get additional points in the project prioritization worksheet. All projects will take into consideration how residents get to and from school and related activities.

If a traffic calming project is initiated near a school, the Engineering Division will work directly with the school throughout the process to ensure a successful project. If a school reaches out directly to the Village on traffic issues, the Village may elect to initiate a traffic calming project through the Village initiated process without a petition required. If traffic calming, as descried in the program, is not appropriate, or the street is not eligible, the Village will work directly with the school and residents to develop solutions to the issues outside of the Friendly Neighborhood Streets Program.

An addendum will be issued to this Program in the future detailing safe routes to school options for all schools within the Village. As part of the addendum, appropriate traffic calming measures will be proposed to increase safety for each school.

Safe Routes to Schools funding can also be used for these projects, something the Village will pursue as appropriate. The use of this funding will require extended project timelines due to it being a federal funding source.

BIKING

Policy Statements

- Increasing use of alternative forms of transportation is a priority for the Village
- The Village has an established signed on-street bike network, however there is little difference in street design, except for sharrows and marked bike/parking lanes on a few routes. The infrastructure of the street should alert drivers that they are sharing the street with bicyclists instead of just signage

Traffic calming projects will consider accommodations for cyclists throughout project development. For projects on existing on-street bike routes, bicycle design and safety will be a priority. For these routes, traffic calming should be designed to get vehicles and bicyclists to travel as close to the same speed as possible, increasing safety for all users. If a traffic calming project is on a bike route, consideration should be given to expand the project area if additional bike infrastructure may be appropriate.

Additionally, special considerations should be made where a bike route crosses a traffic calming project. Signage and pavement markings through intersections can alert drivers that bikes may be crossing. Mini-traffic circles can slow down vehicles through intersections without requiring a change in traffic control, making intersections safer for bicyclists.

To support biking, the Village is currently developing a plan to construct bicycle facilities along arterial streets within the Village, connecting to the existing neighborhood bike network. Additionally, the Village may be updating design guidance for the Phase I network (neighborhood streets) in the future to increase the comfort and safety of biking in the Village.

PEDESTRIANS

Policy Statements

- Pedestrians are vulnerable street users; special considerations will be made for them on all traffic calming projects
- The presence of pedestrians on streets can be enough for drivers to pay more attention while driving, therefore the Friendly Neighborhood Streets Program includes benches to make the streets friendlier to pedestrians

All traffic calming projects will consider the immediately adjacent pedestrian network. Traffic calming measures will be designed to increase the safety of pedestrians by reducing crossing widths, providing refuge islands, and increasing visibility for pedestrians.

The presence of pedestrians along a street causes drivers to pay attention to their surroundings. The Friendly Neighborhood Streets Program will look to add public benches in downtown areas and adjacent to large pedestrian generators. These benches will be maintained by the Village and installed in Village right-of-way only.

EDUCATION AND ENFORCEMENT

Policy Statements

- Education, enforcement and inexpensive engineering solutions are to be considered prior to approval of any traffic calming measures

Traffic calming measures physically alter the street and are considered permanent changes that will impact the behavior of motorists. These dramatic changes should only be considered after consideration of less costly options.

Education provides the opportunity for the Engineering Division and Police Department to communicate their perspective to residents. The advantages and disadvantages of traffic calming measures, the purpose of traffic control devices (stop signs and turn restrictions), and the true extent of a problem based on collected data can be shared with residents to make them better informed. This can be accomplished through telephone conversations, neighborhood and beat meetings, open houses, brochures, the Village web site and newspaper media. In addition, employing education tools will allow residents to get involved in easing traffic concerns. One example is the placement of yard signs (Keep Kids Alive – Drive 25 campaign) in neighborhoods by residents in collaboration with the Police Department.

Enforcement relies on the Police Department to be a presence in neighborhoods and enforce existing speed limit and traffic control ordinances. In addition to selective enforcement, the Police Department also will utilize the speed display trailer and drone vehicles to ease traffic concerns.

Enforcement generally impacts traffic speeds for a short period of time, eventually speeds return to the speed before enforcement, this is the speed drivers are comfortable with on the street. Enforcement can be more effective when enforcing traffic control devices.

Inexpensive engineering measures such as additional signage, striping and pavement markings will also be considered before approving traffic calming measures.

MINIMUM CRITERIA

Policy Statements

- For a street to begin the traffic calming process, a minimum petition of 10 residents or 30% of the total number of dwelling units and commercial spaces in the initial project area, whichever is greater, must be turned in with the request
- To continue with the traffic calming process, minimum traffic volume, speed or crash criteria as recorded in a traffic study are to be met

The Engineering Division receives requests on a regular basis for traffic calming measures. The primary complaints involve speeding vehicles or a high volume of vehicles relative to the street type. The extent of a problem on one street will be different than another street. Therefore, it is important to develop thresholds for streets to qualify for traffic calming measures. Otherwise, traffic calming measures could be installed on streets where there would be minimal effect on traffic speed and volume.

Neighborhood support is also important, that is why a petition of a minimum of 10 residents or 30% of the total number of dwelling units and commercial spaces in the initial project area, whichever is greater, is required to start the traffic calming process for a resident-initiated project.

Once there is demonstrated neighborhood support for the project, the minimum criteria for traffic volumes, speed or crashes will need to be met to qualify for traffic calming.

Without these limits and requirements for neighborhood support, there would be an inefficiency in Staff resources and Village expenditures. Since traffic calming measures directly impact vehicular speed and volume, minimum speed or volume criteria will need to be met for a project area to qualify for traffic calming measures. The only exception will be if the street has a recent history of crashes atypical for a neighborhood street and traffic calming measures would be the appropriate solution. The specifics of the minimum criteria are explained in Exhibit A.

PROJECT AREAS

Policy Statements

- The traffic data collected from the Neighborhood Traffic Study and separate individual traffic studies completed over the last 20 years will serve as the primary source to identify streets that potentially qualify for traffic calming measures
- The type and level of the traffic issue(s) along with street characteristics will help determine the appropriate traffic calming measures
- Traffic calming projects are intended to minimize diverted traffic to other local residential or collector streets
- A project area, the limits of potential significant impact should construction of traffic calming measures take place on the qualifying street, will be created for each potential traffic calming project

Traffic calming measures on one street can have an impact on surrounding streets. A noticeable increase in vehicular volume or speed on an adjacent street may arise when one street is the sole focus of a project. In developing a solution for one issue, it is important not to shift the issue to an adjacent street or neighborhood. Neighborhood street classifications and their respective functions are to be maintained.

To address this concern, the Engineering Division will create a project area after a petition is received for traffic calming measures on a particular street. The boundaries of the project area will be the limits of potential significant impact should construction of traffic calming measures take place on the qualifying street. In some cases, the project area will be limited to the qualifying street in question whereas in other cases it will include adjacent streets. The project area may include streets that do not currently qualify for traffic calming but would be impacted by traffic calming measures on an adjacent street. However, a project area does not necessarily include the entire neighborhood allowing for the possibility of multiple project areas within a neighborhood.

If a traffic calming projects takes place on a neighborhood bike route, the project area may be extended to include logical termini for the bike route.

PROJECT AREAS

Policy Statements

The Village was segmented into eighteen (18) neighborhood zones as part of the Neighborhood Traffic Study, a program that reviewed the traffic control at all neighborhood intersections and speed limits on all neighborhood streets. Each neighborhood was reviewed as a whole rather than analyzing each intersection or street independently. By having a big picture focus, the Engineering Division was able to consider the potential impact throughout the neighborhood. A product of the study was the collection of extensive vehicular volume and speed, pedestrian and intersection data.

Both the traffic data collected from and the approach to the Neighborhood Traffic Study are key aspects of the Friendly Neighborhood Streets Program. The Village has a data base of over 2000 individual traffic counts with speed data that will be the primary source to be able to identify streets with traffic conditions above the norm and that qualify for traffic calming measures. The Engineering Division will perform a traffic study if needed to confirm the data in the database. The type and level of the issue(s) can be assessed and a project area more quickly created. Further, potential traffic calming measures can begin to be discussed based on the traffic data and street characteristics.

Project Area Example
(Not in Mount Prospect)

PROJECT INITIATION

Policy Statements

- Resident-initiated and Village-initiated processes have been developed to pursue traffic calming projects
- The Engineering Division will evaluate all streets included in the annual Street Resurfacing Program for traffic calming eligibility. If eligible, they will follow the same traffic calming process as other projects

There are many residential streets throughout the Village that potentially qualify for traffic calming measures. The Village does not have the resources to addresses all these issues at once. Therefore, the Village has developed the resident-initiated process to allow residents to reach out to the Village to help prioritize projects. This helps to prevent the Village from spending resources on projects that neighborhoods may not want.

The resident-initiated process allows the neighborhood to reach out to the Engineering Division when it believes conditions have reached a level for pursuing traffic calming measures. This process provides a sense of ownership to improve the livability in the neighborhood. Once this process is initiated, the Engineering Division will partner with residents to develop a traffic calming project. The petition form to initiate the process is in Exhibit C.

The Village-initiated process allows the Engineering Division to pursue traffic calming measures when a hazardous condition is clearly evident. A high crash rate, recorded speeds well above a typical residential street, and recorded volumes excessive for the street classification are examples. The process will permit the Engineering Division to bypass the petition process but still allows for resident involvement in the plan development phase.

Finally, the Engineering Division will evaluate all streets included in the annual Street Resurfacing Program. If a street is identified as a potential traffic calming project through this program, it will follow the Village-initiated process, bypassing the petition process but allowing for resident involvement in the plan development phase.

PROJECT PRIORITIZATION

Policy Statements

- Traffic calming projects will be prioritized based on the extent of the problem

The need to prioritize projects arises when the demand for traffic calming measures exceeds Village resources. This includes Staff time to work on a project as well as construction funding. A common approach to efficiently utilize Village resources is to prioritize projects so that neighborhoods with the greater problems are addressed first.

The following factors will be used to priorities projects:

- Vehicle Speed
- Vehicle Volume
- Crash History
- School Locations
- Other Pedestrian Generators
- Bike Routes
- Sidewalk Availability

Should the Engineering Division receive multiple requests for traffic calming projects, the Engineering Division will prioritize them utilizing the Project Prioritization Worksheet located in Exhibit B. The one street within the Project Area that receives the most points will represent the Project Area during the prioritization review.

TRAFFIC CALMING MEASURES

Policy Statements

- Non-Physical Measures include education, enforcement, signing and striping. These are generally the least expensive and have the least impact on residents
- Vehicular Measures can either maintain traffic volume or change it
    - Horizontal deflection, constriction and textured pavements maintain traffic volume
    - Turn restrictions, diverters, intersection median barriers and street closures change traffic volume
- Pedestrian Safety Measures include curb extensions, pedestrian refuge islands and raised crosswalks
- Bicycle Safety Measure include advisory bike lanes, counterflow bike lanes, traditional bike lanes, buffered or protected bike lanes, bike signage and striping at intersections and protected intersections
- Unwarranted stop signs and vertical deflection (speed humps), except for raised crosswalks, are not to be used as part of the program

Details about traffic calming measures appropriate or inappropriate for the Friendly Neighborhood Streets Program are detailed in the Traffic Calming Toolbox included in Appendix A. Below provides a brief introduction to the traffic calming measures.

Each traffic calming measure can have a different effect on motorists as well as bicyclists and pedestrians. It is important to understand how each traffic calming measure functions and the primary traffic issue each that one is intended to address. The identified traffic issue(s), collected traffic data, street classification, street geometrics, adjacent land use and cost are some of the factors that will be considered to determine the appropriate traffic calming measure(s) for each project.

TRAFFIC CALMING MEASURES

Policy Statements

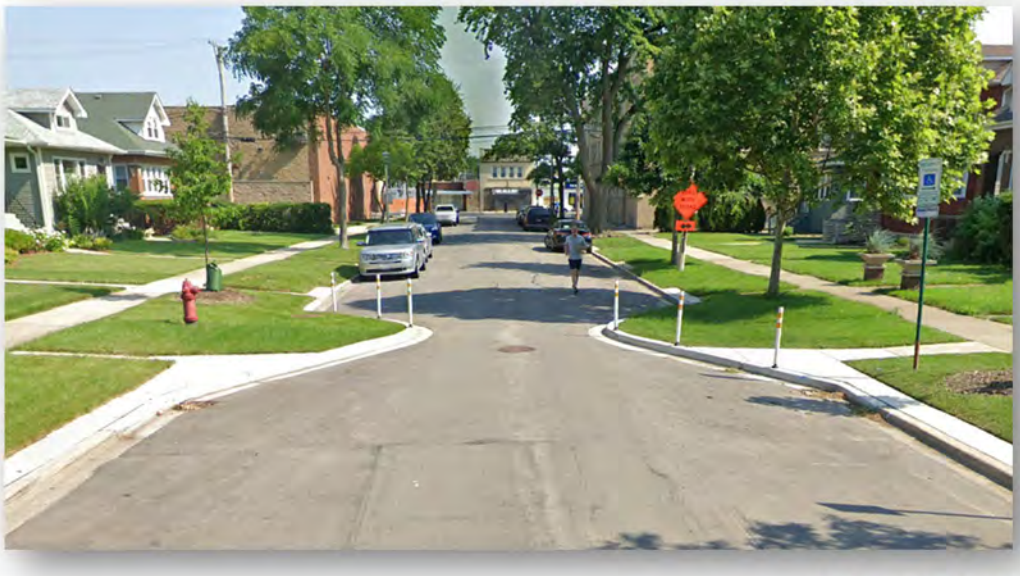
Non-Physical Measures: Education, Enforcement, Signing or Striping

Education and Enforcement require staff time to implement with no physical changes to the street. Police can conduct targeted enforcement based on traffic study results.

Signing and striping are used to reinforce existing traffic regulations on the street or to draw attention to specific locations, such as crosswalks. Speed feedback signs are among the most effective signage to reduce vehicle speeds without physically altering the street. Striping can be used to delineate on street parking to visually narrow the street to reduce speeds.

Vehicular Measures: Maintaining Traffic Volumes or Changing Traffic Volume

Measures targeting vehicles that maintain traffic volumes include horizontal deflection, constriction and textured pavement. Horizontal deflection can be mini traffic circles, concrete planters or chicanes. Constriction includes choke points, neckdowns and midblock medians. Textured pavement typically consists of brick pavers or textured asphalt. Except for textured pavement, these measures require removing some or all on street parking adjacent to the measures. There is a low impact on emergency vehicles.



TRAFFIC CALMING MEASURES

Policy Statements

Measures targeting vehicles that change traffic volume include turn restrictions, diverters, intersection median barriers and street closures. These measures alter the existing transportation circulation system. As a result, these measures can have impacts that would need to be evaluated in greater scope than just along one street. While they can be a viable solution to a individual street, it is important not to shift the problem to an adjacent street or neighborhood.

All vehicle measures need to be used in series to be effective over longer lengths of street. As such, they should be spaced every 250-400 feet. If there is too much space between measures, then vehicles may speed between them to "make up for lost time". Vehicle measures are typically designed for a design speed of 10 to 15 MPH or as needed for the project.

Pedestrian Safety Measures: Curb Extensions, Raised Crosswalks, Pedestrian Refuge Island

These are installed near high pedestrian areas such as schools and parks. The purpose is to make it safer for pedestrians to cross the street. Curb extensions narrow the street at a key crossing point minimizing the distance and time a pedestrian is in the street. Raised crosswalks require vehicles to slow down going through a crosswalk. Pedestrian refuge islands provide a place of safety for pedestrians along the center of the street allowing them to cross one direction of traffic at a time. A secondary benefit of these measures is that they can slow traffic as vehicles pass the measure.

TRAFFIC CALMING MEASURES

Policy Statements

Bicycle Safety Measures: Advisory Bike Lanes, Counterflow Bike Lanes, Traditional Bike Lanes, Buffered or Protected Bike Lanes, Bike Signage and Striping at Intersection and Protected Intersections

The Village has an extensive network of signed neighborhood bike routes, but the design of these streets does not dramatically differ compared to other neighborhood streets. Traffic should be calmed on signed bike routes to bring vehicle speed down to levels that more match the speed of bicyclists to increase safety. Bike specific safety measures should be combined with other measures to slow traffic. The type and applicability of bike lanes that can be installed depends primarily on the available street width and use of on street parking. Intersection treatments can slow traffic and increase awareness for bicyclist where bike routes cross non-bike route streets, especially when the non-bike route street does not have traffic control. Overall, drivers should understand they are driving on a bike route where bikes have equal access to the street through the way the street is designed, not just through signs.

Calming traffic to promote bicycling and other alternative forms of transportation is in line with the Village's sustainability goals.

TRAFFIC CALMING MEASURES

Policy Statements

Inappropriate Measures: Stop Signs, Children at Play Signs, Speed Humps

Stop signs are not traffic calming measures. Traffic studies have shown there is little difference in vehicular speeds at the midblock whether there is or is not a stop sign at the adjacent intersection and in some cases the speeds are higher as motorists try to "make up for lost time" after the stop sign.

Inappropriate use of stop signs can also create significant negative impact to emergency vehicles. Emergency vehicles are required to verify that a stop-controlled intersection is clear of vehicles prior to entering.

Stop signs are traffic control devices that should be used when appropriate to assign right-of-way to conflicting traffic movements, not to calm traffic. Unwarranted stop signs can have a high violation rate, create disrespect at other stop-controlled intersections and create a false sense of security for other street users and pedestrians.

Children at Play Signs are commonly requested in neighborhoods. However, they are not standard traffic control devices and have not been found to be effective in improving safety for children. Village policy is to install the signs only adjacent to parks.

Speed Humps have previously been trialed in the Village and were removed after an evaluation period due to noise, maintenance issues and resident complaints. They were replaced with textured pavement and speed feedback signs that resulted in a similar traffic calming effect. There are currently no speed humps within Village right-of-way. Due to the above issues, the Engineering Division does not deem speed humps appropriate for the Friendly Neighborhood Streets Program.

ON-STREET PARKING

Policy Statements

On-street parking is present on almost all neighborhood streets. This provides convenient access to homes for residents, but there is typically an ample supply of on-street parking on residential streets. Low use rates of on-street parking effectively widens the street encouraging speeding. The Village does not allow overnight parking on its streets.

Cars parked on both sides of the street requires drivers to slow down to navigate around them and oncoming drivers. Most Village streets are not wide enough to accommodate two-way traffic and parking on both sides of the street. The Friendly Neighborhood Streets Program is looking to permanently replicate the effect that utilized on-street parking has on traffic calming. This may be done by replacing some on street parking spots with permeant traffic calming measures or by eliminating some on-street parking as appropriate for bike facilities. Dedicated bike facilities will visually narrow the street for vehicles, and in the case of protected bicycle facilities, will physically narrow the street for vehicles.

Engineering Staff will preserve on street parking where possible when designing traffic calming measures or bike accommodations. On street parking will remain on at least one side of the street except directly adjacent to traffic calming measures. Locations of fire hydrants, crosswalks, intersections and driveways will all be considered when designating or removing on street parking.

The 2018 Downtown Parking Study, where on street parking is most used in the Village, showed a maximum parking utilization of less than 50 percent. Even when there is the highest demand for parking downtown, over 50 percent of the parking spots are open. While studies have not been done, utilization rates of on street parking outside of the downtown core are less than the downtown utilization due to the density of development.

Special care will be considered where on street parking has high utilization due to adjacent facilities such as parks, churches, schools, commercial businesses or multi-unit buildings.

EMERGENCY RESPONSE

Policy Statements

- Traffic calming measures shall be designed to minimize the impact on emergency vehicle response times
- The Fire Department and Police Department shall be involved in the process and be given the opportunity to provide input prior to approval of any traffic calming measures

A critical concern about the use of traffic calming measures is the delay they may create for fire engines, ambulances and law enforcement vehicles. It is important to be aware of the trade-offs when making decisions about the use of traffic calming devices. The more aggressive measures for slowing traffic will slow emergency response as well.

Recognizing the importance of emergency response time, all traffic calming measures will be designed to minimize the impact on emergency vehicles. Since many collector streets are considered primary emergency vehicle response routes, particular attention must be paid to the types of measures used on collector streets. Measures that considerably interfere with emergency vehicle operations on collector streets or other primary emergency vehicle response routes will not be allowed. A map identifying the Village's primary emergency vehicle response routes is Exhibit H.

MAINTENANCE

Policy Statements

- Traffic calming measures shall be designed to minimize the impact on maintenance activities such as street sweeping, leaf pick-up and snow plowing
- The Public Works Department shall be involved in the process and be given the opportunity to provide input prior to approval of any traffic calming measures.

Many traffic calming measures alter the geometry of the street. Poorly designed measures could interfere with maintenance activities such as street sweeping, leaf pick-up and snow plowing. This could have a negative effect on the appearance of the neighborhood and the residents' quality of life.

FUNDING

Policy Statements

- Residents and business owners within a project area will not be required to directly fund any portion of a traffic calming project or future maintenance of such measures. All costs will be paid for by the Village.

The Village's Traffic Improvement Account will be the primary source to fund traffic calming projects. Grant resources such as Safe Route to Schools and the Illinois Transportation Enhancement Program will also be explored to offset Village costs. All costs associated with traffic calming projects will be paid for by the Village. Residents and businesses will not be required to directly share in the costs. Such funding is subject to availability.

Administration costs including Village Staff time to collect and analyze data, prioritize requests, conduct neighborhood meetings, develop engineering drawings detailing the traffic calming measures, and perform any post-studies after construction will be covered under the normal operating budget and will not be the responsibility of residents or businesses to fund. If a project goes to construction, the Village will cover the costs of the bidding process, construction inspection and project management. All construction costs will also be paid for by the Village.

Maintenance of the traffic calming measures will be necessary on a regular basis after construction. The Village will be responsible for maintenance such as replacing damaged signs, refreshing striping and pavement markings, pavement repair and landscaping. Maintenance of the traffic calming measures will be done at no direct cost to residents or businesses.

REMOVAL

Policy Statements

- Traffic calming measures shall remain in-place for a minimum of one year before being considered for removal.
- Removal of a traffic calming measure installed via the resident-initiated process shall require a positive response from at least 66% of the affected properties within the project area and approval by the Village Board of Trustees.
- Removal of a traffic calming measure installed via the Village-initiated or street resurfacing process shall only be initiated by the Village and must be approved by the Village Board of Trustees.

For consideration to remove traffic calming measures from an individual street or entire project area that were installed via the resident-initiated process, a petition must be submitted to the Engineering Division. If the request is for an individual street that did not originally qualify for traffic calming measures when evaluated independently, the petition must be signed by at least 66% of the properties along the street in question. If the request is for an individual street that did originally qualify for traffic calming measures or is for an entire project area, the petition must be signed by at least 66% of the properties within the project area. A petition cannot be submitted for at least one year after installation of traffic calming measures to avoid a premature reaction to their effectiveness.

Should the Engineering Division receive a petition, a neighborhood meeting will be held to discuss the issues and impacts of removal of the traffic calming measures. As part of the discussion, residents and businesses will be presented the latest traffic data to understand the effectiveness of the existing traffic calming measures. They will also be informed that any costs associated with removing the traffic calming measures will be paid for by the Village. The Engineering Division will then send a ballot to the affected properties within the project area detailing the removal request.

REMOVAL

Policy Statements

A deadline for return will be shown on the ballot. In order to proceed with removal of the traffic calming measures, a positive response from at least 66% of the properties involved must be received by the deadline. No response or a late response will be counted as opposition to the removal. Should there be sufficient support to remove the traffic calming measures, the Village Board of Trustees will be advised and requested to make a final decision based on a simple majority vote. Removal of the traffic calming measures will not take place unless the Village Board of Trustees approves the removal and until funds are allocated by the Village.

Like the petition process, for balloting purposes, the following will apply:

- Single family properties count as one
- Single use properties (churches, businesses, schools, parks, etc.) count as one
- Each unit within small-scale multi-unit properties without a management company will count as one, and will be mailed individual ballots
- Each unit within large-scale multi-unit properties with a management company will count as one, but the ballots will be mailed to the management company for them to distribute to residents

For traffic calming measures installed via the Village-initiated process, only the Village can initiate the process for removal. Typically, the Village will initiate the removal process should the street be altered, adjacent land use change, or other situations arise where it is determined the traffic calming measures are no longer effective or necessary. A traffic study must support the recommendation to remove such traffic calming measures. After a neighborhood meeting, a survey will be sent to the project area soliciting feedback. Resident comments will be forwarded to the Village Board of Trustees and considered before they make a final decision based on a simple majority vote.

IV - REFERENCES

This section includes references for information presented in the Friendly Neighborhood Streets Program and its exhibits and appendices.

Traffic Calming Toolbox:

NACTO (National Association of City Transportation Officials) Urban Street Design Guide – Speed Reduction Mechanisms
Note: "Urban" street design also includes suburban communities, the "Urban" designation differentiates the design guide from rural communities.

https://nacto.org/publication/urban-street-design-guide/design-controls/design-speed/speed-reduction-mechanisms/

Chicago Department of Transportation Tool's for Safer Streets Guide – 2013

https://www.chicago.gov/content/dam/city/depts/cdot/street/general/ToolsforSaferStreetsGuide.pdf

Chicago Department of Transportation Complete Streets Design Guidelines – 2013

https://www.chicago.gov/content/dam/city/depts/cdot/Complete%20Streets/CompleteStreetsGuidelines.pdf

FHWA (Federal Highway Administration) Traffic Calming ePrimer

https://highways.dot.gov/safety/speed-management/traffic-calming-eprimer

ITE (Institute of Transportation Engineers) Journal Article on Advisory Bike Lanes – December 2009

https://staging.nxtbook.com/ygsreprints/ITE/ITE_December2019/stage.php?startid=11#/p/44

Portland Slow Streets Initiative – Concrete Planters

https://www.portland.gov/transportation/news/2021/7/29/pbots-slow-streets-program-moves-ahead-permanent-installations

Bench Program:

San Francisco Public Bench Project

https://publicbenchproject.wordpress.com/get-your-bench/

Speed:

Scholarly Article on Affect of 20 MPH Speed Limit on streets in Bristol, UK
https://injuryprevention.bmj.com/content/26/1/85

IIHS (Insurance Institute for Highway Safety)

https://www.thedrive.com/news/lowering-speed-limits-can-make-roads-safer-after-all-iihs

Denver 20 MPH Speed Limit Program

https://www.denvergov.org/Government/Citywide-Programs-and-Initiatives/Vision-Zero/Speed-Limits

ITE (Institute of Transportation Engineers) Speed as a Safety Problem

https://www.ite.org/technical-resources/topics/speed-management-for-safety/speed-as-a-safety-problem/

Example Traffic Calming Programs:

Village of Oak Park, IL
https://www.oak-park.us/village-services/public-works/addressing-neighborhood-traffic-issues

City of Raleigh, North Carolina
https://raleighnc.gov/transit-streets-and-sidewalks/traffic-calming-project-process

Ann Arbor, Michigan
https://www.a2gov.org/departments/engineering/traffic/traffic-calming/Pages/default.aspx

https://storymaps.arcgis.com/stories/d420834d8c4948cc92273500d1092298

Village of Naperville, IL Traffic Calming Toolkit

https://www.naperville.il.us/globalassets/media/projects/ted-business-group/traffic-calming-toolkit-final.pdf

Safety
Governors Highway Safety Association
https://www.ghsa.org/sites/default/files/2022-05/Pedestrian%20Traffic%20Fatalities%20by%20State%20-%202021%20Preliminary%20Data%20%28January-December%29.pdf

IHHS.org
SUVs, other large vehicles often hit pedestrians while turning
https://www.iihs.org/news/detail/suvs-other-large-vehicles-often-hit-pedestrians-while-turning

Miscellaneous
Ann Arbor Traffic Calming Changes
https://www.mlive.com/news/ann-arbor/2023/09/aiming-to-slow-cars-ann-arbor-taking-steps-to-improve-traffic-calming-program.html

Exhibit A

Minimum Criteria

MINIMUM CRITERIA

The Engineering Division collected extensive vehicular volume and speed data including average daily traffic, peak hour volume, average speeds and 85th percentile speeds on most neighborhood streets as part of the Neighborhood Traffic Study from 2007 to 2010. Unless additional studies have been conducted on a particular street, updated traffic data will most likely be necessary before determining if a street qualifies for traffic calming measures due to the time since the Neighborhood Traffic Studies were completed.

For a street to qualify for traffic calming measures at least one of the criteria thresholds below must be met.

Speed:

- The average speed is at least **3 MPH** above the speed limit
- The 85th percentile speed is at least **7 MPH** above the speed limit

Note: School Zone Speed Limits can be used only where signed and when enhancing pedestrian safety is a primary goal

These speed limits are lower than the previous traffic calming program to make more streets eligible for traffic calming measures and to better account for outlier neighborhood traffic speeds effecting traffic studies. Slow speeds due to deliveries, garbage trucks, mail or residents accessing their driveways near traffic counters can lower the overall speeds recorded by the study.

Volume:

- The average daily traffic is at least 1000 vehicles
- The peak hour volume is at least 120 vehicles

The traffic volume limits are meant to address cut through traffic on neighborhood streets. This typically happens on non-collector streets adjacent to arterial roadways. Volume criteria does not apply to collector streets except adjacent to high pedestrian generators.

MINIMUM CRITERIA

Should an individual street qualify for traffic calming measures, the Engineering Division will also identify any surrounding streets that may be significantly impacted by traffic calming measures on the street in question. The selected surrounding streets may not meet the minimum criteria but could be adversely impacted if not considered in the development of a traffic calming project. The boundaries of potential significant impact will define the project area.

The only exception to meeting any of the criteria thresholds is if the street has a recent history of crashes atypical for a neighborhood street and traffic calming measures are the appropriate solution. Should the Engineering Division identify a high crash rate for the street, the Engineering Division has the discretion to initiate a traffic calming project even if none of the vehicular volume or speed criterions are met. In analyzing the crash reports for a street with a recent history of crashes, the Engineering Division will first consider less intrusive education, enforcement and engineering measures. If it is determined traffic calming measures are the appropriate solution, the project will continue with the traffic calming process.

Definitions

These definitions pertain to the criteria thresholds described above and apply to an engineering traffic study typically lasting between 48 and 72 hours.

Average Speed – The mean speed, in miles per hour, of all vehicles during the traffic study. It is typically measured at the midblock of the street.

85th Percentile Speed – The speed, in miles per hour, at which 85% of all vehicles during the traffic study are traveling at or below. It is typically measured at the midblock of the street and represents the basis for establishing the speed limit.

Average Daily Traffic – The number of vehicles, measured in both directions, passing a point along the street during a 24-hour period. It is calculated by dividing the total number of recorded vehicles by the number of days in the traffic study.

Peak Hour Volume – The highest number of vehicles, measured in both directions, passing a point along the street during any 1-hour period during the traffic study.

Exhibit B

Project Prioritization Worksheet

Mount Prospect
Friendly Neighborhood Streets Program

Project Prioritization Worksheet

Location: _____ Date of Petition: _____ Date of Review: _____

Speed Factor – Speed Limit (MPH) _____ Points

Average Speed (mph) Above Speed Limit	or (Whichever is Higher)	85th Percentile Speed Above Speed Limit	Points
3		5	2
4		6	4
5		7	6
6		8	8
7 or More		9 or More	10 (Max)

_____

Time Factor Points:

Months Since Petition	Points
0 - 6	0
6 - 12	2
13 - 18	4
18 - 24	6
Over 24	10 (Max)

_____

Volume Factor – Local Streets and Collector Streets Adjacent to Pedestrian Generators Points:

Average Daily Traffic (Local)	Average Daily Traffic (Collector)	or (Whichever is Higher)	Peak Hour Volume (Local)	Peak Hour Volume (Collector)	Points
1000 - 1100	1000 - 1300		120 – 130	120 - 150	1
1101 - 1200	1301 - 1600		131 – 140	151 - 180	2
1201 - 1300	1601 - 1900		141 – 150	181 - 210	3
1301 - 1400	1901 - 2200		151 – 160	211 - 240	4
1401 - 1500	2201 - 2500		161 – 170	241 - 270	5
1501 - 1600	2501 - 2800		171 – 180	271 - 300	6
1601 - 1700	2801 - 3100		181 – 190	301 - 330	7
1701 - 1800	3101 - 3400		191 – 200	331 - 360	8
1801 - 1900	3401 - 3700		101 – 210	361 - 390	9
1901 and above	3701 and above		211 and above	391 and above	10 (Max)

_____

Additional Factors (points determined by the Engineering Division)

Crash History		Pedestrian Generator		Schools		Sidewalk		Bike Route	
Average # of Annual Crashes (Past 3 Years)	Points	# of Affected Pedestrian Generators	Points	# of Affected Schools	Points	% of Street not having Sidewalk	Points	Bike Route Present?	Points
1	2	1	1	1	3	1 - 10	1	No	0
2	4	2	2	2	6	11 - 25	2	Yes	5
3	6	3	3	3	9	26 - 50	3		
4	8	4	4	4	12	51 - 75	4		
5 or More	10 (Max)	5 or More	5 (Max)	5 or More	15 (Max)	76 - 100	5 (Max)		

Points: _____ _____ _____ _____ _____

Total Points _____

Traffic Data

Average Speed: _____ Average Daily Traffic: _____

85th Percentile Speed: _____ Peak Hour Volume: _____

Exhibit C

Petition Form

Petition for Traffic Calming Measures

Date: _____

We, the undersigned, respectfully petition the Village of Mount Prospect to consider implementing traffic calming measures on the: _____ block of _____ or At the intersection of _____ and _____ in the Village of Mount Prospect.

Traffic problems to be remedied using traffic calming measures include:

- Excessive Vehicle Crashes _____
- Excessive Vehicle Speeds _____
- Excessive Vehicle Volumes _____
- Pedestrian/Bicycle Safety Issues _____
- Other _____ _____

(rank issues in order of importance with 1 being most problematic and 5 being lease problematic)

Primary Resident Contact (Person Project Updates will be Coordinated with):

Print Name	Signature	Address	Phone Number	Email
1.				

Petitioners' (a minimum of 9 petitioners, or 30% or the dwelling units and commercial spaces in the initial project area, whichever is greater, plus the primary contact are required):

Print Name	Signature	Address	Phone Number	Email
2.				
3.				
4.				
5.				

ATTACH A LETTER EXPLAINING WHY THIS PETITION IS BEING SUBMITTED.

Signatures to the petition indicate support of traffic calming measures on the street or at the intersection listed above. This is not a commitment to construction, there will be further public outreach as plans are developed.

Petition for Traffic Calming Measures

Additional Information

This petition should be signed by residents withing the immediate area where traffic calming measures are requested. Please reach out to the Engineering Division at Mount Prospect Public Works with any questions on determining an initial project area for petitions.

Return to: Engineering Division, Attention: Luke Foresman, PE, Mount Prospect Public Works, 1700 West Central Road, Mount Prospect IL, 60056.

This is the first step in the traffic calming process as part of the Friendly Neighborhood Streets Program. Information on the program can be found on the Village's website or a hard copy can be requested at Public Works.

For the petition, only one signature per property is allowed. Businesses count as one signature, as do churches or schools. For multi-family residences, each apartment or condo counts as one signature.

Upon receipt of the petition, the Engineering Division will review the petition for validity, then return with comments to the primary contact or will proceed with the traffic calming process.

The letter explaining why the petition is being submitted should include:

- Description of the problem(s)
- Time(s) of the day / day(s) of the week when the problem occurs
- Possible causes of the problem
- Any other information the Village should be aware of regarding the problem

Any questions on the petition, the traffic calming process or The Friendly Neighborhood Streets Program can be directed to:

Luke Foresman, PE
Project Engineer
847-870-5640
publicworksdept@mountprospect.org

Petition for Traffic Calming Measures

Additional Petitioners' (a minimum of 9 petitioners, or 30% or the dwelling units and commercial spaces in the initial project area, whichever is greater, plus the primary contact are required):

Print Name Signature Address Phone Number Email

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

16. _____

17. _____

18. _____

19. _____

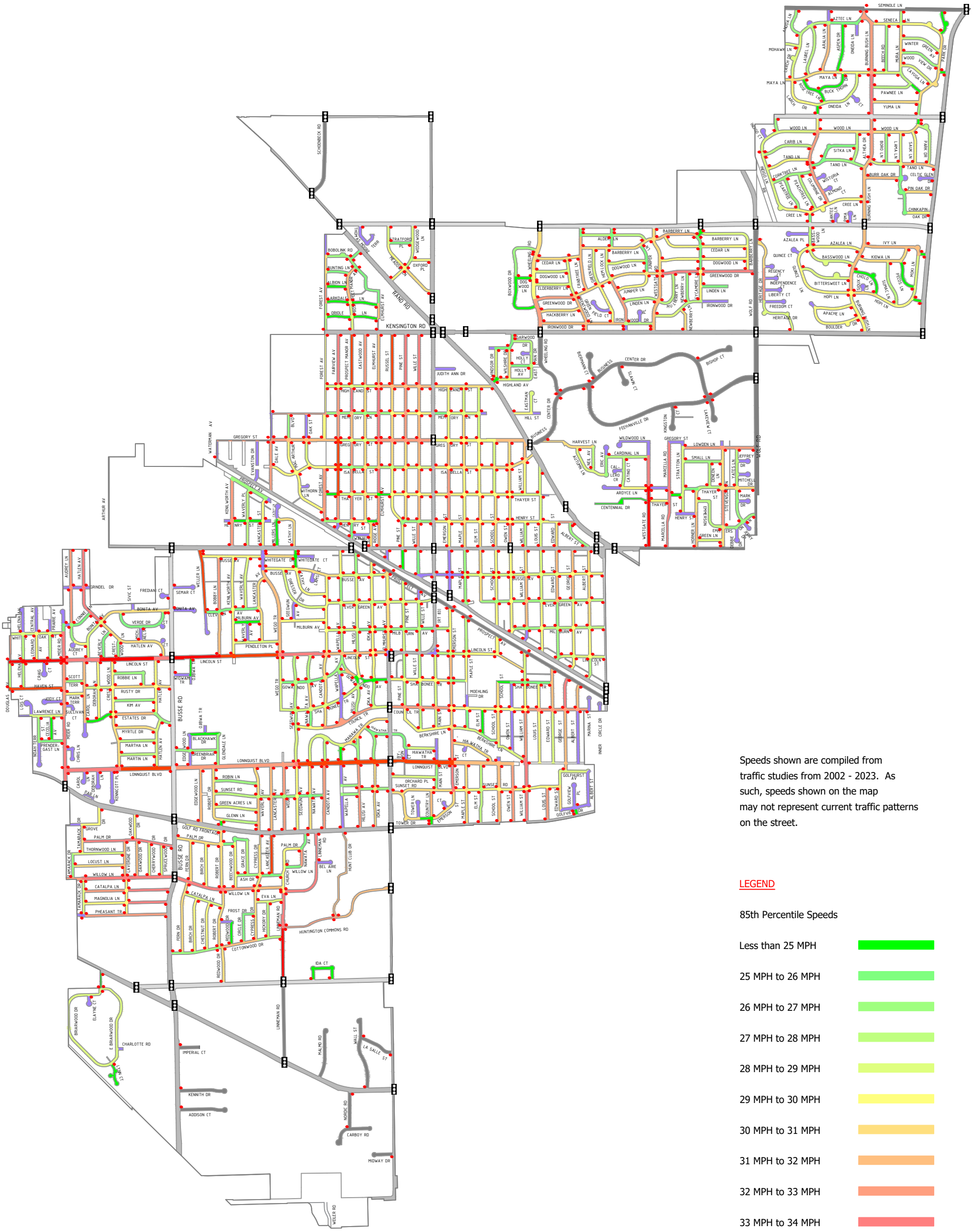
20. _____

Attach additional pages if necessary.

Exhibit D

85TH Percentile Speed Map

Village of Mount Prospect
Friendly Neighborhood Streets Program
85th Percentile Speed Map



Speeds shown are compiled from traffic studies from 2002 - 2023. As such, speeds shown on the map may not represent current traffic patterns on the street.

LEGEND

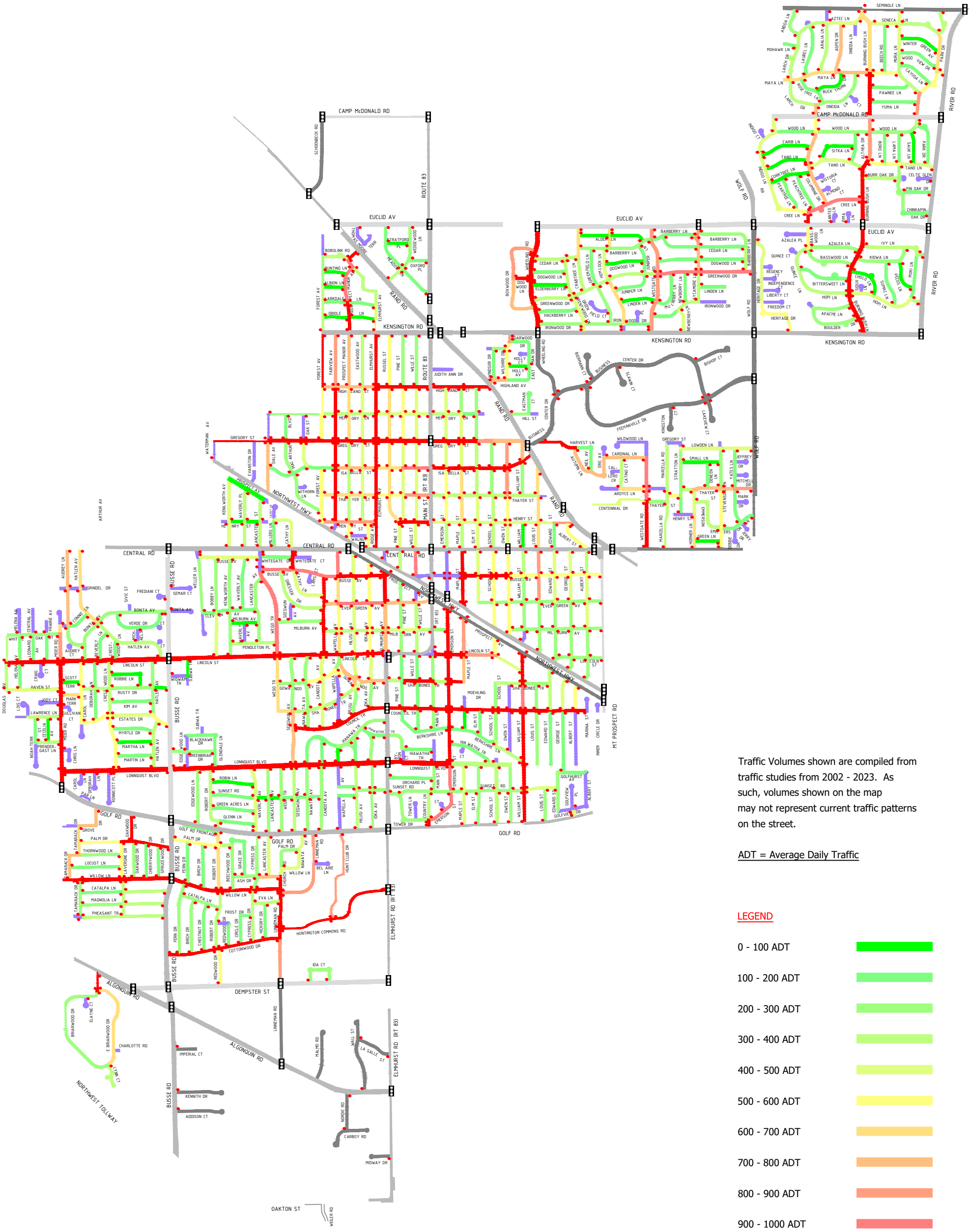
85th Percentile Speeds

- Less than 25 MPH
- 25 MPH to 26 MPH
- 26 MPH to 27 MPH
- 27 MPH to 28 MPH
- 28 MPH to 29 MPH
- 29 MPH to 30 MPH
- 30 MPH to 31 MPH
- 31 MPH to 32 MPH
- 32 MPH to 33 MPH
- 33 MPH to 34 MPH
- 34 MPH to 35 MPH
- Greater than 35 MPH
- No Data

Exhibit E

Traffic Volume (ADT) Map

Village of Mount Prospect
Friendly Neighborhood Streets Program
Traffic Volume (ADT) Map



Traffic Volumes shown are compiled from traffic studies from 2002 - 2023. As such, volumes shown on the map may not represent current traffic patterns on the street.

ADT = Average Daily Traffic

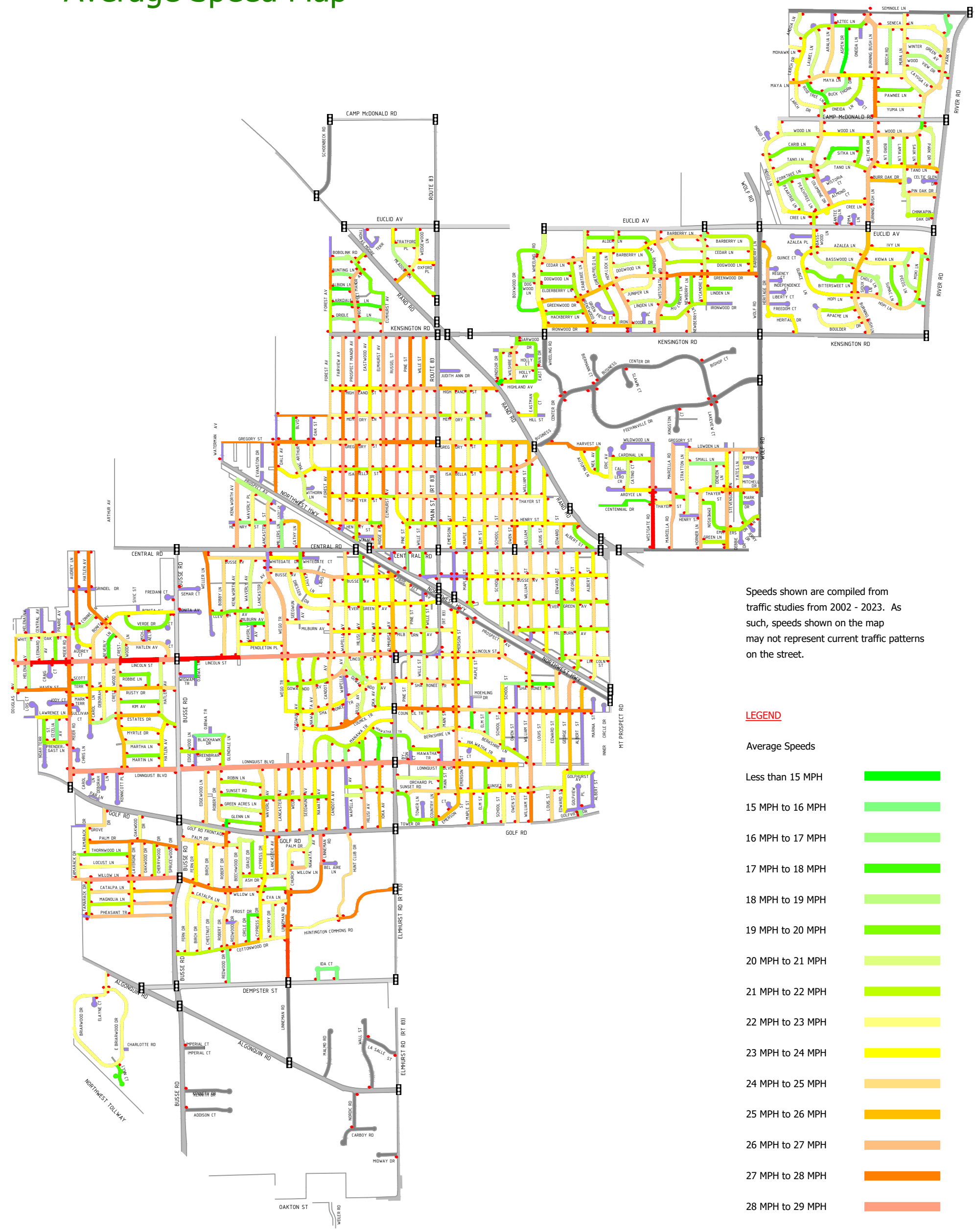
LEGEND

- 0 - 100 ADT
- 100 - 200 ADT
- 200 - 300 ADT
- 300 - 400 ADT
- 400 - 500 ADT
- 500 - 600 ADT
- 600 - 700 ADT
- 700 - 800 ADT
- 800 - 900 ADT
- 900 - 1000 ADT
- Greater than 1000 ADT
- No Data

Exhibit F

Average Speed Map

Village of Mount Prospect
Friendly Neighborhood Streets Program
Average Speed Map



Speeds shown are compiled from traffic studies from 2002 - 2023. As such, speeds shown on the map may not represent current traffic patterns on the street.

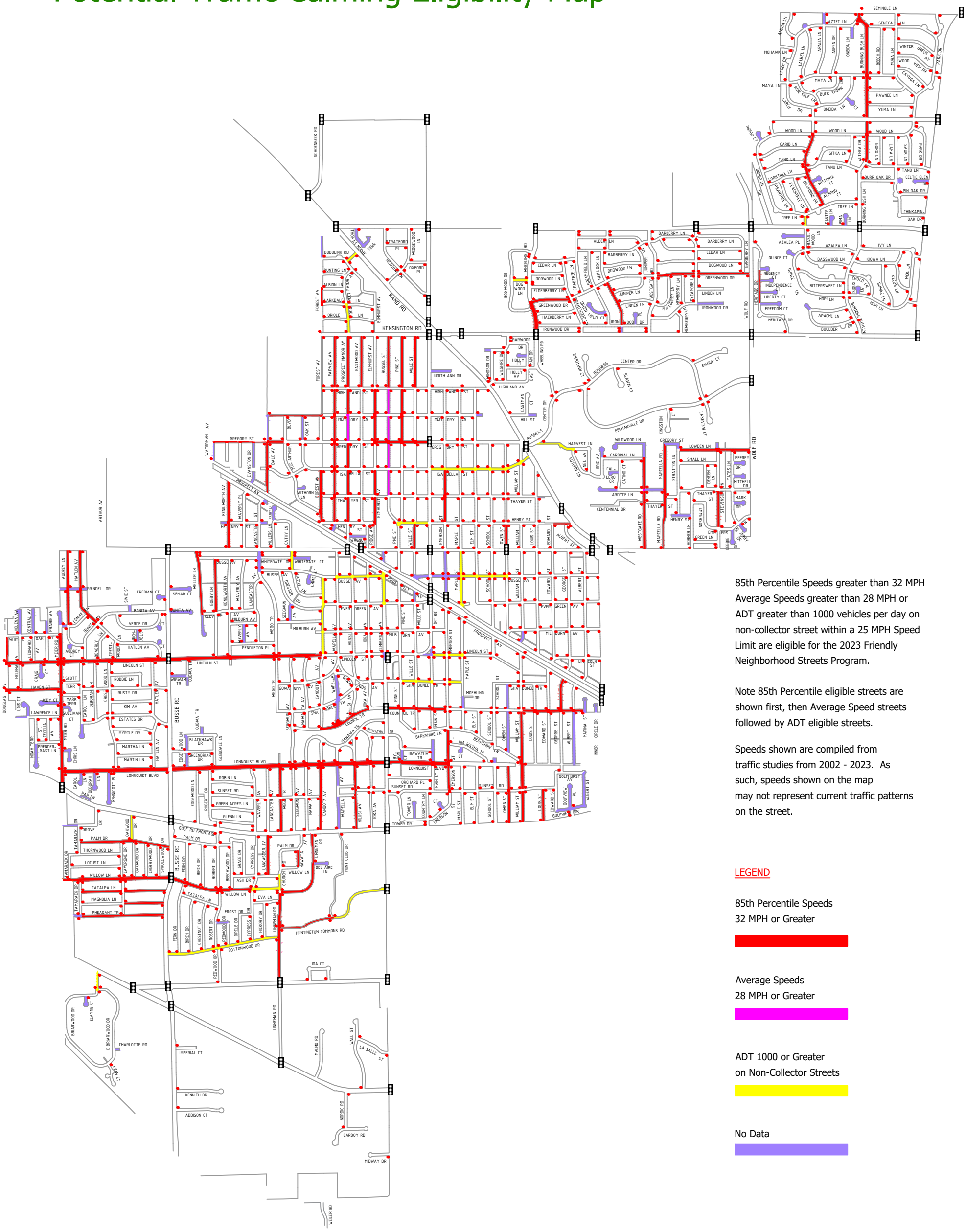
LEGEND

Average Speeds

Less than 15 MPH	🟩
15 MPH to 16 MPH	🟩
16 MPH to 17 MPH	🟩
17 MPH to 18 MPH	🟩
18 MPH to 19 MPH	🟩
19 MPH to 20 MPH	🟩
20 MPH to 21 MPH	🟨
21 MPH to 22 MPH	🟩
22 MPH to 23 MPH	🟨
23 MPH to 24 MPH	🟨
24 MPH to 25 MPH	🟧
25 MPH to 26 MPH	🟧
26 MPH to 27 MPH	🟧
27 MPH to 28 MPH	🟧
28 MPH to 29 MPH	🟥
29 MPH to 30 MPH	🟥
Greater than 30 MPH	🟥
No Data	🟪

Exhibit G

Potential Traffic Calming Eligibility Map



Village of Mount Prospect
Friendly Neighborhood Streets Program
Potential Traffic Calming Eligibility Map

85th Percentile Speeds greater than 32 MPH Average Speeds greater than 28 MPH or ADT greater than 1000 vehicles per day on non-collector street within a 25 MPH Speed Limit are eligible for the 2023 Friendly Neighborhood Streets Program.

Note 85th Percentile eligible streets are shown first, then Average Speed streets followed by ADT eligible streets.

Speeds shown are compiled from traffic studies from 2002 - 2023. As such, speeds shown on the map may not represent current traffic patterns on the street.

LEGEND

85th Percentile Speeds
32 MPH or Greater
🟥

Average Speeds
28 MPH or Greater
🟪

ADT 1000 or Greater
on Non-Collector Streets
🟨

No Data
🟪

Exhibit H

Primary Emergency Vehicle Response Map

Village of Mount Prospect
Friendly Neighborhood Streets Program
Emergency Vehicle Response Map

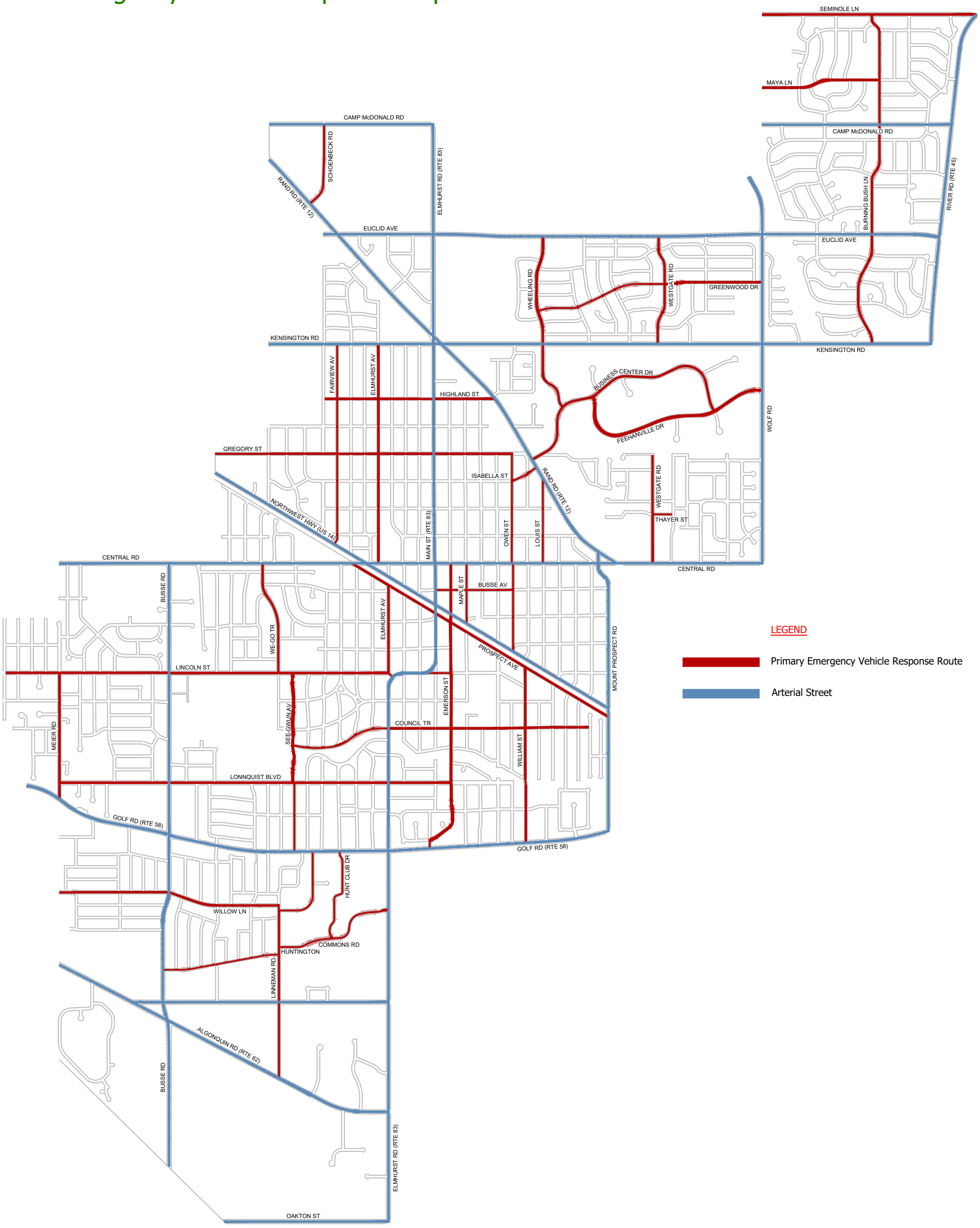
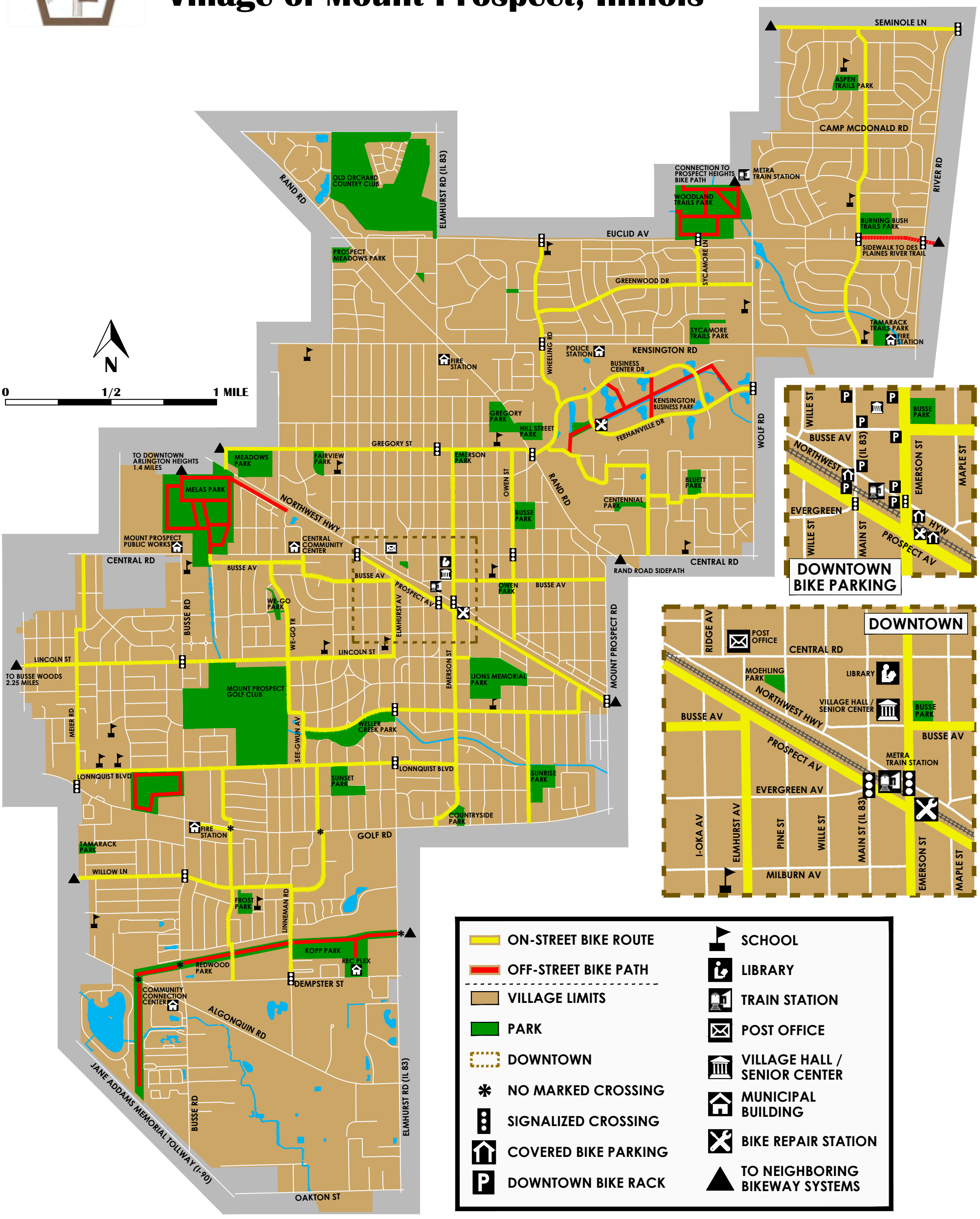


Exhibit I

Neighborhood Bike Route Map

Bicycle Map

Village of Mount Prospect, Illinois



BIKE NETWORK AS OF OCTOBER 2022
THE VILLAGE CONTINUES TO LOOK FOR OPPORTUNITIES TO EXPAND OUR BIKE NETWORK. GO TO www.mountprospect.org/bikeplan FOR MORE INFORMATION.

Appendix A

Traffic Calming Toolbox

TRAFFIC CALMING TOOLBOX

This toolbox was developed to provide guidance on the use of various traffic calming measures acceptable in the Village of Mount Prospect. It is intended to be used in conjunction with the Friendly Neighborhood Streets Program that outlines the goals, policies and processes for addressing traffic concerns in the Village. Various traffic calming measures can be combined to create the desired result. Each page provides the following information for different traffic calming measures:

Description
An illustration and written description is provided for each measure.

Application
Each traffic calming measure is designed to address specific traffic issues. The application section outlines the common uses for each measure.

Advantages
Each measure in the toolbox provides some advantages to traffic calming and to the quality of life in the neighborhood. The advantages section outlines the positive impacts associated with each traffic calming measure.

Disadvantages
Although each measure included in the toolbox provides some positive aspects to traffic calming, each has negative impacts as well. The disadvantages are outlined so that tools can be evaluated for both their positive and negative effects.

Variations
There are often several variations of specific traffic calming measures. Several of these are provided where they are appropriate.

Special Considerations
This section offers a variety of issues that should be considered for each traffic calming measure. Emergency response and operational concerns are flagged in this section.

Cost
The cost section is intended as a general guide to costs for the different measures. Costs are based on 2023 prices. Excluded is staff design time.

Information for these traffic calming measures came from various sources listed in the References Section.

TRAFFIC CALMING MEASURES INCLUDED IN THE TOOLBOX

Below are the traffic calming measures that the Village deemed appropriate for use by, and consistent with the goals of, the Friendly Neighborhood Streets Program. This list may be updated periodically as new information is released on effective traffic calming measures. Individual measures can and will be combined to develop traffic calming strategies that work for street segments and entire neighborhoods.

Non-Physical Measures

- Education
- Enforcement
- Signing
- Pavement Markings

Vehicular Measures

Maintaining Traffic Volume

- Horizontal Deflection
  - Mini Traffic Circle
  - Concrete Planters
  - Chicane
- Constriction
  - Choke Point / Neckdown
  - Midblock Median
- Textured Pavement

Changing Traffic Volume

- Turn Restrictions
- Diverter
- Intersection Median Barrier
- Street Closure

Pedestrian Safety Measures

- Curb Extension
- Pedestrian Refuge Island
- Raised Crosswalk

Bicycle Safety Measures

- Advisory Bike Lanes
- Bike Lanes and Buffered or Protected Bike Lanes
- Bike Signage and Striping at Intersections
- Protected Intersection

TRAFFIC CALMING MEASURES EXCLUDED FROM THE TOOLBOX

Below are the traffic calming measures that the Village deemed inappropriate for use by, and inconsistent with the goals of, the Friendly Neighborhood Streets Program. This list may be updated periodically as new information is released on effective traffic calming measures and through experience with traffic calming measures installed in the Village.

Stop Signs

Stop signs are not traffic calming measures. They are traffic control devices that assign right-of-way to conflicting traffic movements at intersections. They are not to be used for speed control. Traffic studies have shown there is little difference with vehicle speeds at the midblock whether there is or is not a stop sign at the adjacent intersection. In some cases, vehicular speeds after the vehicle has passed through an unwarranted stop-controlled intersection are as high, and occasionally higher, than without a stop sign, as motorists try to "make up lost time" at the stop sign.

Stop signs should be installed only at locations where conditions meet criteria established in the Manual on Uniform Traffic Control Devices. Unwarranted stop signs can have a high violation rate, create disrespect at other stop-controlled intersections and create a false sense of security for other street users and pedestrians. The village-wide Intersection Traffic Control Study was completed in 2008; it evaluated every neighborhood intersection for appropriate traffic control. All yield signs were removed and stop signs were installed only where warranted. The program resulted in a decrease in crashes and a decrease in requests for stop signs in neighborhoods.

Children at Play Signs

Children at Play signs are commonly requested in neighborhoods. However, they are not standard traffic control devices and have not been found to be effective in improving the safety of children. Residential areas commonly have children, and the presence of these signs does not necessarily have a long-term effect on driver behavior. The Village's policy is that such signs will only be installed adjacent to parks where there is an expectation on the driver's part to see a concentration of children playing.

Speed Humps

Speed Humps have previously been trialed in the Village and were removed after an evaluation period due to noise, maintenance issues and resident complaints. They were replaced with textured pavement and speed feedback signs that resulted in a similar traffic calming effect. There are currently no speed humps within Village right-of-way. Due to the above issues, the Engineering Division does not deem speed humps appropriate for the Friendly Neighborhood Streets Program.

EDUCATION

Non-Physical Measure

KEEP KIDS ALIVE DRIVE 25®

Description

Using different media such as written material, the Village web site, meetings and one-on-one conversations, Village-generated information is provided to residents. Can include programing at schools to teach children safe ways to bike around the Village.

Application

- Streets identified by residents as experiencing excessive speeding, volume or stop sign violations
- Streets near schools
- Resident groups that wish to play an active role in easing traffic concerns along residential streets such as participation in the Keep Kids Alive – Drive 25 campaign

Advantages

- Opportunity to discuss extent of problem and appropriate course of action
- Staff able to explain program as well as criteria to qualify for traffic calming measures
- Staff and residents partner to determine appropriate solutions
- Village resources used to communicate Staff's perspective
- Solicit resident involvement to ease traffic concerns
- Educate students on proper biking procedures

Disadvantages

- Residents may not agree with Staff's perspective or recommendations

Variations: None

Special Considerations: None

Cost: Staff Time

ENFORCEMENT

Non-Physical Measure

Description
Enforcement relies on the Police Department to be a presence in neighborhoods and enforce existing speed limit and traffic control ordinances.

Application
- Streets identified by residents as experiencing excessive speeding or stop sign violations
- Streets that have a history of excessive speeding or stop sign violations

Advantages
- Effective while officer present
- Radar speed trailer and drone vehicle can lower vehicle speeds with no officer present
- Use of radar speed trailer and drone vehicle offers flexibility to implement on short notice
- Extent of problem can be discussed with residents and Engineering Division after enforcement period

Disadvantages
- Requires periodic enforcement to have long-term effect
- Staffing limitations stretches Police Department personnel and resources

Variations: None

Special Considerations
- Often helpful in school zones
- May be used during learning period when new measures or signs are first installed

Cost: Staff Time

SIGNING

Non-Physical Measure

Description
Regulatory, warning and guide signs are used to provide guidance to motorists to enhance the safety or motorists, bicyclists and pedestrians in a neighborhood. Signs can be enhanced through in-sign lighting or using speed feedback displays.

Application
- Streets identified by residents as experiencing excessive speeding or sign violations
- To promote alternative modes of transportation

Advantages
- Provides definition of traffic ordinances
- Assists Police Department in enforcement efforts
- Inexpensive approach to address a traffic problem
- Providing safe facilities may encourage more residents to walk and bike in neighborhoods
- Feedback signs help to bring awareness to actual speed of traffic on the street

Disadvantages
- Requires periodic enforcement to have long-term effect
- Unrealistic or unwarranted signs tend to be disregarded
- Use of a lot of signs can detract the look of a neighborhood

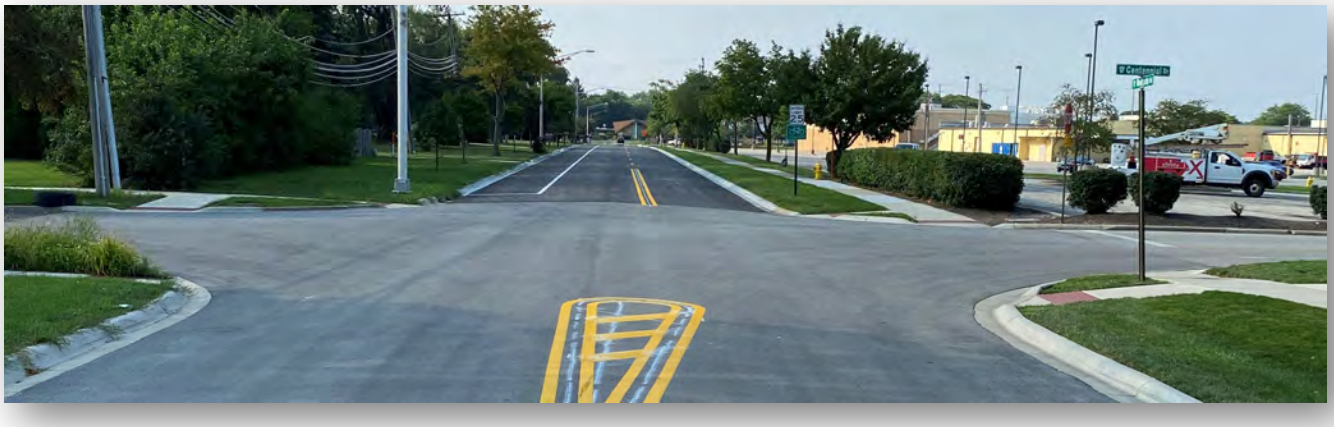
Variations: None

Special Considerations
- Consistency from street-to-street increases expectation on motorists' part

Cost: $200 per standard sign, up to $4,000 each for enhanced signs

Pavement Markings

Non-Physical Measure



Description
Pavement Markings define uses for different sections of the street and enhances bike and pedestrian facilities.

Application
- Streets identified by residents as experiencing excessive speeding or conflicts between motorists and alternative forms of transportation
- To promote alternative modes of transportation

Advantages
- Provides defined spaces for street users
- Visually narrows travel lanes which reduce speed
- Enhances visibility for alternative modes of transportation

Disadvantages
- Requires bi-yearly maintenance to refresh pavement markings
- Striped parking lanes may require disallowing parking on one side of a street to maintain two-way traffic
- Does not force vehicles to comply with pavement markings

Variations: Can be used on bike routes to define spaces for bikes, see Bike Safety Measures. On street speed limit, pedestrian, or school zone markings.

Special Considerations
- Consistency from street-to-street increases expectation on motorists' part

Cost: $2 per foot, plus ongoing maintenance

HORIZONTAL DEFLECTION – MINI TRAFFIC CIRCLE

Vehicular Measure – Maintaining Traffic Volume

Description
A mini traffic circle is a raised circular median in an intersection with counterclockwise traffic flow. Vehicles must change their travel path to maneuver around the circle. They are typically landscaped and have appropriate signage to safely guide motorists.

Application
- Streets where speed control is desired
- Intersections where there is a high rate of right angle collisions

Advantages
- Reduces vehicle speeds through intersection
- Breaks up sight lines on straight streets
- Landscaping improves aesthetics at intersection
- Can reduce right angle collisions
- No drainage issues
- Minimal curb impacts at 4-way intersections

Disadvantages
- May impede left turns by large vehicles (requiring left turns in front of the circle)
- Creates physical obstruction in the travel way
- Can slow emergency vehicle response

Variations: Can include diverter islands

Special Considerations
- Fire Department and Police Department input necessary with design

Cost: Greater than $5,000 when constructed on its own

HORIZONTAL DEFLECTION - CONCRETE PLANTERS

Vehicular Measure – Maintaining Traffic Volume

Description
Circular concrete planters are placed at intersections on approach legs (not in the middle of the intersection) as a traffic calming measure forcing vehicles to navigate around them as they enter the intersection. Planters can be filled with flowers or concrete.

Application
- Streets where speed control is desired
- Bike routes where alternative forms of transportation are prevalent

Advantages
- Reduces vehicle speeds through intersection
- Reduces turning vehicle speeds
- Breaks up sight lines on straight streets
- No drainage issues
- No curb impacts

Disadvantages
- May impede left turns by large vehicles (requiring left turns into oncoming traffic lanes)
- Creates physical obstruction in the travel way
- Can slow emergency vehicle response
- May be unsightly when not landscaped

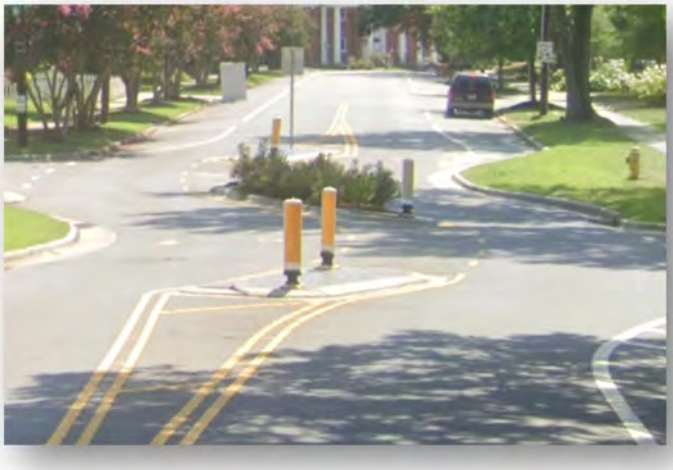
Variations: None

Special Considerations
- Fire Department and Police Department input necessary with design

Cost: $1,000 per planter

HORIZONTAL DEFLECTION - CHICANE

Vehicular Measure – Maintaining Traffic Volume



Description
Chicanes create a curved street alignment that is designed to fit in existing rights-of-way. The curvilinear alignment requires additional maneuvering and reduces motorists' sight line. They can be landscaped and have appropriate signage or striping to safely guide motorists.

Application
- Streets where speed control is desired
- Straight streets where reduced sight line is desired

Advantages
- Reduces vehicle speeds along street
- Breaks up sight lines on straight streets
- Landscaping improves aesthetics along street
- Minimal impact on emergency vehicle response (without median)

Disadvantages
- Requires on-street parking removal
- Snow removal, leaf pick-up and street sweeping operations may be more difficult
- Existing driveways and parkway trees may be difficult to design around
- Vehicles can still travel straight through chicane by using the oncoming travel lane

Variations: When space allows, a center island can be installed to further slow traffic to force vehicles to follow the chicane instead of driving down the middle

Special Considerations
- Curbs need to be moved so drainage will need to be considered
- Will take away some parkway space and add parkway in different areas

Cost: Greater than $10,000 per chicane when constructed on its own

CONSTRICTION – CHOKE POINT / NECKDOWN

Vehicular Measure – Maintaining Traffic Volume

Description

Choke points or neckdowns are a location on a street where existing street edges or curbs are extended towards the center of the street. These are designed so that only one vehicle can pass through the choke point at one time. They are typically landscaped and have appropriate signage to safely guide motorists.

Application

- Streets where speed control is desired
- Straight streets where reduced sight line is desired
- Entrances to neighborhood streets off arterial roads

Advantages

- Reduces vehicle speeds along street
- Breaks up sight lines on straight streets
- Landscaping improves aesthetics along street
- Minimal impact on emergency vehicle response

Disadvantages

- Requires on-street parking removal
- Snow removal, leaf pick-up and street sweeping operations may be more difficult
- Potential for bicycle conflicts when not specifically designed with bicycle accommodations

Variations: Can include crosswalk at high pedestrian crossing areas

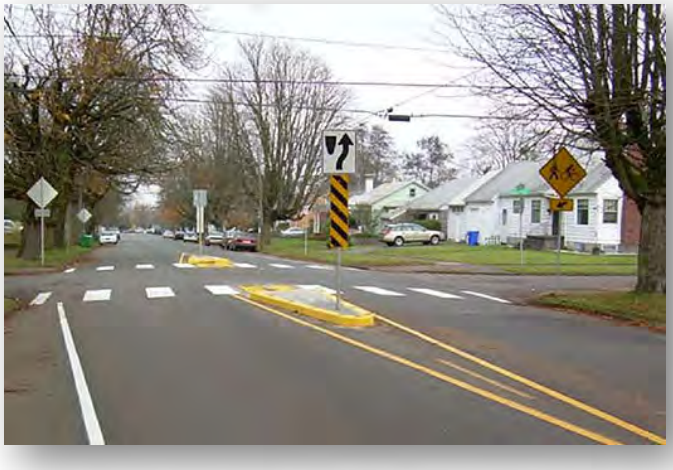
Special Considerations

- Drainage will need to be considered as the curb lines are shifting

Cost: $5,000 per choke point when constructed on its own without drainage improvements

CONSTRICTION – MIDBLOCK MEDIAN

Vehicular Measure – Maintaining Traffic Volume



Description

A Midblock median is a raised island in the center of a two-way street. They are typically landscaped.

Application

- Streets where speed control is desired
- Straight streets where reduced sight line is desired
- Entrances to neighborhood streets off arterial roads

Advantages

- Reduces vehicle speeds along street
- Breaks up sight lines on straight streets
- Landscaping improves aesthetics along street
- Minimal impact on emergency vehicle response
- Minimal drainage impact

Disadvantages

- Requires on-street parking removal
- Need for ongoing maintenance
- Potential for bicycle conflicts when not specifically designed with bicycle accommodations

Variations:

- Can include crosswalk at high pedestrian crossing areas
- Small median islands can be used at intersection while maintaining on-street parking

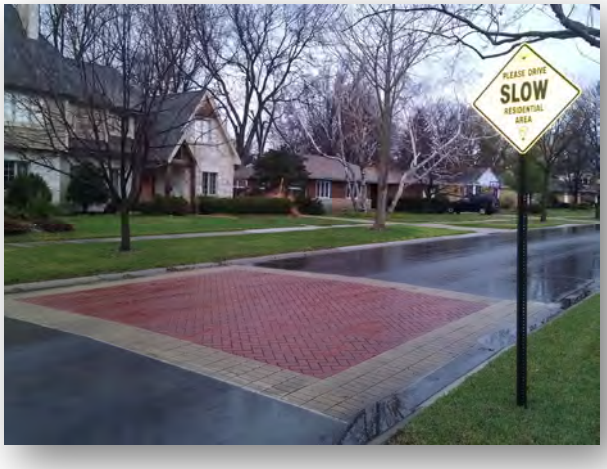
Special Considerations

- Sight obstruction issues at intersections

Cost: $5,000 to $10,000 per median when constructed on its own depending on size

TEXTURED PAVEMENT

Vehicular Measure – Maintaining Traffic Volume



Description
Textured Pavement can be textured asphalt, textured concrete or brick pavers. This creates a different driving environment for motorists that can alert them to pay attention to their surroundings.

Application
- Streets where speed control is desired
- Entrances to neighborhood streets off arterial roads
- Streets where pedestrian activity is common

Advantages
- Minimal impact on emergency vehicle response
- No drainage impact
- Improved aesthetics

Disadvantages
- Minimal speed impact once drivers are used to them
- Potential for increased street noise
- Need for ongoing maintenance

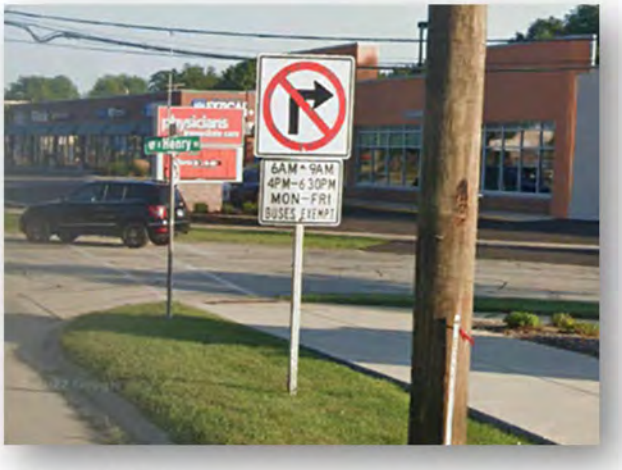
Variations: None

Special Considerations: None

Cost: **$**10,000 plus per installation depending on size and material

TURN RESTRICTIONS

Vehicular Measure – Changing Traffic Volume



Description
Turn restrictions limits or prohibits specific turning movements by way of signage

Application
- Streets where volume control is required
- Prevent cut through traffic by eliminating access onto a residential street

Advantages
- Reduces traffic volume on street
- Inexpensive to install
- Can be tailored to be time of day and day of week

Disadvantages
- Limits access to local homeowners
- Requires enforcement since there is no physical barrier
- Traffic may shift to an adjacent street or neighborhood

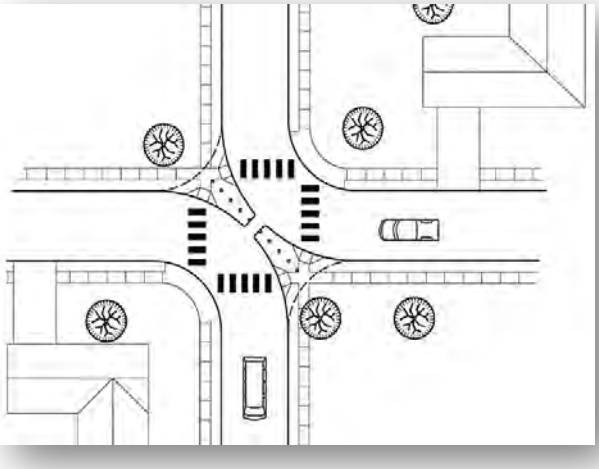
Variations:
- Can use striping, pavement markings and/or a physical barrier to emphasize turn restrictions

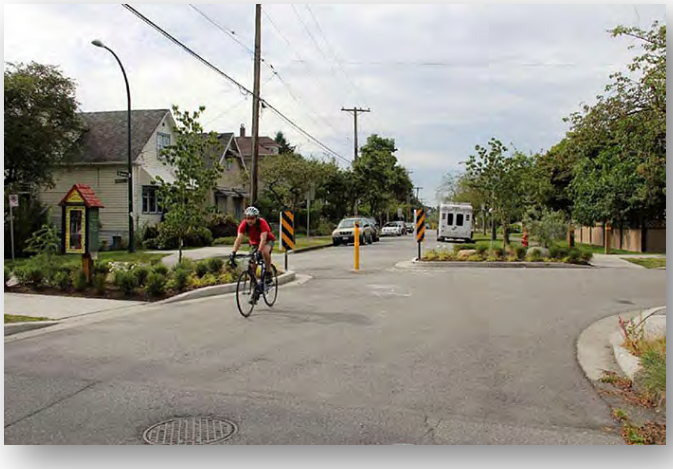
Special Considerations:
- Care must be taken not to shift problem to an adjacent street or neighborhood

Cost: $200 per sign

DIVERTER

Vehicular Measure – Changing Traffic Volume





Description
A diverter is a physical barrier that prevents access to specific legs of an intersection. They may or may not be landscaped but have appropriate signage to safely guide motorists

Application
- Streets where volume control is desired
- Prevent cut through traffic by eliminating entry onto a residential street

Advantages
- Reduces traffic volume on street
- Bicycle and pedestrian access still provided

Disadvantages
- Prohibits or limits access to local homeowners
- Prohibits or limits access to emergency vehicles
- Traffic may shift to an adjacent street or neighborhood

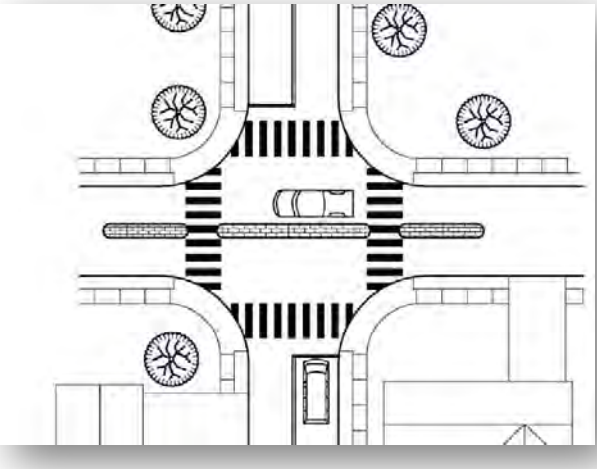
Variations:
- Full diagonal diverter bisects an intersection
- Semi-diverter prohibits access into a residential area but allows vehicles to exit

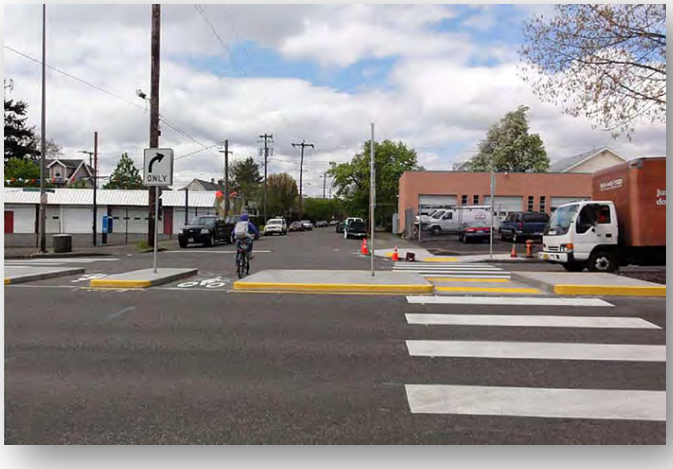
Special Considerations:
- Care must be taken not to shift problem to an adjacent street or neighborhood
- Fire Department and Police Department input necessary with design

Cost: $5,000 to $10,000 depending on design

INTERSECTION MEDIAN BARRIER

Vehicular Measure – Changing Traffic Volume





Description
An intersection median barrier is a raised island along the center of a two-way street extending through an intersection to prevent specific turning movements with appropriate signage

Application
- Streets where volume control is desired
- Prevent cut through traffic by controlling left-turn and side street through movements

Advantages
- Reduces traffic volume on street
- Reduces potential for collisions at intersection by eliminating left-turns
- Landscaping improves aesthetics along street
- Breaks up sight lines on straight streets

Disadvantages
- Limits access to local homeowners and emergency vehicles
- Increase in U-turns at ends of medians
- May require some on-street parking removal
- Creates physical obstruction in the travel way
- Traffic may shift to an adjacent street or neighborhood

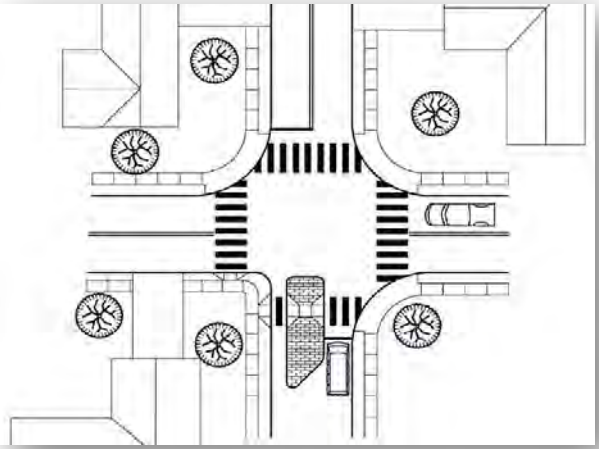
Variations: None

Special Considerations:
- Care must be taken not to shift problem to an adjacent street or neighborhood
- Fire Department and Police Department input necessary with design
- Important to maintain pedestrian and bicycle access

Cost: $5,000 to $10,000 depending on design

STREET CLOSURE

Vehicular Measure – Changing Traffic Volume



Description
A street closure is a physical barrier across a street eliminating all vehicle access. Appropriate signage is used to warn motorists of condition

Application
- Streets where volume control is desired
- Prevent cut through traffic by eliminating access onto a residential street

Advantages
- Reduces traffic volume on street
- Reduces noise associated with vehicles

Disadvantages
- Prohibits access to local homeowners
- Prohibits access to emergency vehicles
- Traffic may shift to an adjacent street or neighborhood

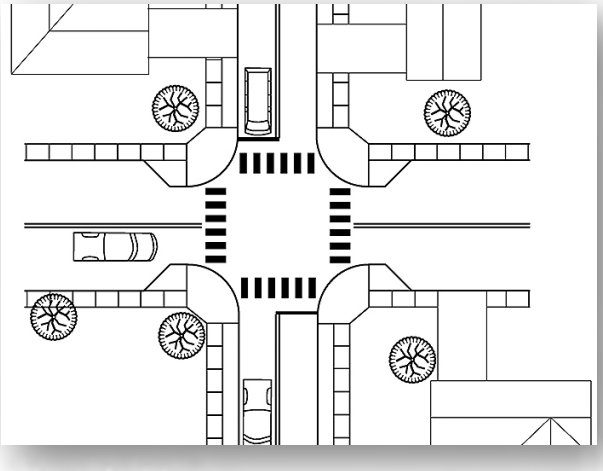
Variations:
- Midblock closure creating a dead-end street
- Half Closure

Special Considerations:
- Care must be taken not to shift problem to an adjacent street or neighborhood
- Fire Department and Police Department input necessary with design
- Important to maintain pedestrian and bicycle access

Cost: $5,000 to $10,000 depending on design

CURB EXTENSION

Pedestrian Safety Measure



Description

A curb extension is a segment of street narrowing at an intersection where existing street edges or curbs are extended toward the center of the street. They have appropriate signage to safely guide motorists

Application

- Wide streets with a significant amount of traffic
- Intersections where a pedestrians do or could cross the street

Advantages

- Reduces pedestrian crossing distance and time
- Makes pedestrian crossing points more visible to motorists
- Prevents on-street parking near intersection
- Minimal impact on emergency vehicle response

Disadvantages

- Snow removal, leaf pick-up and street sweeping operations more difficult
- Narrowed travel lanes may cause bicycle / vehicle conflict

Variations:

- Install on one or both intersecting streets
- Extend edge or curb on one or both sides of streets
- Decreasing radius returns size (narrowing intersection)

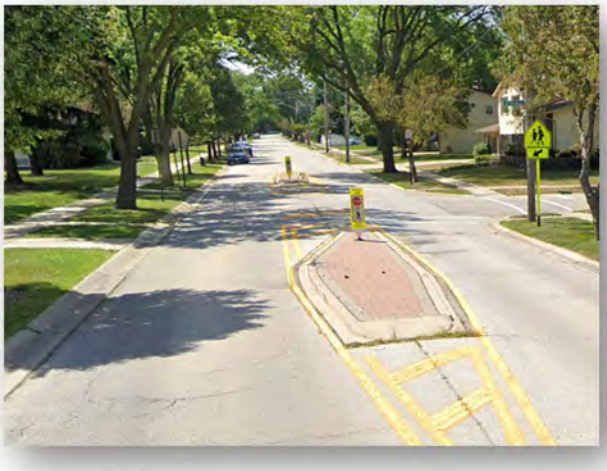
Special Considerations:

- Should not be used on existing narrow streets
- Drainage will need to be considered as the curb lines are shifting

Cost: $5,000 to $10,000 depending on design, more with drainage impacts

PEDESTRIAN REFUGE ISLAND

Pedestrian Safety Measure



Description

A pedestrian refuge is a raised island in the center of a two-way street. The island has a gap in the curb creating two segments allowing passage for pedestrians.

Application

- Wide streets with a significant amount of traffic
- Intersections or midblock locations where pedestrians do or could cross the street

Advantages

- Allows pedestrians to cross half the street at a time
- Makes pedestrian crossing points more visible to motorists
- Minimal impact on emergency vehicle response
- Minimal drainage impacts

Disadvantages

- Requires some on-street parking removal
- Narrowed travel lanes may cause bicycle / vehicle conflict
- Creates physical obstruction in the travel way

Variations:

- Use brick or textured pavement as landscaping alternative

Special Considerations:

- Should not be used on existing narrow streets without widening at the crossing
- Would not include Rectangular Rapid Flashing Beacons except on very high-volume streets

Cost: $5,000 to $10,000 depending on design and length of the island

RAISED CROSSWALK

Pedestrian Safety Measure

Description
A raised crosswalk is a variation of a flat-topped speed table. A raised crosswalk is marked and signed as a pedestrian crossing.

Application
- Side streets to slow turning vehicles turning off arterial roads
- Midblock locations near large pedestrian generators and schools

Advantages
- Requires cars to slow down at crosswalks
- Increases visibility of pedestrians
- No impact to on-street parking

Disadvantages
- Impacts to emergency vehicle response
- Possible drainage issues
- Increased vehicle noise
- Snow removal, leaf pick-up and street sweeping operations more difficult

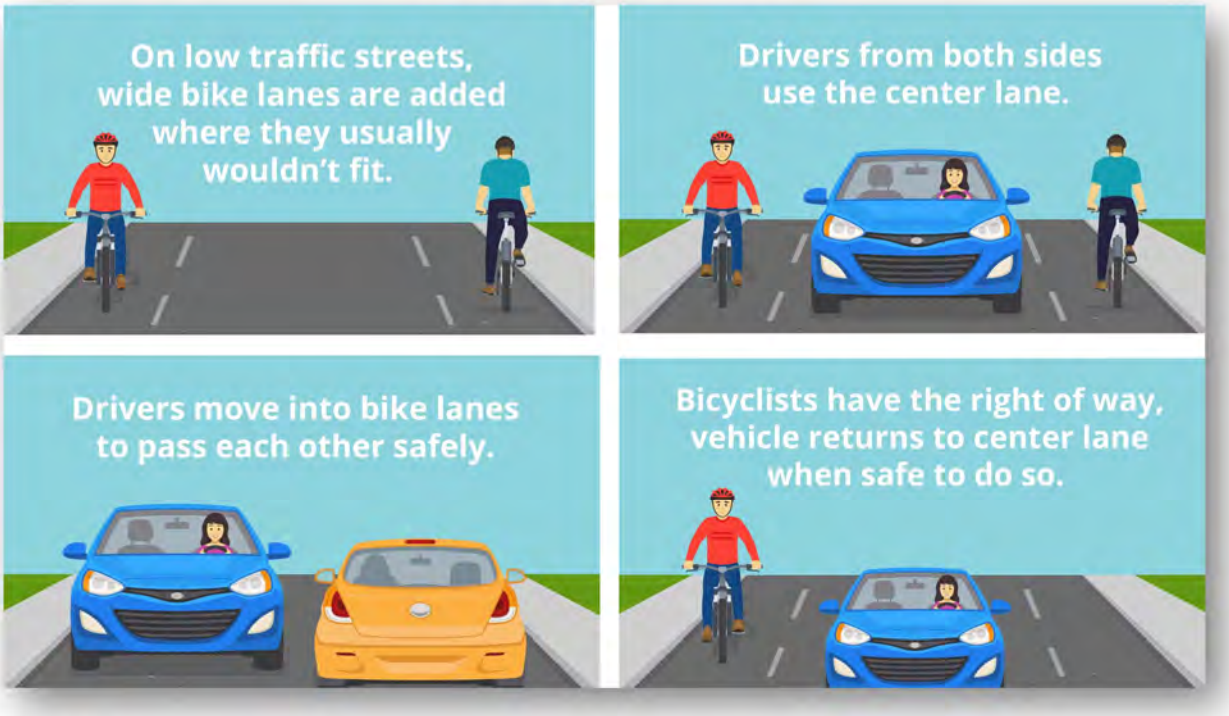
Variations:
- Raised Intersections

Special Considerations:
- Fire Department and Police Department input necessary with design

Cost: $10,000 plus depending on design and drainage impacts

ADVISORY BIKE LANES

Bicycle Safety Measure



Description
Dashed advisory bike lanes where bicyclists have the right of way and vehicles share a center lane.

Application
- Signed bicycle routes with relatively low volume

Advantages
- Provides dedicated space for bicyclists
- No impact on emergency response
- Visually narrows the street slowing traffic

Disadvantages
- On most streets requires removal of on street parking on at least one side

Variations: None

Special Considerations:
- Education required prior to implementation of design
- Street functions similarly to when cars are parked on both sides of narrow streets

Cost: $2 per foot for striping

BIKE LANES

Bicycle Safety Measure

Description
Bike lanes, buffered bike lanes and protected bike lanes. Buffered bike lanes include a painted buffer zone, protected bike lanes include concrete protection to separate bikes and vehicles.

Application
- Signed bicycle routes with wide street widths and high traffic volumes

Advantages
- Provides dedicated space for bicyclists
- No impact on emergency response
- Visually narrows the street slowing traffic

Disadvantages
- May require removal of on street parking depending on street width
- Requires wide streets or streets with limited parking to provide enough space for two-way traffic
- Protected bike lanes may make snow removal, leaf pick-up and street sweeping operations more difficult

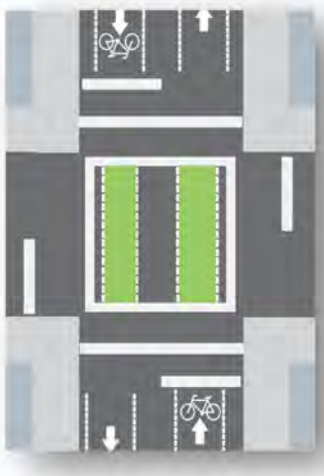
Variations:
- Combined parking and bike lanes
- Two-Way Cycle Tracks
- Counterflow bike lanes

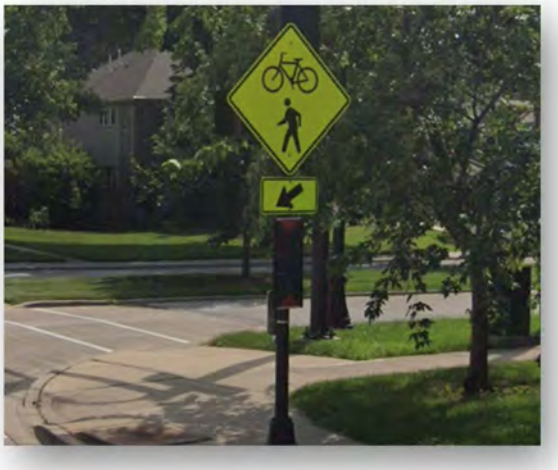
Special Considerations:
- Driveway access with protected bike lanes

Cost: $4 per to $10 per foot for standard and buffered bike lanes, an additional $40 a foot for protected bike lanes

BIKE PAVEMENT MARKINGS AND SIGNAGE AT INTERSECTIONS

Bicycle Safety Measure





Description
Bike pavement markings and signage at intersections where a street crosses a signed bike route without traffic control. Many of the Village's on street signed bike routes cross streets with stop control on the bike route street only. Additional signage and pavement markings through the intersection will increase visibility and awareness for bicyclists.

Application
- Streets that intersect a bike route that does not have traffic control
- Intersections where two signed bike routes cross

Advantages
- Provides dedicated space for bicyclists
- Raises awareness to drivers that bicyclists may be present
- No impact on emergency response
- Visually narrows the street slowing traffic

Disadvantages
- Requires bi-yearly maintenance to refresh pavement markings

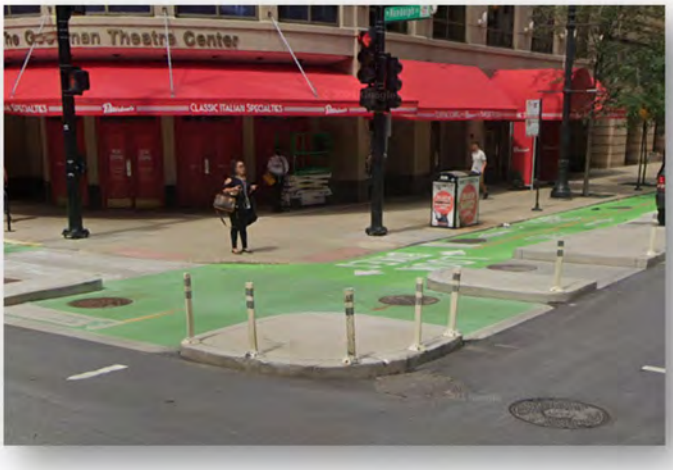
Variations:
- Can be combined with other intersection traffic calming measures

Special Considerations: None

Cost: $200 per sign, $500 - $4000 for pavement marking

PROTECTED INTERSECTION

Bicycle Safety Measure



Description

Protected Intersections physically separate bicyclists from motor vehicles at the corner of intersections. Concrete islands are installed at the corners providing space for bicyclists to wait and safely navigate the intersection.

Application

- Large intersections where signed bike routes meet
- Intersections with a signed bike route where traffic calming is desired

Advantages

- Provides dedicated space for bicyclists
- Separates bicyclists from pedestrians
- Slows cars by reducing the size of the intersection
- No impact on emergency response

Disadvantages

- Drainage impacts
- Potential to affect truck turning movements
- Snow removal, leaf pick-up and street sweeping operations may be more difficult
- Expensive
- Requires large amount of space to implement

Variations: None

Special Considerations: None

Cost: Greater than $50,000 depending on design and drainage requirements