AGENDA
Public Safety Commission
In-Person Meeting with Public Electronic Access
November 8, 2021 6:30 p.m. Meeting
City Hall / City Council Chambers

- ***Attend the meeting in Person:*** *Members of the public may attend the meeting in person. All attendees, regardless of vaccination status, are required to wear masks and comply with social distancing parameters.*
- ***Watch the meeting electronically:*** *To observe the meeting electronically, visit www.newbrightonmn.gov or tune into CTV Channel 8023 (CenturyLink) or Channel 16 (Comcast).*
- ***Join the meeting electronically:*** *If you need to interact with our officials or staff but are not comfortable attending the meeting in person, you may join the meeting electronically (no app needed) by visiting: https://us02web.zoom.us/j/83423337636?pwd=TnNpcDFIeVczTittY0hoYjhkY0gzZz09 or use your Zoom app to join by entering: Meeting ID:* 834 2333 7636 *and Passcode:* 229022.

I. Call to Order

II. Roll Call

- ☐ Chair Geoff Hollimon
- ☐ Vice Chair Karen Wagner
- ☐ Commissioner Robert Boyd
- ☐ Commissioner Amina Ghouse
- ☐ Commissioner Dan Judd
- ☐ Commissioner Stephanie Kitzhaber
- ☐ Commissioner Leah Kuipers
- ☐ Commissioner Ache Wakai
- ☐ Commissioner Jack Winkels

III. Approval of Agenda

IV. Approval of October 11, 2021 Minutes

V. Reports and Updates

A. Allina Health – Dave Matteson
B. Public Safety Update – Trevor Hamdorf, Deputy Director of Public Safety
C. City Council Update – Graeme Allen, Councilmember

VI. Presentations and Business Items

A. Traffic Safety Requests – Craig Schlichting, Director of Community Assets and Development (DCAD) and Dan Olson & Trevor Hamdorf, Deputy Directors of Public Safety

VII. Adjournment

** A quorum of the City Council may be present.*

MINUTES
Public Safety Commission
October 11, 2021 City Hall
Council Chambers 6:30 p.m.

I. Call to Order

The meeting was called to order at 6:30 p.m. by Vice Chair Wagner.

II. Roll Call:

Members Present: Commissioners Robert Boyd, Amina Ghouse, Dan Judd, Stephanie Kitzhaber, Karen Wagner, and Leah Kuipers.

Members Absent: Commissioners Geoff Hollimon, Ache Wakai and Jack Winkels.

Also Present: Director Tony Paetznick, Council Member Graeme Allen and Dave Matteson (Allina Health).

III. Approval of Agenda

Motion by Kuipers, seconded by Boyd to approve the October 11, 2021 agenda as presented. Motion carried 6-0.

IV. Approval of Minutes

Motion by Boyd, seconded by Judd to approve the September 13, 2021 minutes as presented. Motion carried 6-0.

V. Reports and Updates

A. Allina Health – Dave Matteson

Dave Mattson provided the Commission with an update from Allina Health. He thanked the New Brighton Public Safety Department for responding to several critical incidents that occurred in the community. He reported there has been an uptick in heroin overdoses which meant his EMT's were using NARCAN. He commented on how the 911 volume was increasing but staffing has declined and he appreciated how the response networks were helping each other out, especially given the fact some hospitals were going on divert. He then discussed the number of COVID cases that had occurred in September.

B. Public Safety Update – Director Paetznick

Director Paetznick discussed the fire division noting October was fire prevention month. He explained the 2022 fire prevention calendars were available at the Public Safety Center and City Hall. He discussed a recent fire that occurred at the Main Street Village Condominiums. He noted the fire division conducted the Fill the Boot Campaign in September for Muscular Dystrophy and he thanked all who participated. He invited the public to attend the Fire Division Open House on Monday, October 25 from 6:00 p.m. to 8:00 p.m.

Director Paetznick explained the Public Safety Department was in the hiring process at this time. He reported two more catalytic convertor marking events would be held on Tuesday, October 26 and Thursday, October 28 from 12:00 p.m. to 4:00 p.m. Further discussion ensued regarding the medical equipment that was carried by New Brighton Public Safety members, which included the LUCAS device.

Director Paetznick explained staff would be working with the 35W MNPASS contractor to ensure all traffic safety measures were put back in place within the City of New Brighton.

C. City Council Update – Graeme Allen, Councilmember

Councilmember Allen provided the Commission with an update from the City Council. He stated the Council was working to create an Equity Commission, which involved the approval of an Equity Statement. He anticipated members would be appointed to the Equity Commission later this year. He reported the Tibetan Youth Conference was held at the Community Center this past Saturday. He discussed the Tails on the Trails event that was hosted this past Sunday in Hansen Park. He noted a City-wide garage sale would be hosted the weekend of Thursday, October 21 through Sunday, October 24. He noted a pumpkin walk would be held on Saturday, October 30 from 5:00 p.m. to 9:00 p.m. He discussed the cyclocross event that was held at Hansen Park on October 2 and October 3. He reported the Mounds View School District and St. Anthony School District election would be held on Tuesday, November 2.

Vice Chair Wagner reported the League of Women Voters would be hosting a candidate forum on October 18 from 7:00 p.m. to 8:30 p.m. for the Mounds View School District. It was noted this would be an online event.

VI. Presentations and Business Items

A. Unmanned Aerial Vehicle (UAV) – Matt Farmer, Community Engagement Officer

Director Paetznick stated Community Engagement Officer Farmer had a presentation for the Commission on Unmanned Aerial Vehicles (UAV).

Community Engagement Officer Farmer discussed how UAV's or drones can be utilized by the Public Safety Department. It was noted there were approximately 100 UAV programs currently in Minnesota. He described how UAV's can enhance situational awareness through data collection, provide communication with victims or suspects, deliver items to victims, while also providing a safe search and rescue option. He explained potential UAV uses for NBPSD would be to assist with search and rescue, fire scene assistance and investigation, and with traffic accident reconstruction. Other options would include large area crime scene

investigation, natural disaster response and damage assessment, City infrastructure inspection and surveying, along with City promotional media content. He commented on the legal limitations on use per State Statute. He stated if the NBPSD were to pursue a UAV program the drones would have to comply with established policies and procedures, must comply with FAA regulations and would be restricted from flying over private property. It was noted annual reporting would be required if a drone program were pursued along with a public comment period. Staff was of the opinion the pros outweigh the cons in a program like this.

Discussion included:

- It was noted drones would be used on an on demand and not in a proactive manner.
- The data collected from the drones would be managed in the same manner as the data collected from body worn cameras.
- It was reported Ramsey County has a robust drone program and Roseville was pursuing a UAV program.
- Staff reported the use of drones would be faster than waiting for a State Patrol helicopter.
- The cost for a UAV program was discussed. It was noted federal funding could be used to assist with getting the program established.
- It was estimated a drone would last three to five years.
- Staff reported this item would be coming back to the Public Safety Commission for public comment at a future meeting.
- The Commission recommended this topic be posted on the City's website as well.
- The Commission thanked Officer Farmer for his presentation.

VII. Adjournment

Motion by Ghouse, seconded by Kitzhaber to adjourn the meeting at 7:37 p.m. Motion carried 6-0.

Respectfully submitted,

Tony Paetznick
Director of Public Safety

CRIMINAL ACTIVITY
PART I OFFENSES
(Actual and Attempts)

MONTH OF: September 2021	Cases This Month	This Month Clearances	Cases Year-to-Date	Cases Last Year-to-Date
Homicide	0	0	0	0
Rape	0	0	2	2
Robbery	1	1	2	9
Agg. Assault	2	1	10	13
Burglary	9	0	51	43
Theft (includes shoplifting and bike)	38	5	399	308
Auto Theft	4	0	40	37
Arson	1	0	2	0
TOTALS	55	7	506	412

TRAFFIC ACTIVITY

	This Month	Year-to-Date	Last Year-to-Date
Motor Vehicle Crashes:	29	240	190
Property Damage	26	224	174
Personal Injury	3	16	16
Fatal	0	0	0
DWI	5	80	86
Parking Violations	42	658	144
Hazardous Moving Violations	21	257	318
Non-Hazardous Moving Violations	18	246	344
Traffic Stops – No Citation	109	1,001	1,011

MISCELLANEOUS POLICE ACTIVITY

	This Month	This Month Last Year	Year-to-Date	Last Year-to-Date
CFS by Complaint Number	855	752	7,509	7,035
CFS by Officers' Response	1,391	1,221	12,286	11,799
Adult Arrests (not including traffic)	27	34	255	266
Juvenile Arrests (not including traffic)	1	0	3	7
Warrant Arrests	4	1	37	33
Non-Traffic Citations	14	13	101	110

2021 Use of Force - By Month

	#	YTD
January	11	11
February	7	18
March	4	22
April	8	30
May	11	41
June	9	50
July	4	54
August	3	57
September	7	64
October		
November		
December		

Use of Force Statistics

September

Year	# for Month	Year-to-Date
2021	7	64
2020	7	53
2019	3	51
2018	7	38
2017	5	42

Preliminary Crime Stats for:

October 2021

Homicide	0
Rape	0
Robbery	2
Agg Assault	2
Burglary	7
Theft	49
Auto Theft	4
Arson	0
Total	64

Incident Type Report (Summary)

Incident Type	Total Incidents	Total Incidents % of Incidents	Total Property Loss	Total Content Loss	Total Loss
Incident Type Category: 1 - Fire					
111 - Building fire	1	3.8%			
113 - Cooking fire, confined to container	1	3.8%			
118 - Trash or rubbish fire, contained	1	3.8%	100		100
	Total: 3	**Total: 11.5%**	**Total: 100**	**Total: 0**	**Total: 100**
Incident Type Category: 3 - Rescue & Emergency Medical Service Incident					
350 - Extrication, rescue, other	1	3.8%			
	Total: 1	**Total: 3.8%**	**Total: 0**	**Total: 0**	**Total: 0**
Incident Type Category: 4 - Hazardous Condition (No Fire)					
412 - Gas leak (natural gas or LPG)	3	11.5%			
424 - Carbon monoxide incident	1	3.8%			
444 - Power line down	1	3.8%			
	Total: 5	**Total: 19.2%**	**Total: 0**	**Total: 0**	**Total: 0**
Incident Type Category: 6 - Good Intent Call					
611 - Dispatched and cancelled en route	1	3.8%			
651 - Smoke scare, odor of smoke	3	11.5%			
	Total: 4	**Total: 15.4%**	**Total: 0**	**Total: 0**	**Total: 0**
Incident Type Category: 7 - False Alarm & False Call					
715 - Local alarm system, malicious false alarm	1	3.8%			
735 - Alarm system sounded due to malfunction	2	7.7%			
740 - Unintentional transmission of alarm, other	1	3.8%			
745 - Alarm system activation, no fire - unintentional	9	34.6%			
	Total: 13	**Total: 50.0%**	**Total: 0**	**Total: 0**	**Total: 0**
	Total: 26	**Total: 100.0%**	**Total: 100**	**Total: 0**	**Total: 100**

Report Filters

Basic Incident Date Time:	is between '09/01/2021' and '09/30/2021'
Agency Name:	is equal to 'NEW BRIGHTON'

Report Criteria

Incident Type (Fd1.21):	Is Not Blank

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Public Safety Commission

November 8, 2021 (last given August 12, 2019)

Addressing Citizen Requests for Traffic Safety Concerns and Recommendation on Innsbruck Drive

Trevor Hamdorf Craig Schlichting, P.E.

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Agenda

- New Brighton/State Policies and Statutes
- Common Issues
- Common Practices
- Recommendation for Innsbruck Drive
- Overall Next Steps

New Brighton Policies

Regulatory Signs

Sec. 29-4. Stop Streets.

(1) The driver of a vehicle shall stop in obedience to a stop sign at an intersection where a stop sign is erected at one or more entrances thereto and shall proceed cautiously yielding to the vehicles not so obliged to stop which are within the intersection or approaching so close as to constitute an immediate hazard unless the intersection is controlled by an Officer of the Public Safety Department. In the event that an Officer is present, the directions of the Officer shall be followed.

(2) The City Council shall designate stop streets by resolution.

(3) The City shall cause suitable signs to be posted for all through streets, one-way streets, alleys, and stop intersections. (Code 1966; Code of 1988; Code of 2001)

Sec. 29-7. Limited Travel on Posted Streets.

(1) No driver of a motor vehicle shall travel through or past a barricade or sign forbidding passage along any street, alley, or throughway in the City.

(2) By resolution, the City Council may designate limited travel streets whenever necessary to promote general safety or preserve the free flow of traffic.

(3) The City shall cause signs to be posted or barricades to be placed on all streets designated as limited travel streets pursuant to this Section. (Ord. No. 510, 10-11-83; Code of 1988; Code of 2001)

Parking

Sec. 29-20. Parking Limits at Night.

No vehicle shall be parked or allowed to stand unattended on any street or roadway for longer than thirty minutes between the hours of 2:00 a.m. and 5:00 a.m. except a physician on an emergency call. (Code 1966; Ord. No. 223, 2-14-67; Ord. No. 535, 12-10-85; Code of 1988; Code of 2001)

Sec. 29-21. Limited Day and Evening Parking.

No vehicle shall be parked or allowed to stand unattended on any street or roadway for longer than six hours between the hours of 5:00 a.m. and 2:00 a.m. of the next day unless posted otherwise. (Code 1966; Ord. No. 223, 2-14-67; Ord. No. 535, 12-10-85; Code of 1988; Code of 2001)

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New Brighton Policies

Sec. 29-28. Signs.

The City shall cause signs to be posted in all areas covered and defined in this Article indicating the parking area where parking is limited, prohibited, or permitted. (Code 1966; Ord. No. 223, 2-14-67; Code of 1988; Code of 2001)

Sec. 29-32. No Parking After Snowfall.

No person shall park or leave standing any vehicle on any street or roadway after a snowfall of at least three inches. Parking may be resumed on the streets or roadways after the snow has been removed or plowed to the curb line. (Code 1966; Ord. No. 249, 2-11- 69; Ord. No. 535, 12-10-85; Code of 1988; Code of 2001)

Streetlights

All City street light installations must be approved by City Council Resolution

Policy locations

- At all intersections
- On all cul-de-sacs in excess of 300 feet
- A minimum spacing of 660 feet along skeletal sidewalk system
    - Over 21 miles of sidewalks
- Vertical sag curves with limited sight distance
- Unusual safety hazard locations
    - RR crossing
    - Pedestrian crossing

Petition by residents

- Mid-block on alleys
- Mid-block on streets 1000 feet or greater in length
- End of cul-de-sacs less than 300 feet

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State Statute 169.14 (changed in 2019)

Subd. 2.**Speed limits.**

(1) 30 miles per hour in an urban district;

(6) ten miles per hour in alleys;

(7) 25 miles per hour in residential roadways if adopted by the road authority having jurisdiction over the residential roadway;

(b) A speed limit adopted under paragraph (a), clause (7), is not effective unless the road authority has erected signs designating the speed limit and indicating the beginning and end of the residential roadway on which the speed limit applies.

Subd. 5a.**Speed zoning in school zone;**

(a) Local authorities may establish a school speed limit within a school zone of a public or nonpublic school upon the basis of an engineering and traffic investigation as prescribed by the commissioner of transportation. The establishment of a school speed limit on any trunk highway shall be with the consent of the commissioner of transportation. Such school speed limits shall be in effect when children are present, going to or leaving school during opening or closing hours or during school recess periods. The school speed limit shall not be lower than 15 miles per hour and shall not be more than 30 miles per hour below the established speed limit on an affected street or highway.

Common Issues

- Speeding
- Uncontrolled Intersections
  - Sightlines
  - Signage Requests
  - Traffic Calming Requests
- Crosswalks
  - Signage Requests
  - Traffic Calming Requests
- On-street Parking
  - Overnight or Time-limit parking enforcement
  - Signage Requests
- Streetlights

Common Practices Speeding

Resident notifies City of possible speeding issue

Engineering

- Identify area explain process
- Deploy traffic counting tubes
  - Volumes
    - Is it local traffic of the result of cut-through/construction
  - Speeds
    - Drivers select their speed based on roadway conditions
      - NB roads are wide with low parking volumes
      - Crash rates do not decrease with speed decrease

Public Safety

- Education
- Enforcement
  - Patrol
  - Speed Cart
  - Warning Signage
  - Camera Trailer

The speed study from 2011 over a five day period on the Robin Lane indicates:

Average Speed	85th Percentile	Minimum Speed	Maximum Speed
• 22.41 mph	27	10	33
• 22.68 mph	26	10	32
• 24.26 mph	28	13	35
• 24.39 mph	28	12	34
• 24.07 mph	28	11	35

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Common Practices Signage Requests

Resident notifies City of possible unsafe intersection wants signage

- Identify area explain process
- Stop/Yield sign warrant analysis
    - Deploy traffic counting tubes
        - Volumes

Reasons to install-

- The proposed sign will alleviate an existing safety concern
- The traffic volumes meet warrants

Things to be aware of-

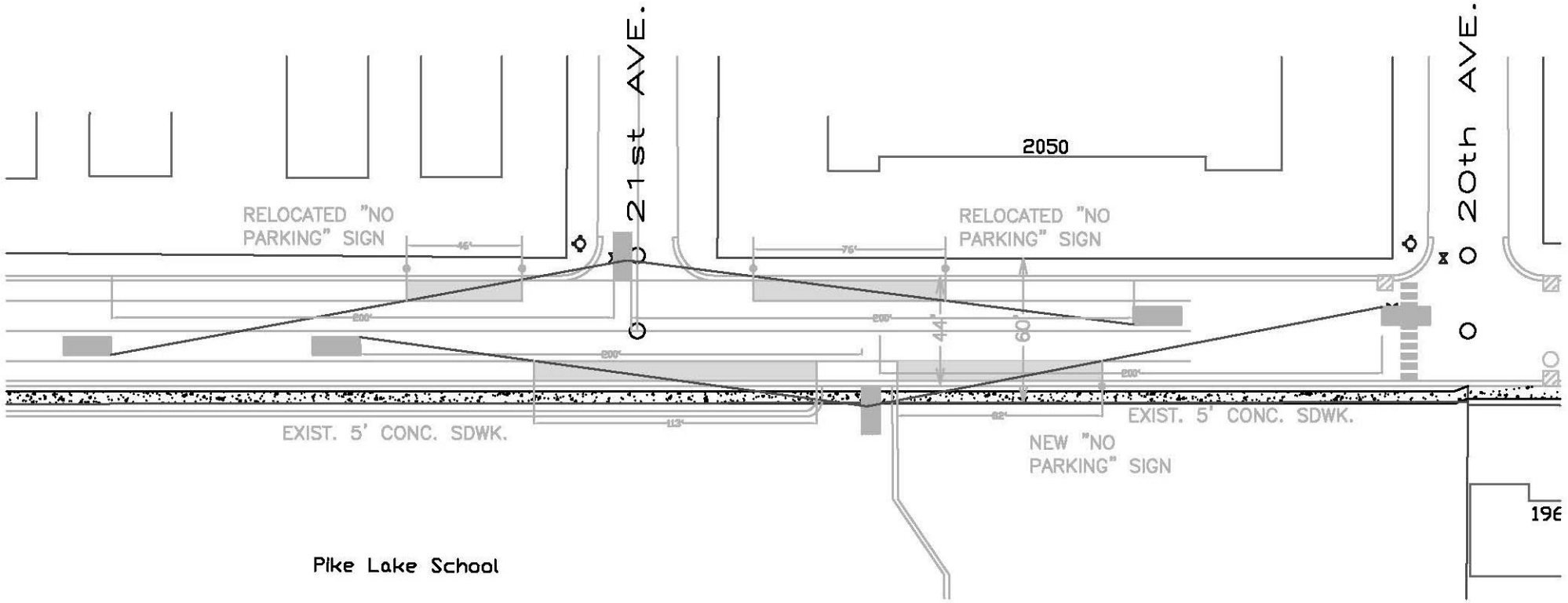
- If installed in a location that does not meet warrant motorists are likely to ignore
- Can add unnecessary delay
- Unlikely to reduce speeds and can lead to increased speed between signs
- Generally do not result in a reduction of traffic volumes

Study Location	Before	After	Sign Change +/- mph	85% Before After	Change mph
T.H. 65	SPEED LIMIT 40	SPEED LIMIT 30	-10	34 34	0
T.H. 65	SPEED LIMIT 50	SPEED LIMIT 40	-10	44 45	+1
Anoka CSAH 1	SPEED LIMIT 45	SPEED LIMIT 40	-5	48 50	+2
Anoka CSAH 24	SPEED LIMIT 30	SPEED LIMIT 45	+15	49 50	+1
Anoka CR 51	SPEED LIMIT 40	SPEED LIMIT 45	+5	45 46	+1
Henn. CSAH 4	SPEED LIMIT 50	SPEED LIMIT 40	-10	52 51	-1
Nobles Ave.	SPEED LIMIT 30	SPEED LIMIT 35	+5	37 40	+3
62nd Ave. N	SPEED LIMIT 35	SPEED LIMIT 30	-5	37 37	0
Miss. St.	SPEED LIMIT 30	SPEED LIMIT 35	+5	39 40	+1

Common Practices Sightlines

Resident notifies City of lack of visibility

- Site Visit
  - Vegetation in ROW to be trimmed/removed by resident/City
- Site Triangles Created
- Obstructions (cars or other objects)



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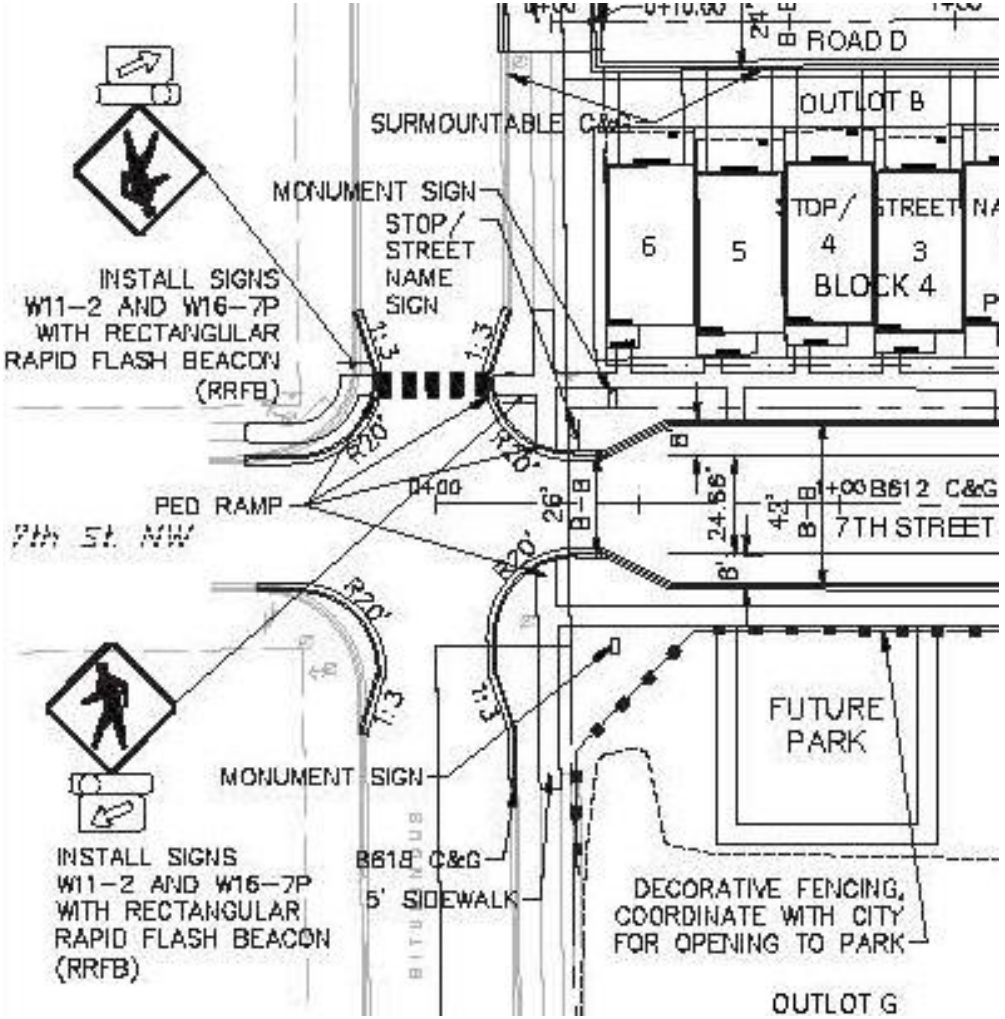
Common Practices Traffic Calming

Resident notifies City of unsafe condition

- Site Visit
  - Need for analysis (volumes or speeds)
  - Need for signage
  - Need for pedestrian facilities
- Speedbumps are **not** installed in New Brighton
  - Speed may increase between humps
  - May cause delay for Public Safety Vehicles
  - Snow plowing difficulties
  - Traffic may be diverted to other streets
- Adding bump-outs at 8th Avenue and 7th Street
- Increased on street parking can be effective



Common Practices Parking

Resident notifies City of parking issues

- Vehicles are allowed to park on street as indicated by City Code
- Encourage neighborhood parking issues to be discussed between neighbors
  - i.e. parking too close to driveway or mailbox
- Restrictions are intended to improve site lines or behaviors
  - High volume are businesses, schools, apartments looked at on a case by case basis

Common Practices Crosswalks –Pedestrian Treatments

Resident notifies City of Crosswalk Concern

- Controlled
  - Stoplight or Stop Sign
- Uncontrolled Intersection(i.e. midblock)
  - NBCC
  - Highview Middle School
  - Foss Road at Old Highway 8
  - Rice Creek Trail at Silver Lake Road
  - Midtown Village
  - Innsbruck Drive

CITYWIDE CROSSWALK SAFETY STUDY

Prepared by

City of New Brighton
Engineering Department

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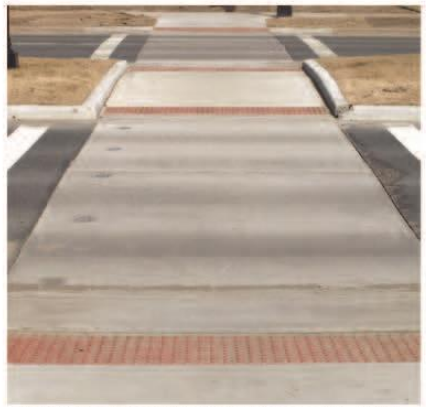
UNCONTROLLED CROSSING TREATMENTS

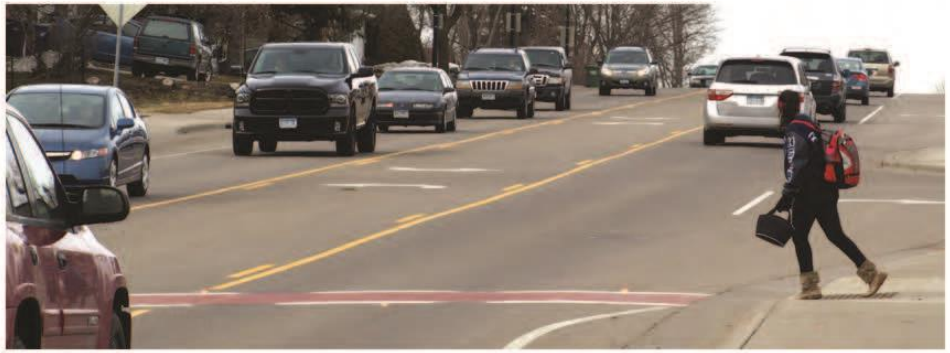
Uncontrolled crossing treatments generally provide some level of increased yielding rate. They are typically applied to locations with marked crosswalks to provide additional operational and safety benefits in areas with higher volumes and speeds.

Uncontrolled crossing treatement options are outlined in Table 3 on page 23 (treatments should be justified through an engineering study). Selected treatment examples are also shown below.

OVERHEAD FLASHING SIGNAL BEACONS



CENTER MEDIAN WITH REFUGE ISLAND



IN-ROAD WARNING LIGHTS

PEDESTAL-MOUNTED FLASHING SIGNAL BEACONS

RAPID RECTANGULAR FLASHING BEACONS

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Table 3: Uncontrolled Crossing Treatments (in conjunction with markings and signs)

Treatment	Advantages	Disadvantages	Recommended Locations	Staged Pedestrian Yield Rate	Unstaged Pedestrian Yield Rate	Cost
Center Median with Refuge Island	• Decreases pedestrian crossing distance • Provides higher pedestrian visibility • Reduces vehicle speeds approaching the island • Reduces conflicts • Increases usable gaps • Reduces pedestrian exposure time	• May make snow removal more difficult • May be a hazard for motorists • Small islands not recommended on high-speed roadways (>40 mph)	• Wide, two-lane roads and multilane roads with suffi-cient right-of-way	34%	29%	Variable depending on length
School Crossing Guards	• Inexpensive • Provides higher pe-destrian visibility • Highlights when a pedestrian crossing is being used	• May require trained staff or local law enforcement, especially on high-speed and high-volume roadways	• At school locations	NR	86%	Variable
Pedestrian Crossing Flags	• Inexpensive • Provides higher pedes-trian visibility to drivers assuming the flag is held in a noticeable location	• No effect at night • Requires pedestrians to actively use a flag • Can be easily removed/stolen • Shorter crossings are preferred	• Downtown/urban locations • High pedestrian volume locations • Across low-speed (<45mph) roadways	65%	74%	<$500
Warning Sign with Edge Mounted LEDs	• Highlights a crossing both at night and during the day	• Requires pedestrian activation • Minimal to no effect on speed	• In conjunction with in-road warning lights • Downtown/ urban conditions	NR	28%	$3,000–$8,000
In-Road Warning Lights	• Highlights a crossing both at night and during the day • Provides higher driver awareness when a pedestrian is present	• Snowplows can cause mainte-nance issues • No effect when road surface is snow covered • Requires pedestrian activation	• Downtown/urban condi-tions	NR	66%	$20,000–$40,000
Pedestal Mounted Pedestrian Flashing Signal Beacons	• Provides higher driver awareness when a pedestrian is present	• Requires pedestrian activation • Not advisable on multilane streets • Not shown to reduce crashes	• Low-speed school crossings • Two-lane roads • Midblock crossing locations	NR	57% (two-lane, 35mph)	$12,000–$18,000
Pedestrian Over-head Flashing Signal Beacons	• Provides higher driver awareness when a pedestrian is present	• Requires pedestrian activation	• Multilane roadways • Mid-block crossing loca-tions • Lower speed road-ways	active 47% passive 31%	active 49% passive 67%	$75,000–$150,000
Rectangular Rapid Flash Beacons (RRFBs)	• Provides higher driver awareness when a pedestrian is present • In-creases yielding percentage • Increas-es usable gaps • Reduces probability of pedestrian risk taking • Can be seen from 360 degrees	• Requires pedestrian activation	• Supplement existing pedes-trian crossing warning signs • School crossings • Midblock crossing loca-tions • Low- and high-speed roadways	84%	81%	$12,000–$18,000
NR = No research found on effect to yielding rate						

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TRAFFIC CALMING TREATMENTS

Traffic calming treatments are generally applied to locations experiencing high traffic speeds. Traffic speeds should be lowered to enable any type of at-grade crossing. Traffic calming treatments can also be used to shorten crossing distances and improve pedestrian visibility. The shortened crossing distances reduce the total time of exposure to conflicting traffic, resulting in safer crossing environments. These treatments may be completed in conjunction with other uncontrolled crossing treatments.

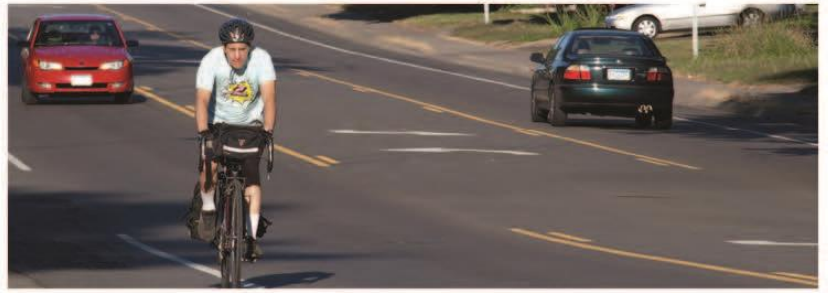
A variety of traffic calming treatments are outlined in Table 4 on page 25 (treatments should be justified with an engineering study). Examples of selected treatment options are also shown at right.

For more information on traffic calming treatment options, please see these resources (in addition to the sources listed below):

- LRRB Report MN/RC-1999-01, Effective Traffic Calming Applications and Implementation;
- TRS 0801, Traffic Calming for High Speed Rural Highways
- LRRB Report 2013-31, Implications of Modifying State Aid Standards: Urban Construction or Reconstruction to Accommodate Various Roadway Users
- http://mndot.gov/planning/completestreets

CURB BUMP-OUTS

CHANNELIZED TURN LANE WITH RAISED CROSSING



ROAD DIET/4-LANE TO 3-LANE CONVERSION

CENTER MEDIAN WITH REFUGE ISLAND

Sources:
"Minnesota's Best Practices for Pedestrian/Bicycle Safety," MnDOT Office of Traffic, Safety and Technology, September 2013.
"Best Practices Synthesis and Guidance in At-Grade Trail-Crossing Treatments," Minnesota Department of Transportation, St.Paul, MN, September 2013.
NCHRP Report 562: Improving Pedestrian Safety at Unsignalized Crossings. Transportation Research Board of the National Academies, Washington D.C., 2006.
Assessment of Driver Yield Rates Pre- and Post-RRFB Installation, Bend, Oregon. Oregon Department of Transportation, Washington D.C., 2011. Bolton & Menk, Inc.
Transportation Research Board, HCM 2010 Highway Capacity Manual, Washington D.C.: National Academy of Sciences, 2010.
Before-and-After Study of the Effectiveness of Rectangular Rapid-Flashing Beacons Used with School Sign in Garland, Texas. Texas Transportation Institute, College Station, TX, April 2012.

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Table 4: Traffic Calming Treatments

Treatment	Advantages	Disadvantages	Recommended Locations	Staged Pedestrian Yield Rate	Unstaged Pedestrian Yield Rate	Cost
Center Median with Refuge Island	• Decreases pedestrian crossing distance • Provides higher pedestrian visibility • Reduces vehicle speeds approaching the island • Reduces conflicts • Increases usable gaps • Reduces pedestrian exposure time	• May make snow removal more difficult • May be a hazard for motorists • Small islands not recommended on high-speed roadways (>40 mph)	• Wide, two-lane roads and multilane roads with sufficient right-of-way	34%	29%	Variable depending on length
Raised Crossings	• Provides higher pedestrian visibility to vehicles • Can reduce vehicle speeds	• Make snow removal more difficult • May reduce emergency vehicle response times • Only appropriate in low-speed/urban environments	• Low-speed/urban environments	NR	NR	$5,000–$25,000
Lighting	• Can be inexpensive • Can reduce vehicle speeds	• No effect during daylight	• Targeted crossing locations not located on a street with continuous roadway lighting	NR	NR	$1,000–$40,000
Pavement Striping (Road Diet)	• Can be inexpensive • May decrease vehicle speed • May decrease illegal right-side passing • Can be an interim solution	• Does not provide a physical barrier between modes • Pedestrian crossing distance same as existing	• Four-lane undivided roadways • Locations with very long crossings	NR	NR	Variable depending on length
Curb Bump-Outs/ Extensions	• Can be inexpensive • Reduces pedestrian crossing distance • Provides higher pedestrian visibility to vehicles • Reduces speed for turning vehicles • Decreases in illegal right-side passing	• May make snow removal more difficult • Proximity of curb to through traffic may be a safety concern	• Downtown/urban locations	NR	NR	$5,000–$15,000 per crossing
Channelized Turn Lanes (Corner Islands) *(Not usually recommended as a pedestrian crossing treatment)*	• Decreases pedestrian crossing distance • Provides higher pedestrian visibility • Decrease in illegal right-side passing	• May require new pavement • Can be more challenging for visually impaired pedestrians • Right turning drivers often fail to yield to pedestrians • Can increase right-turn vehicle speeds • May make snow removal more difficult • Vehicle crashes may increase	• Intersections with wide approaches • Intersections with right turn lanes and sufficient corner right-of-way • Intersections with operational improvment needs	NR	NR	$50,000–$100,000 per intersection
NR = No research found on effect to yielding rate						

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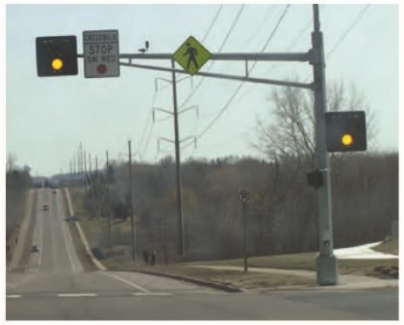
HIGH-LEVEL TREATMENTS

High-level treatments are high cost and are generally implemented on high-volume and high-speed roadways. They are much more difficult to implement unless they are justified based on traffic and pedestrian volume.

Possible high-level treatments are outlined in Table 5 on page 27, and examples of selected treatment options are shown below. For additional information on Treatment Options, please see the sources listed below.



PEDESTRIAN HYBRID BEACON

TRAFFIC SIGNAL

UNDERPASS

OVERPASS

REPEAT STEP 4

Evaluate LOS for Treatment Options

Step 4 should be repeated after deciding on a treatment option. Determine the level of service (LOS) of the crossing condition with the potential treatment options following the procedure as outlined in the 2010 *Highway Capacity Manual*. An acceptable service level should be determined by the agency.

If acceptable service levels cannot be met:

- Do nothing (consider leaving the crossing unmarked and unsigned),
- Consider pedestrian routing to another location, and/or
- Consider appropriate high-level treatments.

Sources:
"Minnesota's Best Practices for Pedestrian/Bicycle Safety," MnDOT Office of Traffic, Safety and Technology, September 2013.
"Best Practices Synthesis and Guidance in At-Grade Trail-Crossing Treatments," Minnesota Department of Transportation, St.Paul, MN, September 2013.
NCHRP Report 562: Improving Pedestrian Safety at Unsignalized Crossings. Transportation Research Board of the National Academies, Washington D.C., 2006.
Assessment of Driver Yield Rates Pre- and Post-RRFB Installation, Bend, Oregon. Oregon Department of Transportation, Washington D.C., 2011.
Bolton & Menk, Inc.
Transportation Research Board, HCM 2010 Highway Capacity Manual, Washington D.C.: National Academy of Sciences, 2010.
Before-and-After Study of the Effectiveness of Rectangular Rapid-Flashing Beacons Used with School Sign in Garland, Texas. Texas Transportation Institute, College Station, TX, April 2012.

Table 5: High-Level Treatments

Treatment	Advantages	Disadvantages	Recommended Locations	Staged Pedestrian Yield Rate	Unstaged Pedestrian Yield Rate	Cost
Pedestrian Hybrid Beacon	• Provides higher driver awareness when a pedestrian is present • Has been shown to decrease pedestrian crashes	• Potential increase in vehicle crashes • Can have spotty compliance rates due to a lack of driver understanding	• Justified locations • Mid-block crossing locations	97%	99%	$150,000–$300,000
Traffic Signal	• Provides higher driver awareness when a pedestrian is present • Easily understandable	• May increase crashes due to the driver expectation of a green signal indication	• High pedestrian volume crossings • Justified locations, meets signal warrants	NA	NA	$150,000–$300,000
Underpass Grade Separation	• Removes pedestrian/vehicle conflicts	• Potential of the crossing not being used • Very location specific • Very expensive • Drainage within an underpass can be problematic • Underpass would require lighting	• Location with compatible grades • High pedestrian volume crossings • High-volume roadways • High-speed roadways	NA	NA	$800,000+
Overpass Grade Separation	• Removes pedestrian/vehicle conflicts	• Potential of the crossing not being used • Very location specific • Very expensive • Snow removal on overpass may be difficult	• Location with compatible grades • High pedestrian volume crossings • High-volume roadways • High-speed roadways	NA	NA	$1,200,000+
NA = Not applicable or no research found on effect to yielding rates						

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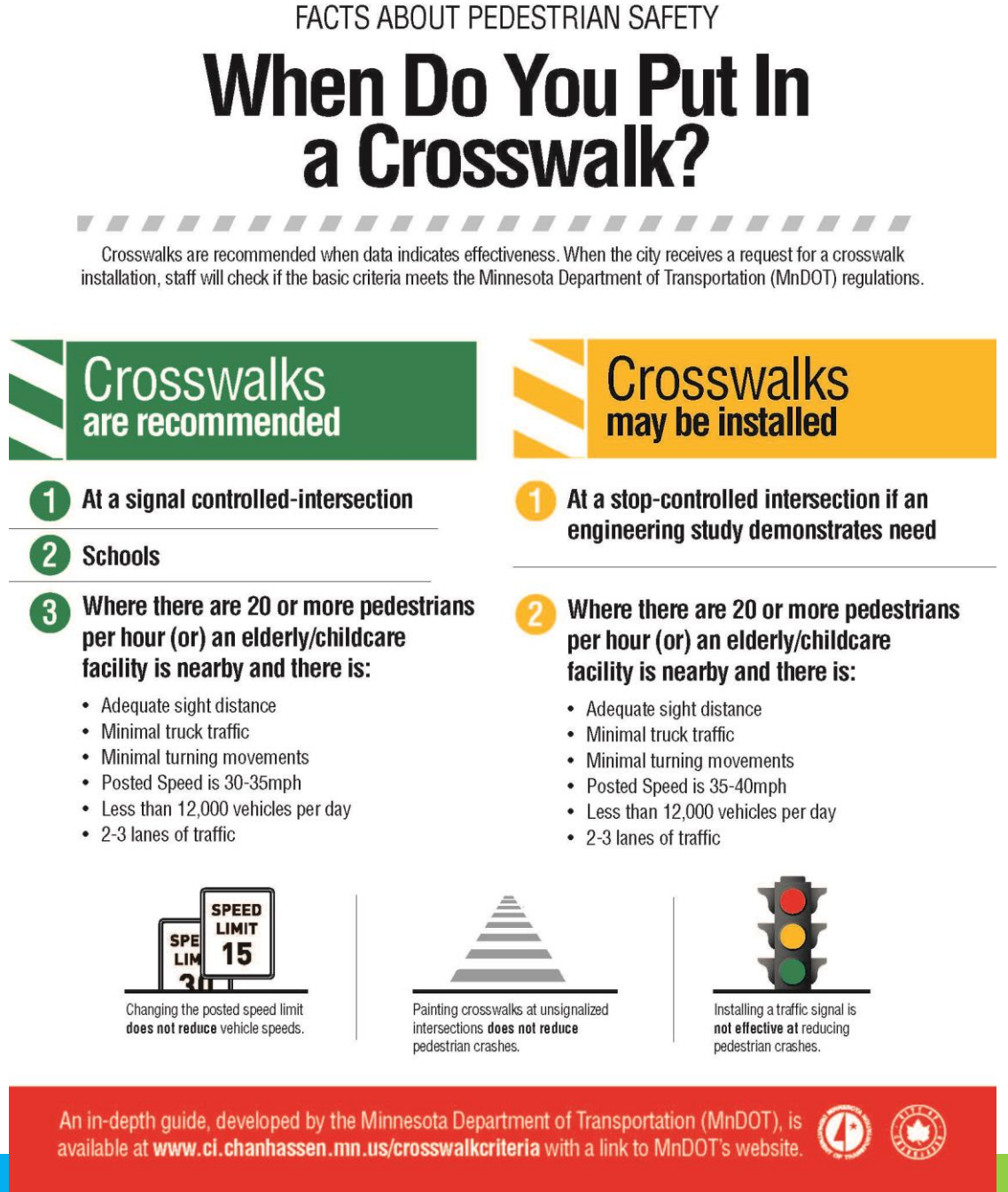
Next Steps

- Innsbruck Drive
  - Consider Crosswalk
  - Make Recommendation to Council



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Questions?

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