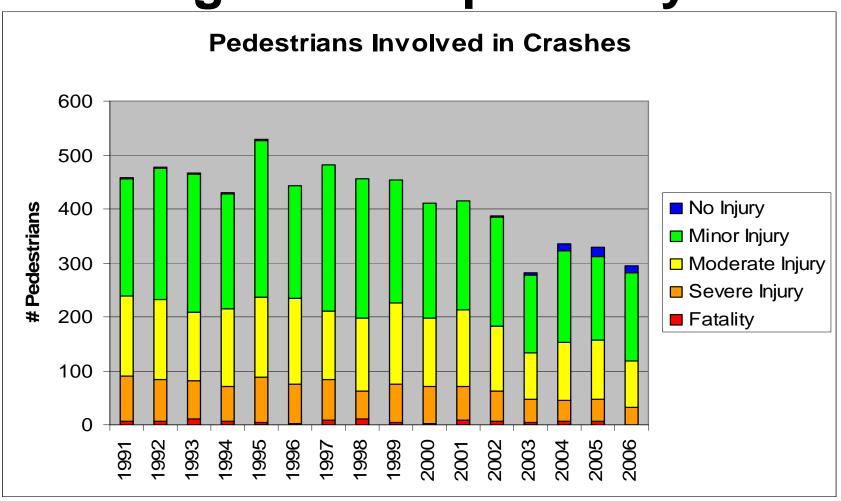# Minneapolis Pedestrian Traffic Crash Trends
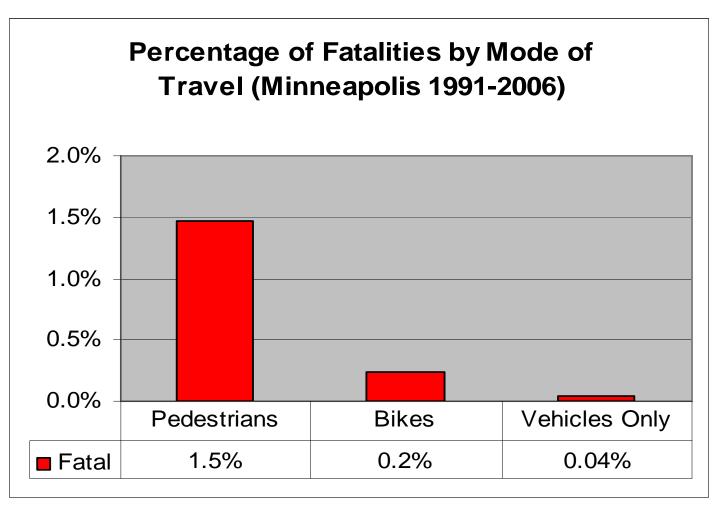
Preliminary Findings

Anna Flintoft and Shaun Murphy
Minneapolis Public Works
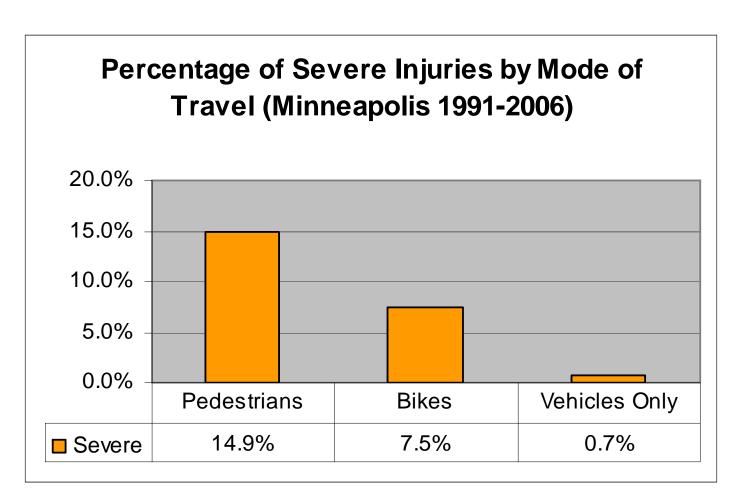7/12/07

Pedestrian crashes appear to be declining over the past 16 years:

Pedestrians Involved in Crashes

Source: Dept. of Public Safety Crash Database, 1991-2006
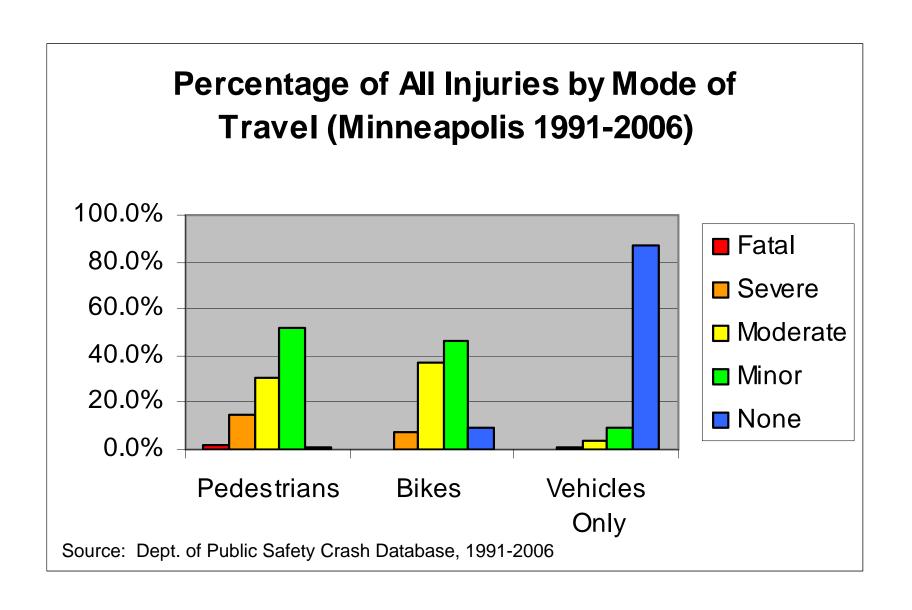
Fatalities comprise a far larger share of pedestrian crashes than of bicycle or auto crashes:

Percentage of Fatalities by Mode of Travel (Minneapolis 1991-2006)

	Pedestrians	Bikes	Vehicles Only
■ Fatal	1.5%	0.2%	0.04%

Source: Dept. of Public Safety Crash Database, 1991-2006
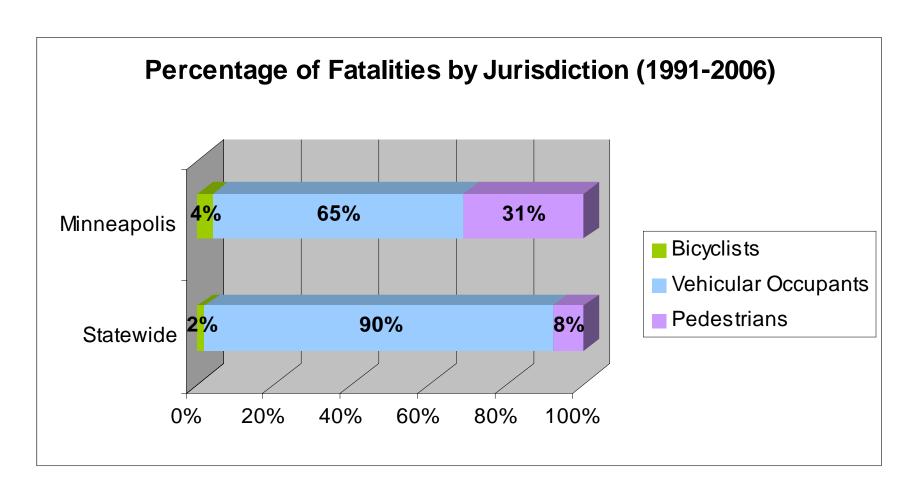
Pedestrian crashes are also more likely to result in a severe injury than are bicycle or auto crashes:

Percentage of Severe Injuries by Mode of Travel (Minneapolis 1991-2006)

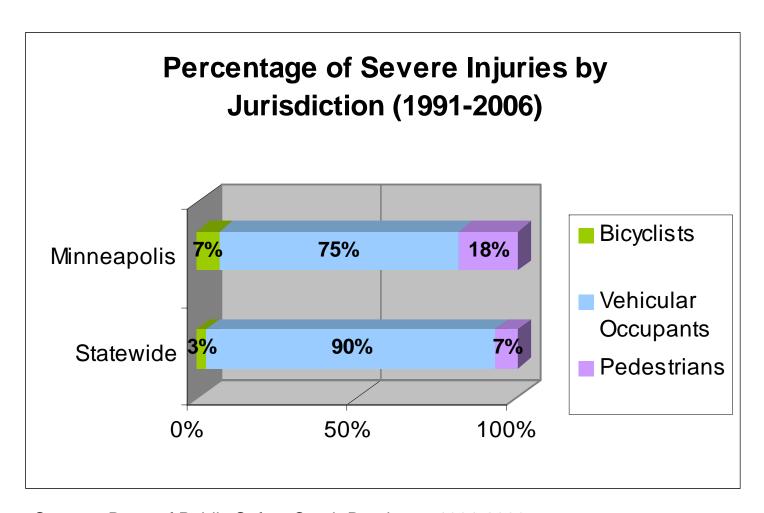|	Pedestrians	Bikes	Vehicles Only
Severe	14.9%	7.5%	0.7%

Source: Dept. of Public Safety Crash Database, 1991-2006

Moderate injuries affect bicyclists most often, while minor injuries are most likely to affect pedestrians:

Percentage of All Injuries by Mode of Travel (Minneapolis 1991-2006)

Source: Dept. of Public Safety Crash Database, 1991-2006

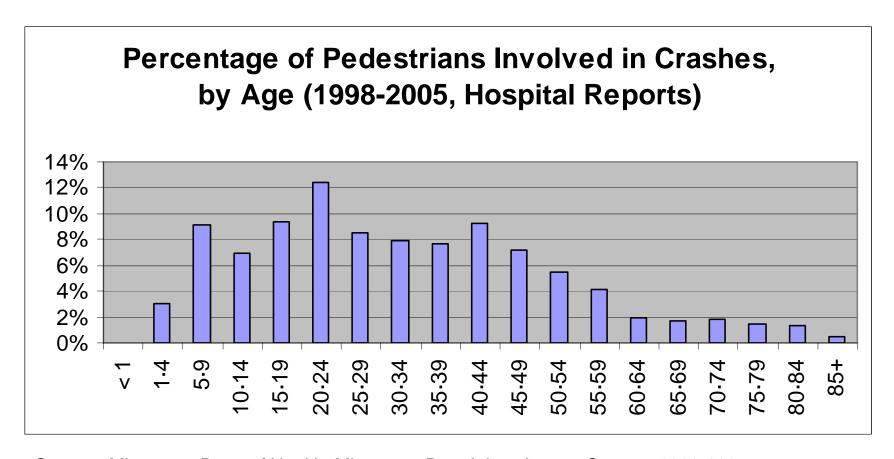# When compared to statewide data, Minneapolis has a large percentage of pedestrian traffic fatalities:

Percentage of Fatalities by Jurisdiction (1991-2006)

Minneapolis: Bicyclists 4%, Vehicular Occupants 65%, Pedestrians 31%

Statewide: Bicyclists 2%, Vehicular Occupants 90%, Pedestrians 8%

Legend:
- Bicyclists
- Vehicular Occupants
- Pedestrians

X-axis: 0% 20% 40% 60% 80% 100%

Source: Dept. of Public Safety Crash Database, 1991-2006

Minneapolis also has a large percentage of traffic crashes which cause severe injuries to pedestrians:

Percentage of Severe Injuries by Jurisdiction (1991-2006)

	Bicyclists	Vehicular Occupants	Pedestrians
Minneapolis	7%	75%	18%
Statewide	3%	90%	7%

Source: Dept. of Public Safety Crash Database, 1991-2006
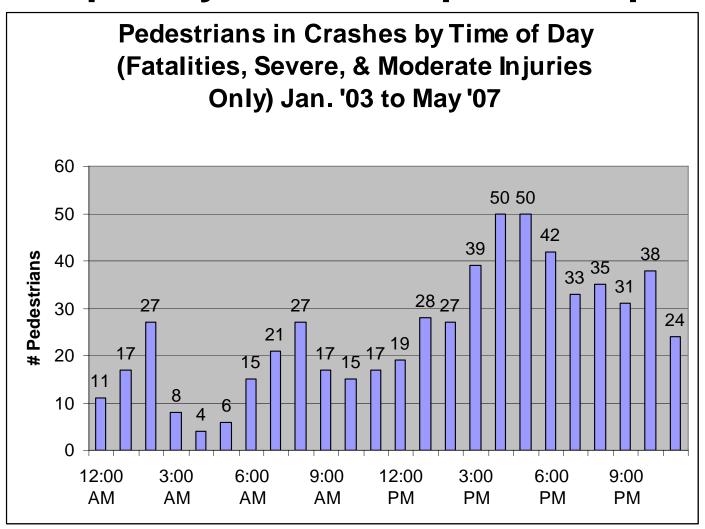
People aged 20-24 are most affected by pedestrian crashes:

Percentage of Pedestrians Involved in Crashes, by Age (1998-2005, Hospital Reports)
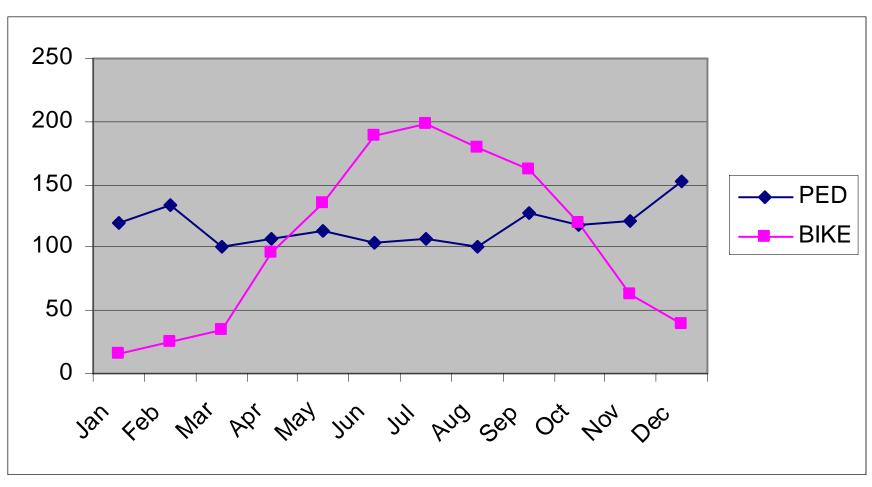

Source: Minnesota Dept. of Health, Minnesota Data Injury Access System, 1998-2005
http://www.health.state.mn.us/injury/midas/index.cfm

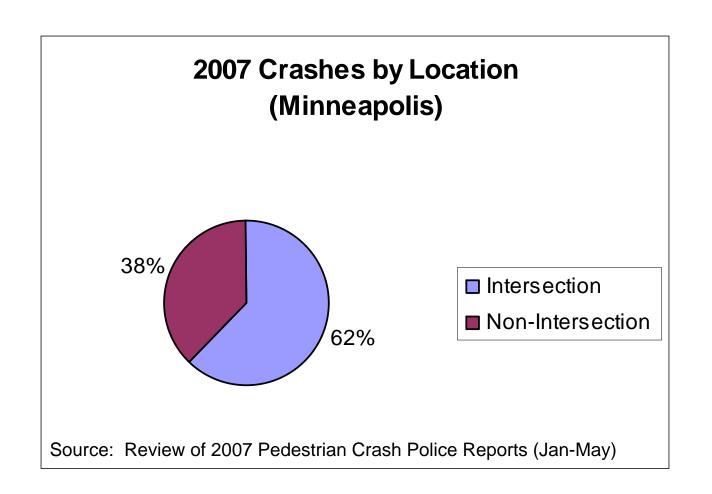# Pedestrian crashes occur most frequently between 4pm and 6pm:

Pedestrians in Crashes by Time of Day (Fatalities, Severe, & Moderate Injuries Only) Jan. '03 to May '07

Source: Dept. of Public Safety Crash Database, 1/03-5/07

Unlike bicycle crashes, pedestrian crashes occur steadily throughout the year:
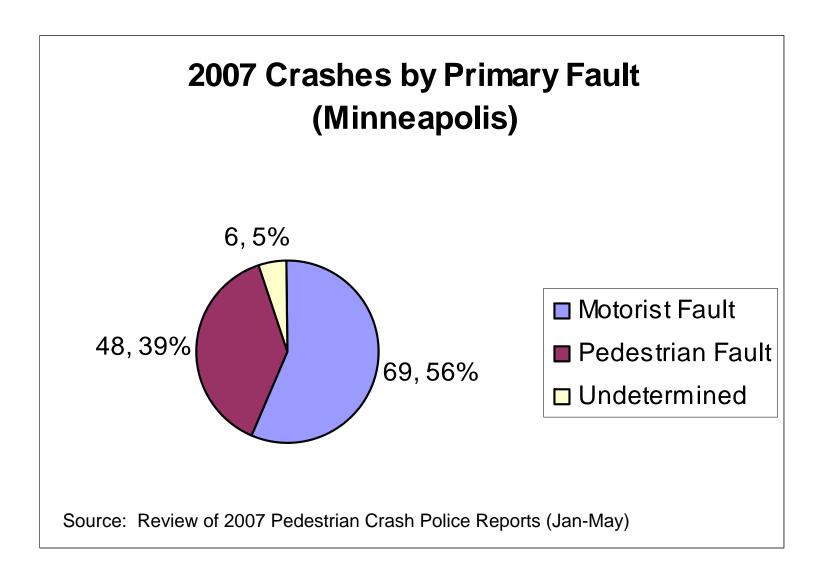

Source: 2002-2006 Traffic Crashes, Minneapolis Traffic Database

Out of 123 crash reports analyzed in 2007, 38% took place between intersections:

2007 Crashes by Location (Minneapolis)

38%

62%

☐ Intersection

◼ Non-Intersection

Source: Review of 2007 Pedestrian Crash Police Reports (Jan-May)

The majority (out of 123 analyzed crashes) were primarily caused by a motorist's failure to yield:

2007 Crashes by Primary Fault (Minneapolis)

6, 5%

48, 39%

69, 56%

Motorist Fault

Pedestrian Fault

Undetermined

Source: Review of 2007 Pedestrian Crash Police Reports (Jan-May)

When motorists carried the primary fault:

| Primary Cause of Accident	# Accidents	% of Accidents
Left Turn on Walk Signal	31	25%
Right Turn on Walk Signal	14	11%
Ran Stoplight	5	4%
Veer on to Sidewalk	4	3%
Driveway	3	2%
Left Turn at Unmarked Crosswalk	2	2%
Parked Cars	2	2%
Ran Stop Sign	1	1%
Right Turn at Stop Sign	1	1%
School Bus Stop	1	1%
Straight at Unmarked Crosswalk	1	1%
Traffic Control	1	1%
Unknown at Walk Signal	1	1%
Unmarked Crosswalk	1	1%
Wrong Way	1	1%
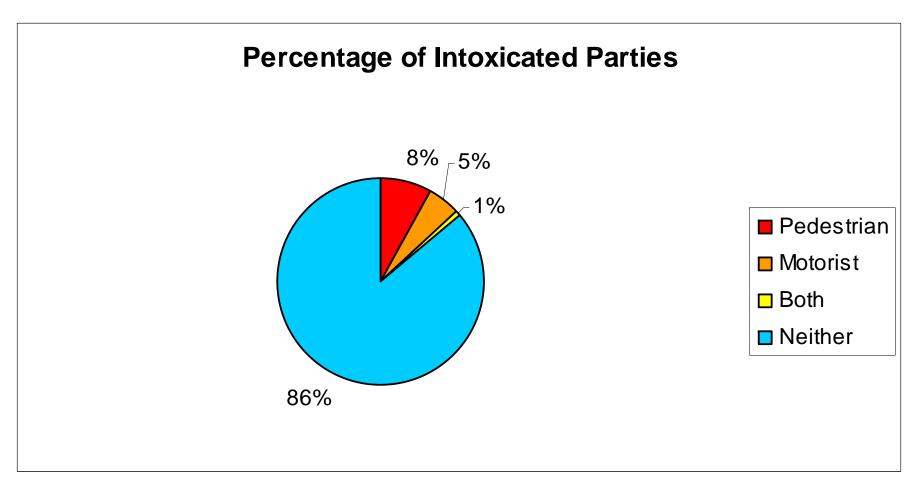
Source: Review of 2007 Pedestrian Crash Police Reports (Jan-May)

When pedestrians carried the primary fault:

Primary Cause of Accident	# Accidents	% of Accidents
Mid-Block	36	29%
Crossing Against Signal	6	5%
Darting into Crosswalk	3	2%
Standing in Road	2	2%
Rollerblading with Traffic	1	1%

Source: Review of 2007 Pedestrian Crash Police Reports (Jan-May)

Intoxication was noted in 14% of the crashes (2007, 123 crash reports analyzed):

Percentage of Intoxicated Parties

8%   5%

1%

- Pedestrian
- Motorist
- Both
- Neither

86%

Source: Review of 2007 Pedestrian Crash Police Reports (Jan-May)

Actions Preceding Crashes
(2002-2006)

VEHICLE ACTION	PEDESTRIAN ACTION							
	IN CROSSWALK				DARTING INTO TRAFFIC	UNKNOWN	OTHER	TOTAL
	WITH SIGNAL	IN MARKED CROSSWALK	NO SIGNAL OR CROSSWALK	AGAINST SIGNAL				
GOING STRAIGHT AHEAD	3%	2%	11%	6%	10%	3%	12%	47%
MAKING LEFT TURN	16%	5%	3%	1%		2%	2%	29%
MAKING RIGHT TURN	3%	1%	1%			1%	1%	8%
RIGHT TURN ON RED	2%							3%
OTHER	1%	1%	1%	1%		1%	6%	12%
TOTAL	27%	10%	17%	9%	11%	7%	21%	100%

* **UNKNOWN** refers to crashes with no recorded action. This may be due to two vehicles and a pedestrian being involved in a crash, and the vehicle actions only being entered in database.

** Prior to 2003, **DARTING INTO TRAFFIC** was not an valid crash report entry.

Source: Minneapolis Traffic Database, 2002-2006

Top Pedestrian Crash Locations
(2002-2006)

NEAREST INTERSECTION	AREA	CRASHES
CEDAR AVE S & RIVERSIDE AVE	Cedar/Riverside	15
FRANKLIN AVE W & NICOLLET AVE	Near Southwest	12
HENNEPIN AVE & 7TH ST S	Downtown	12
1ST AVE N & 7TH ST N	Downtown	12
CEDAR AVE S & WASHINGTON AVE S	Cedar/Riverside	11
LAKE ST W & HENNEPIN AVE	Near Southwest	10
LAKE ST E & 1ST AVE S	Near Southwest	10
FRANKLIN AVE E & PORTLAND AVE	Near South	9
LAKE ST W & LYNDALE AVE S	Near Southwest	8
LAKE ST W & PILLSBURY AVE	Near Southwest	8
HENNEPIN AVE & 6TH ST S	Downtown	8
WEST BROADWAY & LYNDALE AVE N	Near North	8
LAKE ST E & CHICAGO AVE	Near South	8
HENNEPIN AVE & 4TH ST S	Downtown	8
HENNEPIN AVE & 26TH ST W	Near Southwest	8

Source: Minneapolis Traffic Database, 2002-2006
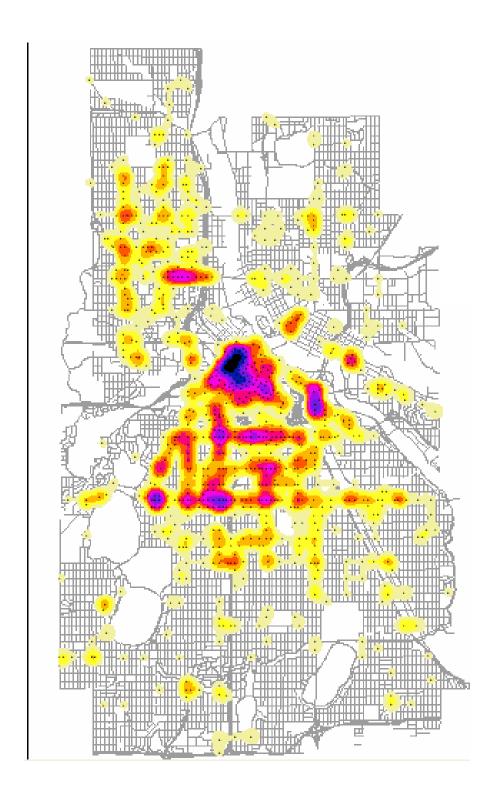
Top Pedestrian Crash Corridors
(2002-2006)

CORRIDOR	CRASHES	CORRIDOR	CRASHES
LAKE ST E	77	7TH ST S (DWTN)	43
CEDAR AVE S	67	WEST BROADWAY	43
NICOLLET AVE (SW)	62	PORTLAND AVE	39
FRANKLIN AVE E	58	1ST AVE N (DWTN)	37
LYNDALE AVE S	56	6TH ST S (DWTN)	37
HENNEPIN AVE (DWTN)	55	8TH ST S (DWTN)	36
LAKE ST W	54	26TH ST E	34
CHICAGO AVE	52	NICOLLET MALL	30
HENNEPIN AVE (SW)	50	WASHINGTON AV S	29
PENN AVE N	44	BLOOMINGTON AV S	29
		FRANKLIN AVE W	29
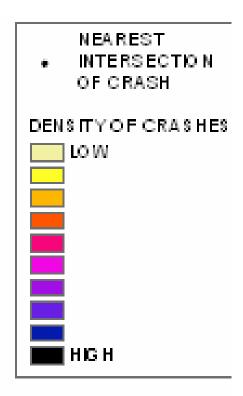
* Double counts crashes located near intersection of two of these streets. For instance, crashes at the intersection of Hennepin Avenue and 7th Street S are counted under both streets.
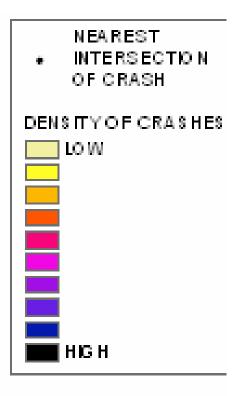
Source: Minneapolis Traffic Database, 2002-2006

DENSITY OF PEDESTRIAN CRASHES

(2002-2006)

Source: Minneapolis Traffic Database, 2002-2006

DENSITY OF FATAL & SEVERE INJURY PEDESTRIAN CRASHES (2002-2006)

NEAREST
- INTERSECTION OF CRASH

DENSITY OF CRASHES
LOW

HIGH

Source: Minneapolis Traffic Database, 2002-2006

Further Investigation

- Are we missing crash reports from UM police or other entities?

- Can we get more detailed information about location of crash by age of pedestrian?

- Other?