141-030-023

Federal HSIP Funding Application (Form 1)							
INSTRUCTIONS: Complete and return completed application to Lars Impola, Mn/DOT, Metro District, 1500 West County Road B2, Roseville, Minnesota 55113. (651) 234-7820. Applications must be received by 4:30 PM or postmarked on July 1, 2011. *Be sure to complete and attach the Project Information form. (Form 2)							
I. GENERAL INFORMATION							
1. APPLICANT: City of Minneapolis		,					
2. JURISDICTIONAL AGENCY (IF DIFFERE	NT):	·					
3. MAILING ADDRESS: 300 Border Ave	N						
CITY: Minneapolis	STATE: MN ZIP CODE: 55405 4. COUNTY	'Hennepin					
5. CONTACT PERSON: Allan Klugman	TITLE:PHONE NOSr. Professional Engineer(612)67						
CONTACT E-MAIL ADDRESS: allan.klugman	@ci.minneapolis.mn.us						
II. PRO	JECT INFORMATION						
6. PROJECT NAME: 35th & 36th Streets Overhead Si	6. PROJECT NAME: 35th & 36th Streets Overhead Signal Additions						
 7. BRIEF PROJECT DESCRIPTION (Include location, road name, type of improvement, etc A more complete description can be submitted separately): Addition of overhead signal indications at sixteen existing signal systems along the one-way pair of 35th Street and 36th Street in South Minneapolis 							
8. HSIP PROJECT CATEGORY – Circle which project grouping in which you wish your project to be scored. The 2011 HSIP solicitation is for Reactive projects only							
III. PROJECT FUNDING							
9. Are you applying or have you applied for funds from another source(s) to implement this project? Yes \square No \boxed{x} If yes, please identify the source(s):							
10. FEDERAL AMOUNT: \$ 1,080,000 13. MATCH % OF PROJECT TOTAL: 108							
11. MATCH AMOUNT: \$ 120,000	14. SOURCE OF MATCH FUNDS: MSA &	aity bonde					
12. PROJECT TOTAL: \$ 1,200,000	15. REQUESTED PROGRAM YEAR : 201						
12. PROJECT TOTAL. \$ 1,200,000 13. REQUESTED PROGRAM TEAR. []2013 16. SIGNATURE: 17. TITLE: Cullan Kugman Senior Professional Engineer							

PROJECT INFORMATION (Form 2) (To be used to assign State Project Number <u>after</u> project is selected)

Please fill in the following information as it pertains to your proposed project. Items that do not apply to your project, please label N/A. Do not send this form to the State Aid Office. For project solicitation package only.

COUNTY, CITY, or LEAD AGENCY City of Minneapolis

FUNCTIONAL CLASS OF ROAD Minor Collector

ROAD SYSTEM MSAS (TH, CSAH, MSAS, CO. RD., TWP. RD., CITY STREET)

NAME OF ROAD 35th & 36th Streets (Example: 1st Street, Main Avenue)

APPROXIMATE BEGIN CONSTRUCTION DATE (MO/YR) _05/2017____

APPROXIMATE END CONSTRUCTION DATE (MO/YR) 11/2017

LOCATION: From: Blaisdell Ave S

To: Portland Ave S (DO NOT INCLUDE LEGAL DESCRIPTION)

TYPE OF WORK _______ Signals (Addition of Overhead Signals)

(Examples: GRADE, AGG BASE, BIT BASE, BIT SURF, SIDEWALK, CURB AND GUTTER, STORM SEWER, SIGNALS, LIGHTING, GUARDRAIL, BIKE PATH, PED RAMPS, BRIDGE, PARK AND RIDE, ETC)



Department of Public Works

Steven A Kotke, P.E. City Engineer Director

350 South 5th Street - Room 203 Minneapolis MN 55415

> Office 612 673-3000 Fax 612 673-3565 TTY 612 673-2157

June 30, 2011

Mr. Lars Impola Mn/DOT Metro District Traffic Engineering 1500 West County Road B2 Roseville, MN 55113

RE: Highway Safety Improvement Program (HSIP) Funding Applications

Dear Mr, Impola:

The City of Minneapolis Department of Public Works is submitting applications for the 2015-2016 Highway Safety Improvement Program (HSIP) for the following projects:

- Bicycle Lane Colored Conflict Zones
- Pedestrian Countdown Signals
- 4th Avenue Overhead Signal Additions
- 35th and 36th Streets Overhead Signal Additions

The City is committed to securing the required local match for these projects and to the operation and maintenance of these projects for their useful lives.

Thank you for considering our applications.

Sincerely,

Steven A. Kotke, P.E. City Engineer - Director of Public Works



www.cl.minneapolis.mn.us Affirmative Action Employer



Department of Public Works Steven A. Kolke, P.E. City Engineer Director

350 South 5th Street - Room 203 Minneapolis MN 55415

> Office 612 673-3000 Fax 612 673-3565 TTY 612 673-2157

June 30, 2011

Mr. Lars Impola Mn/DOT Metro District Traffic Engineering 1500 West County Road B2 Roseville, MN 55113

RE: Highway Safety Improvement Program (HSIP) Funding Application 35th and 36th Streets Overhead Signal Additions

Dear Mr. Impola:

Attached are the 2011 application materials for Highway Safety Improvement Program (HSIP) funds for the 35th and 36th Streets Overhead Signal Additions project.

This project is being submitted for your consideration by the City of Minneapolis. The project manager will be Allan Klugman, Senior Professional Engineer with Department of Public Works. The project consists of the addition of overhead signal indications, in all directions, at sixteen existing signal systems along the one-way pair of 35th Street and 36th Street between Blaisdell Avenue South and Portland Avenue South in South Minneapolis in 2016. The total project cost is estimated at \$1,200,000, with Federal funding requested in the amount of \$1,080,000. The local match will be \$120,000, coming from a combination of Municipal State Aid (MSA) and City Net Debt Bond funds.

The following documents are attached:

- A letter from the Minneapolis City Engineer Director of Public Works committing for project local match and future operation and maintenance funding
- Project location map
- Plan sheet showing typical intersection improvement
- Collision diagrams for each intersection in the project
- HSIP B/C worksheet
- Amortization worksheet

We have used the crash data from Mn/DOT for the sixteen intersections on 35th Street and 36th Street. The attached table depicts the work to be conducted at each intersection. The majority of the project work consists of adding new overhead signal installations where none exist. At four of the project intersections a current overhead signal exists. At these locations it is proposed to replace the mast arm with a longer mast arm and add supplemental signal heads.



www.ci.minneapolis.mn.us Affirmative Action Employer We have used a composite right angle crash reduction factor of 42%, derived as follows:

- Twelve of the project intersections will include new overhead signal installations. The reduction factor for a new installation, based on three years of before and after crash records collected at 21 intersections in Minneapolis where overhead signals were added to existing signal systems, is 45%.
- Four of the project intersections will include revision of an existing overhead signal to include longer mast arms and supplemental signal heads. A crash reduction factor of 35% for that mitigation was obtained from the source: "FHWA Desktop Reference for Crash Reduction Factors", Page 14, line 7 under the category of "Add signal (additional primary head)".
- Prorating the 45% and 35% reductions for the total number of intersections and crashes in the corridor leads to a single, corridor-wide, composite reduction rate of 42%. This value is used in the B/C computations.
- Also, using the Minneapolis crash data base, right angle crashes caused by driver fault on the leg crossing 35th or 36th at Nicollet and at 3rd Avenue were removed. This project is not adding overheads to those approaches, so the existing crash experience on those legs will not be affected. (Nicollet has existing overhead signals that will not be affected by this project. 3rd Avenue is a more minor roadway than the other project cross streets; overhead signals will not be added for the 3rd Avenue approaches.)

Thank you for considering our application for 2011 Highway Safety Improvement Program funds.

Sincerely,

lan Klugman

Allan Klugman, P.E., PTOE City of Minneapolis 300 Border Avenue North Minneapolis, MN 55405

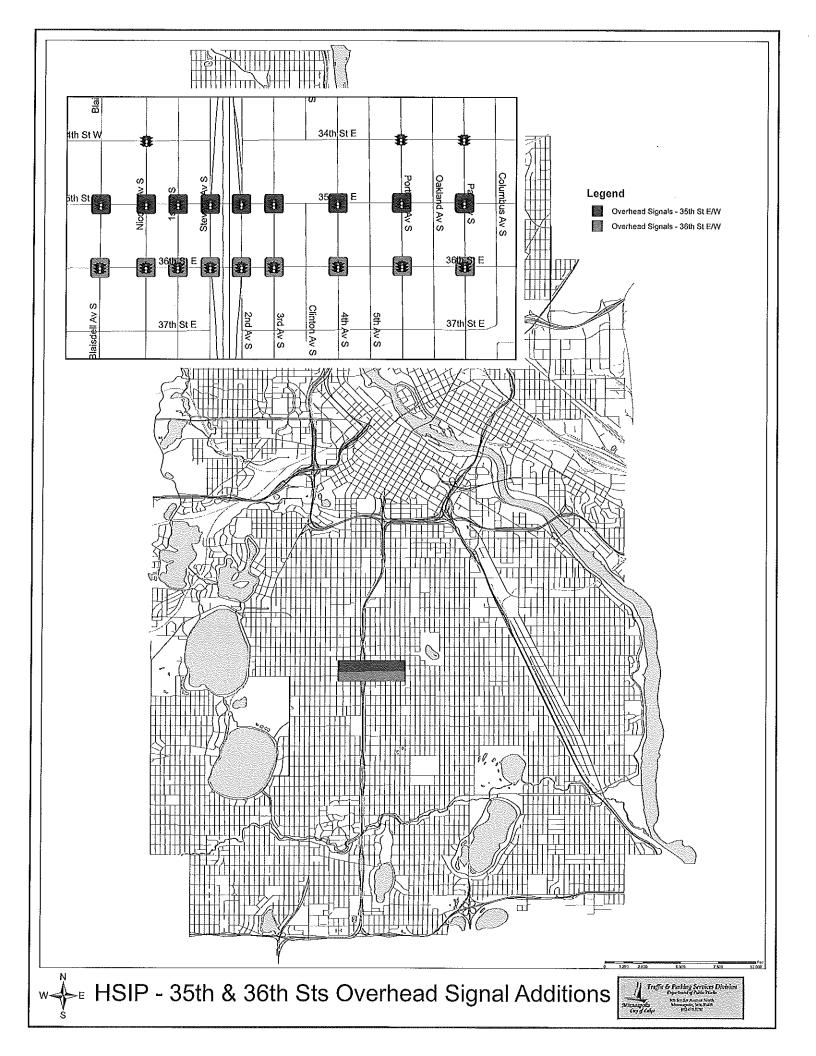
Attachments

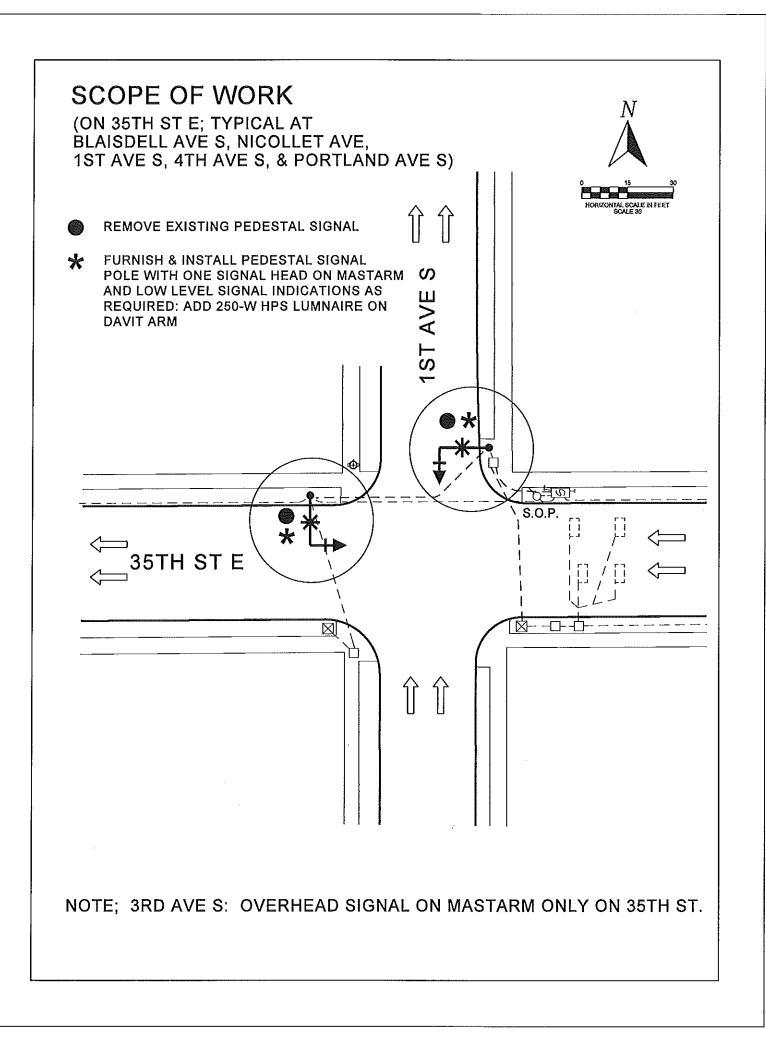
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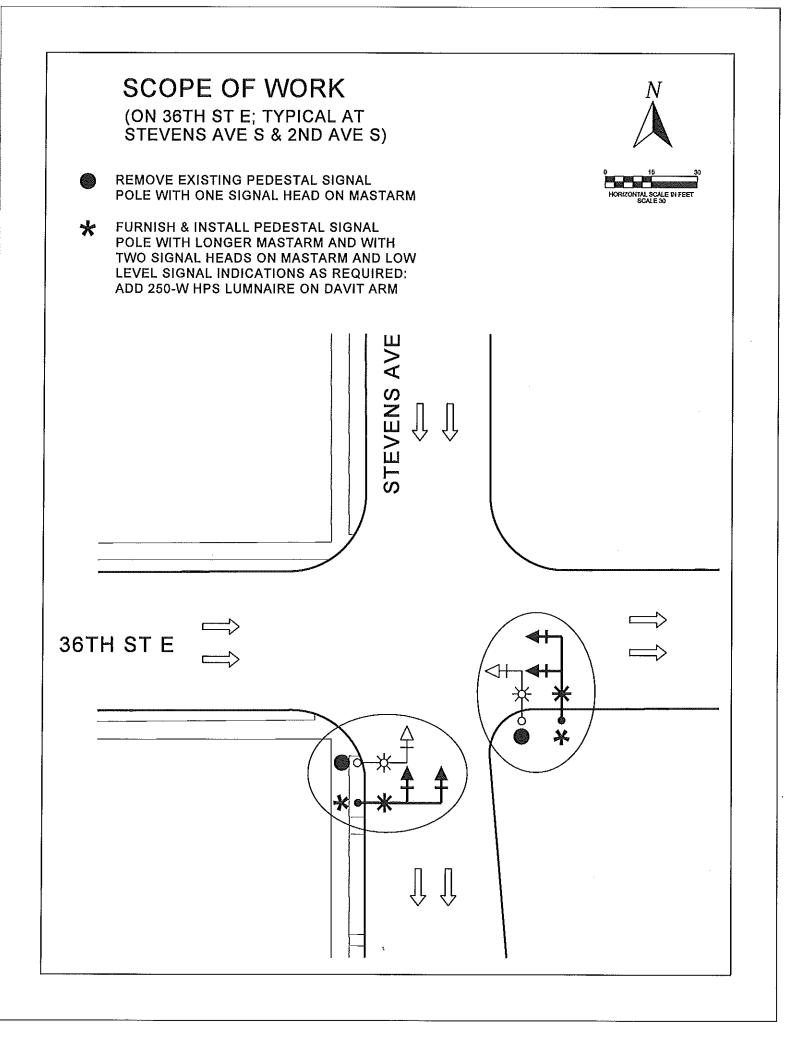
Mr. Steve Kotke Mr. Jon Wertjes

Highway Safety Improvement Program Funding Application 35th Street and 36th Street Overhead Signal Additions Project Locations

Interse	ection	Proposed Work
1.	35 th Street West/Blaisdell Avenue	Install overhead signals on 35 th & on Blaisdell
2.	South 35 th Street W/E/Nicollet Avenue	Install overhead signal on 35 th only
	South	
	35 th Street East/1 st Avenue South	Install overhead signals on 35th & on 1st
4.	35 th Street East/Stevens Avenue	OH signals exist; Install new longer mast
	South	arm and supplemental heads on 35 th & on Stevens
5.	35 th Street East/2 nd Avenue South	OH signals exist; Install new longer mast
1		arm and supplemental heads on 35^{th} & on 2^{nd}
6.	35 th Street East/3 rd Avenue South	Install overhead signal on 35 th only
7.	35 th Street East/4 th Avenue South	Install overhead signals on 35 th & on 4th
8.	35th Street East/Portland Avenue	Install overhead signals on 35 th & on
	South	Portland
9.	36th Street West/Blaisdell Avenue	Install overhead signals on 36 th & on
	South	Blaisdell
10.	36 th Street W/E/Nicollet Avenue South	Install overhead signal on 36 th only
11.	36 th Street East/1 st Avenue South	Install overhead signals on 36 th & on 1st
12.	36 th Street East/Stevens Avenue	OH signals exist; Install new longer mast
	South	arm and supplemental heads on 36 th & on
		Stevens
13.	36 th Street East/2 nd Avenue South	OH signals exist; Install new longer mast
		arm and supplemental heads on 36 th & on 2 nd
14	36 th Street East/3 rd Avenue South	Install overhead signal on 36 th only
	36 th Street East/4 th Avenue South	Install overhead signals on 36 th & on 4th
16	36 th Street East/Portland Avenue	Install overhead signals on 36 th & on
	South	Portland



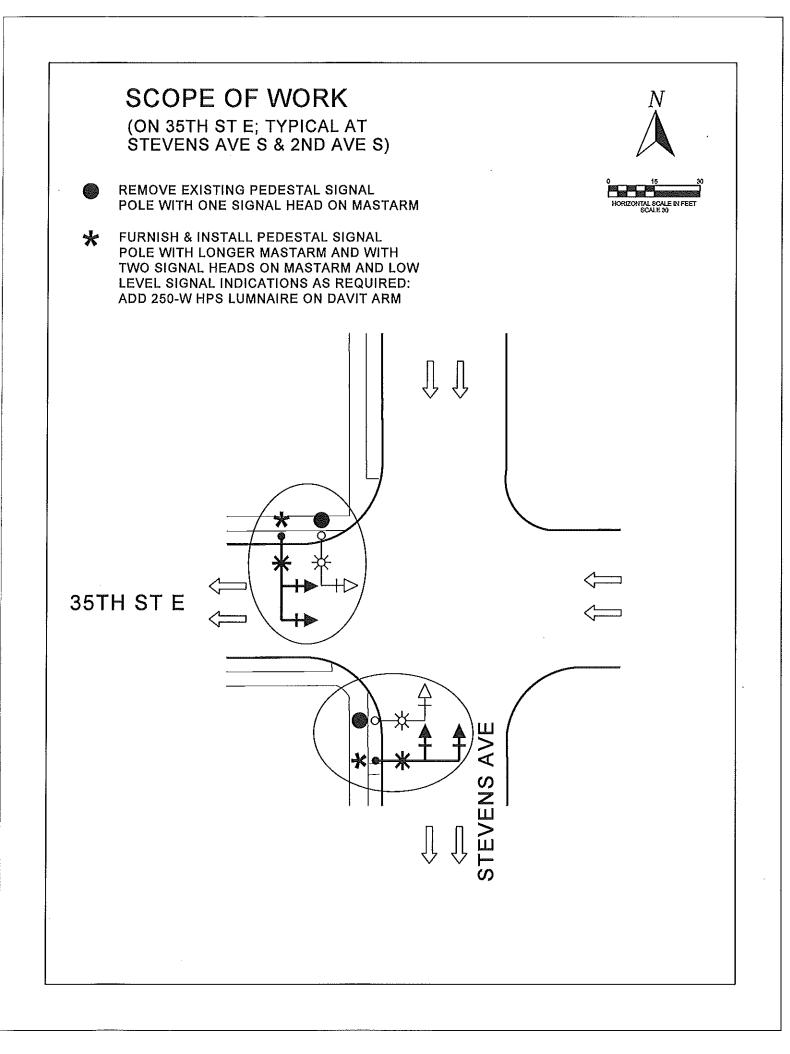


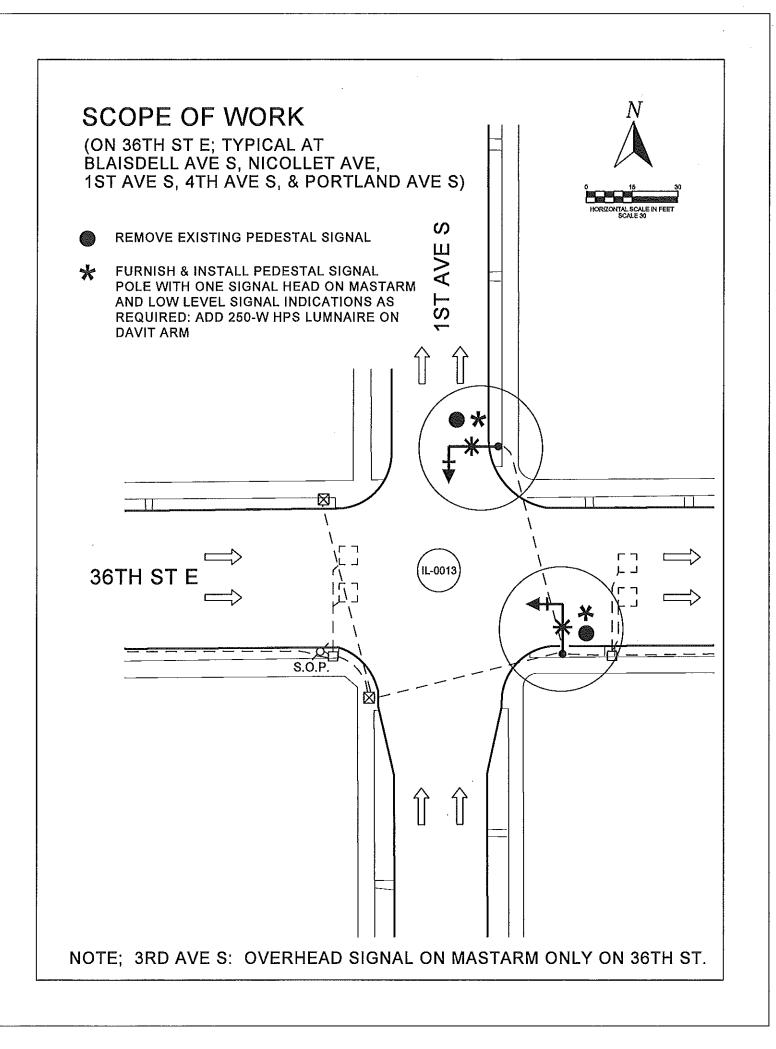


worksheet Section R Description					35th Street and 36	Location	1			Beginning Ref. Pt. aisdell Avenue	R	inding tef. Pt. ind Avenue	State, County, City or Township	Study Period Begins	Study Period Et
			Installation of overhead traffic signal indications on 35th & 36th Streets between Blaisdell & Portla												
And	lent Di	gran	Proposed 1	l Work	Installation of ove	arhead trai	ffic signal ind	s	$\frac{\ln \&}{4,7}$	36th Streets be	stween	Blaisdell	& Portland in S	6, 90, 98, 99	apolis.
	<u> </u>	Codes					<u> </u>								
		\leq				1_		>	=			<u>→</u>	Pedestrian	Other	Total
	Fatal	F			i i den den de la destruction de la destruction de la destruction de la destruction de la destruction de la destruction de la d			0							
	y (PJ)	A						0		i Simila					
Study Period:	Personal Injury (PI)	в						16							
Number of Crashes	Person	С						36							
Crinduta	Property Damage		:			3 M. 11. A.					1				
	sector sector	PD		· . ·				70							
% Change in Crashes	Fatal	F													
in Crasics		A						-42%							
*Use Desklop		B			aldelige stelled and the second second and the second second second			-42%		-1					
Reference for Crash Reduction		C						-42%							
Factors	Property Damage	PD						-42%							
	Fatal T	F													
	H														
Change in	PI	A B			ŧ			-6,72							-6
Crashes															
= No. of crashes X	tty Be	C						-15.12							-15
% change in crashes	Property Damage	PD						-29.40							-29
Year (Safety I	mprov	ement	Constructi	ion)	2016										
Project Cost	(exclut	le Rig	ht of Way))	\$ 1,200,000	Type of Crash	Study Period: Change in Crashes	Annual Change in Crashes	Co	ost per Crash	Annu	al Benefit		B/C=	12.8
Right of Way	. Costs	(opti	onal)			F		dadam dana dana dana dana dana dana dan	s	7,100,000		4, <u>2222</u> 99799, etc. (1999)	Using present	worth value	²s,
Fraffic Grow	th Fa	tor			3%	A			s	415,000			01	<u>\$ 15,</u>	
Capital Reco	very					в	-6.72	-2.24	\$	137,000	s	306,880	C=	,	200,00
1. Discoun					4.5%	с	-15.12	-5,04		91,000		458,640	See "Calculat amortization.	ions" sheet j	or
2. Project S	Service	e Life	(11)		20	PD	-29.40	-9.80		12,000		117,600			
						Total					\$	883,120			

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Crash Present Worth Present Wor								
Year		Benefits	Î	Benefits		Costs		
2016	\$	883,120	\$	883,120	\$	1,200,000		
2017	\$	909,614	\$	870,444	Ť	- , ,		
2018	\$	936,902	\$	857,949				
2019	\$ \$ \$ \$ \$ \$ \$ \$ \$ \$	965,009	\$	845,634				
2020	\$	993,959	\$	833,496				
2021	\$	1,023,778	\$	821,532				
2022	\$	1,054,491	\$	809,740				
2023	\$	1,086,126	\$	798,116				
2024	\$	1,118,710	\$	786,660				
2025	\$	1,152,271	\$	775,368				
2026	\$	1,186,839	\$	764,239				
2027	\$	1,222,445	\$	753,269				
2028	\$	1,259,118	\$	742,456				
2029	\$	1,296,891	\$	731,799				
2030	\$	1,335,798	\$	721,295				
2031	\$ \$ \$ \$ \$ \$ \$ \$ \$	1,375,872	\$	710,941				
2032	\$	1,417,148	\$	700,736				
2033	\$	1,459,663	\$	690,678				
2034	\$	1,503,453	\$	680,764				
2035	\$	1,548,556	\$	670,992				
0	Ś	-,	\$					
0	Ŝ	-	\$	-				
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Ō	\$ \$ \$ \$ \$ \$ \$ \$ \$	-	\$	-				
Õ	\$	_	\$	-				
,	To	tals =	\$	15,449,229	\$	1,200,000		
			Ŧ	(B)	-*	(C)		

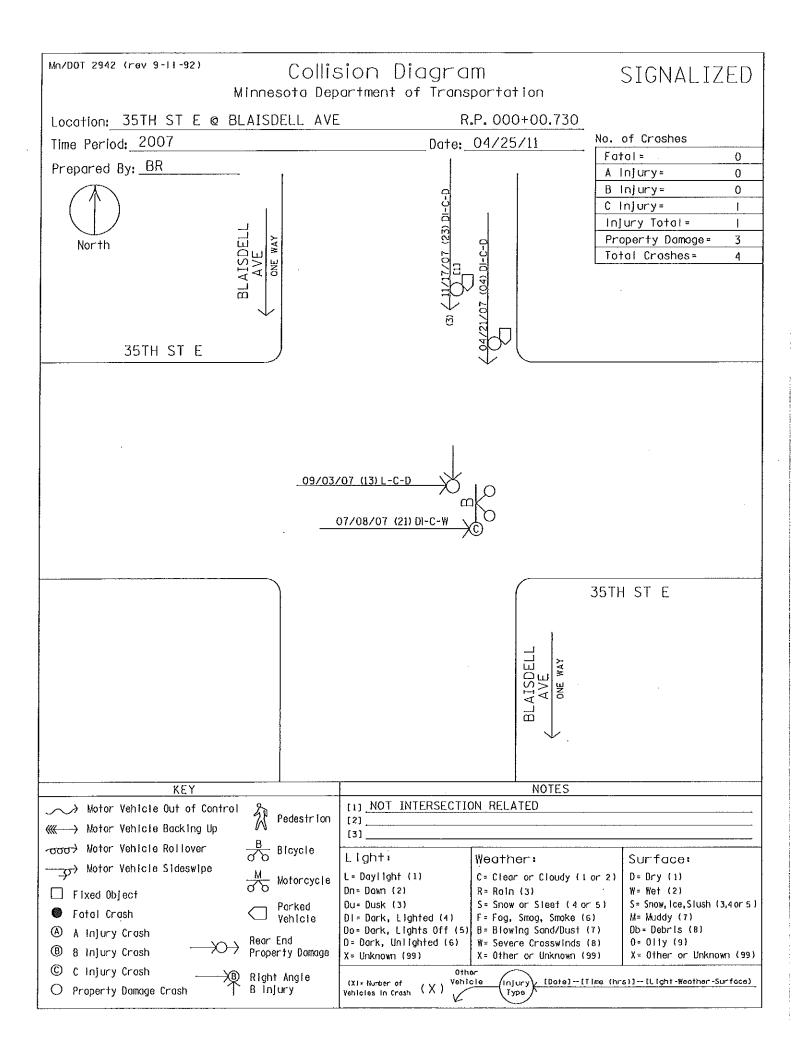
Amortizing...

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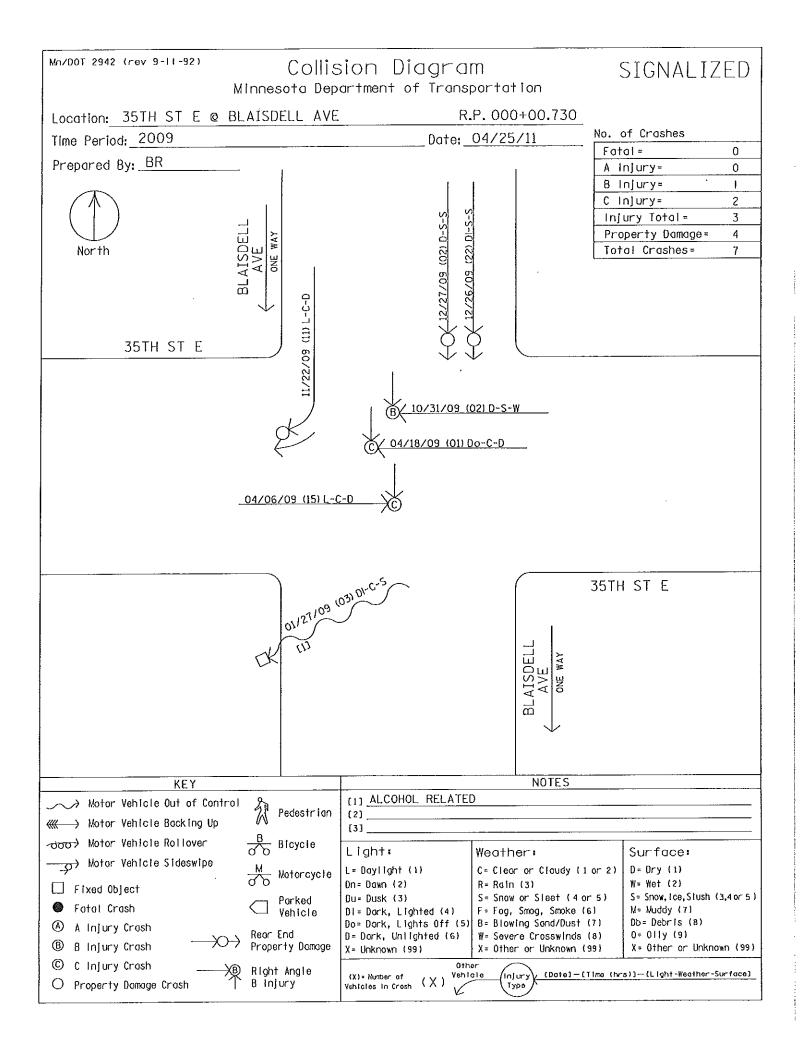
year (n)= 1, 2, 3,.... discount rate (i) = 7%

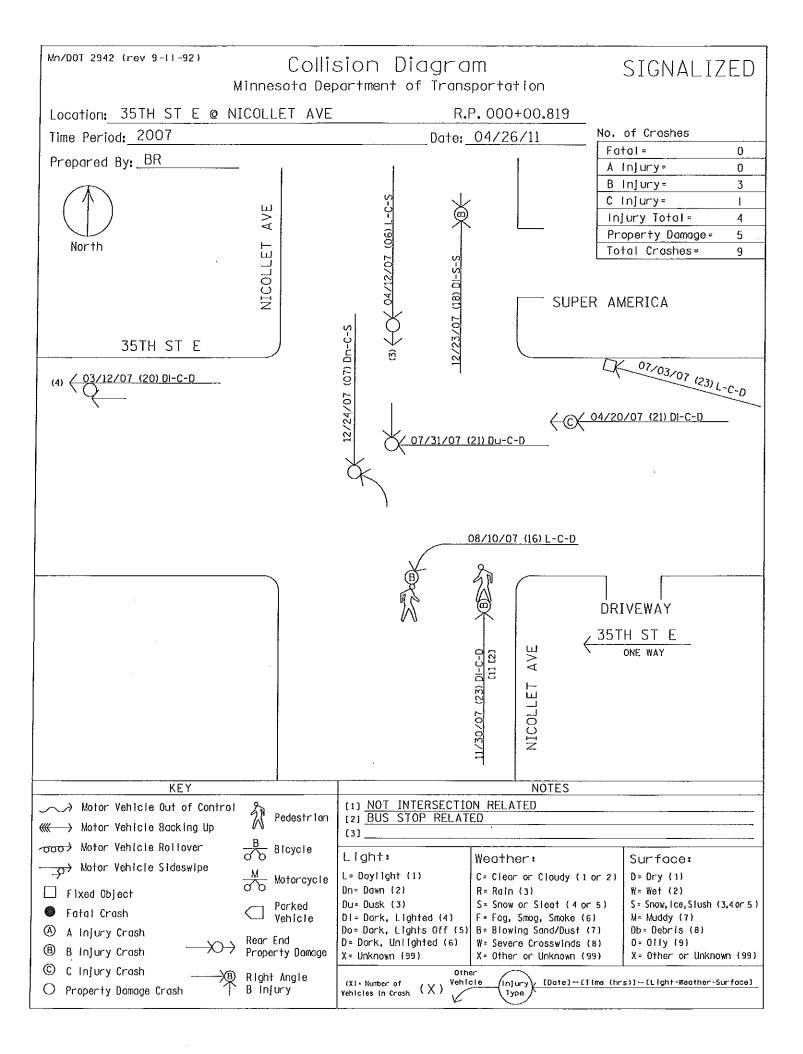
Present Worth Benefits
(@ year n) = (Crash Benefits)_n X
$$1/(1 + Discount Rate)^n$$

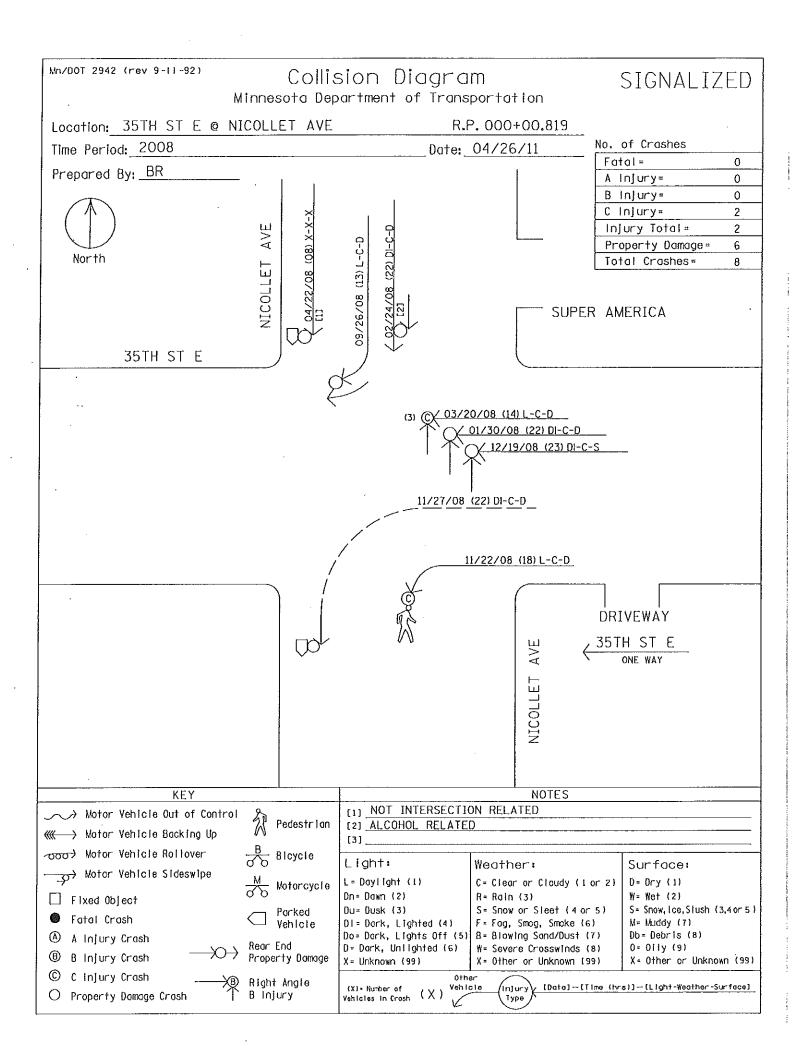
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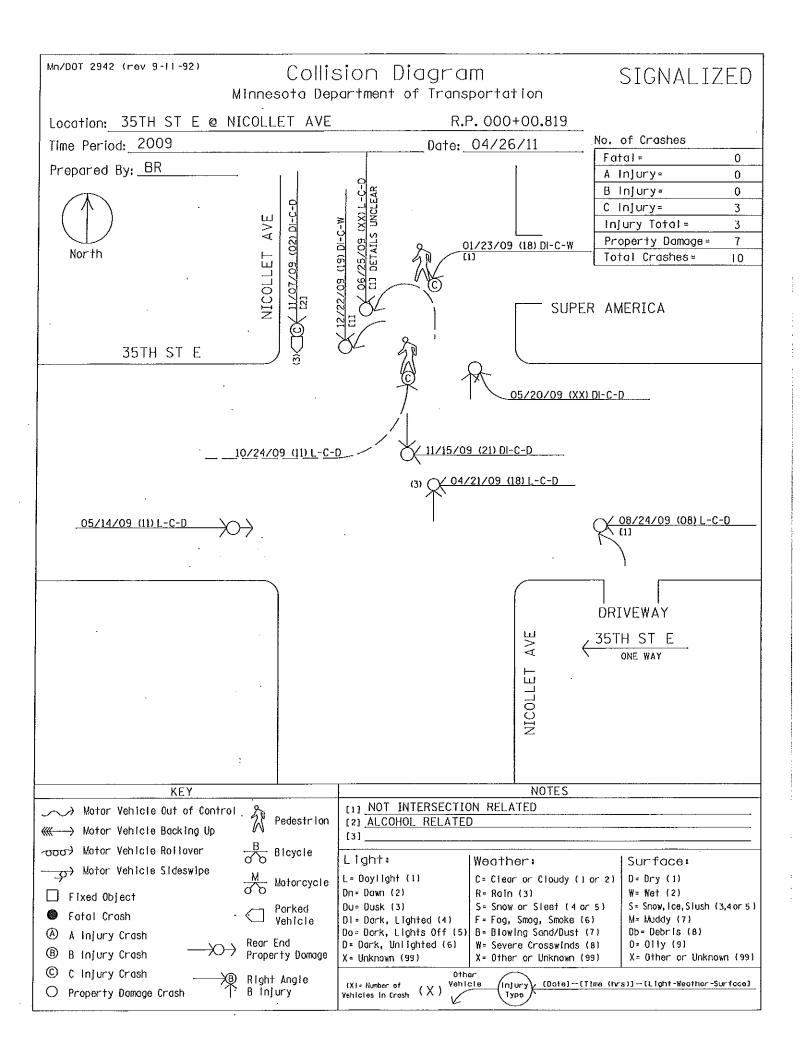


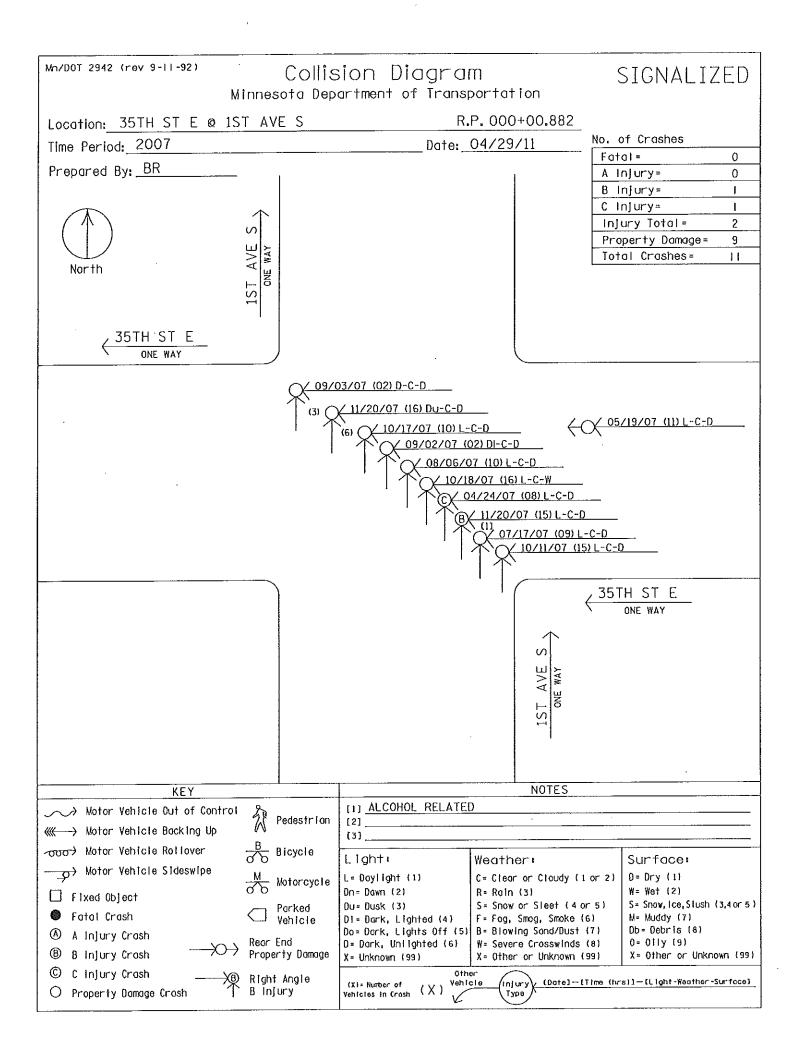
Mn/DOT 2942 (rev 9-11-92)	Collis Ilnnesota Dep	SIGNALIZED		
Location: 35TH ST E @ BI			.P. 000+00.730	
Time Period: 2008	AISUELL AVE	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	No. of Crashes
			04723711	Fatal = 0
Prepared By: <u>BR</u>	BLAISUELL AVE ONE WAY			A Injury= 0 B Injury= 0 C Injury= 0 Injury Total= 0 Property Damage= 0 Total Crashes= 0
			BLAISDELL AVE ONE WAY	35TH ST E
KEY		,	NOTES	
 Motor Vehicle Out of Control Motor Vehicle Backing Up Motor Vehicle Rollover Motor Vehicle Sideswipe Fixed Object Fatal Crash A injury Crash B injury Crash C injury Crash 	 Pedestrion Bicycle Motorcycle Parked Vehicle Rear End Property Damage 	<pre>[1]</pre>	₩= Severe Crosswinds (8 X= Other or Unknown (99	<pre># Wet (2) 5) S = Snow, ice, Slush (3,4 or 5) M = Muddy (7) 1) Db = Debris (8) 0 = Oily (9)</pre>
© C Injury Crash O Property Damage Crash	Right Angle B Injury	(X) + Number of Yehicles in Crosh (X)	er	ma (hrs)]—[Llght-Weather-Surface]

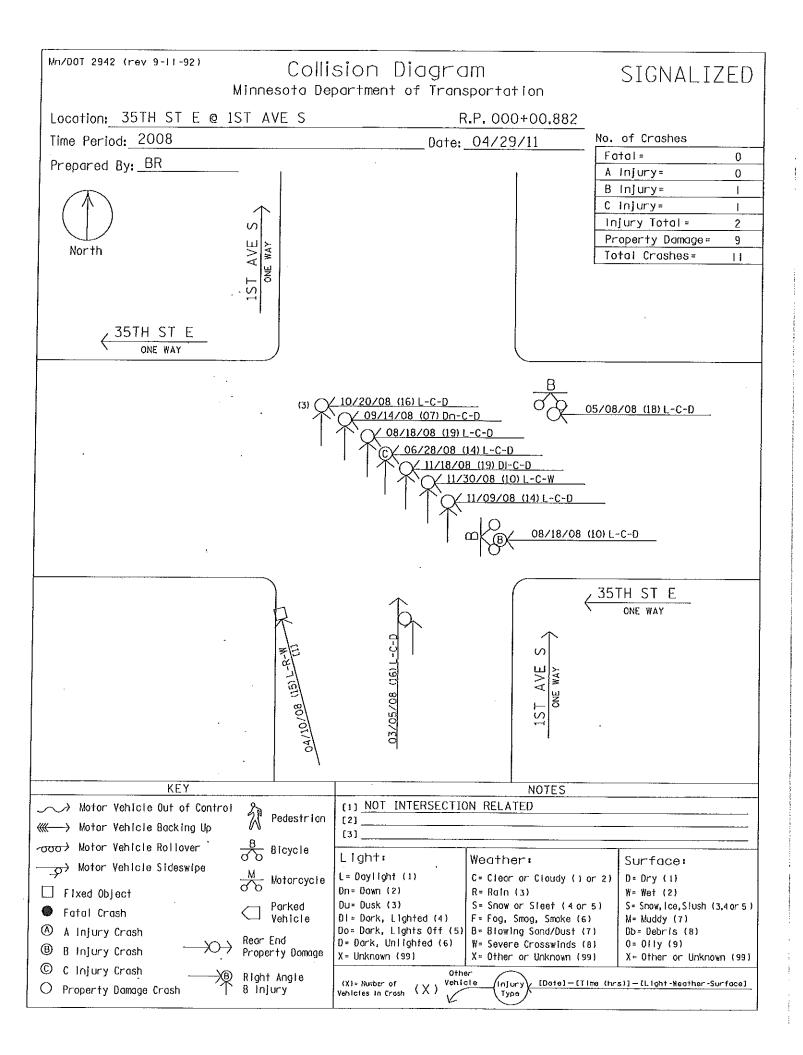


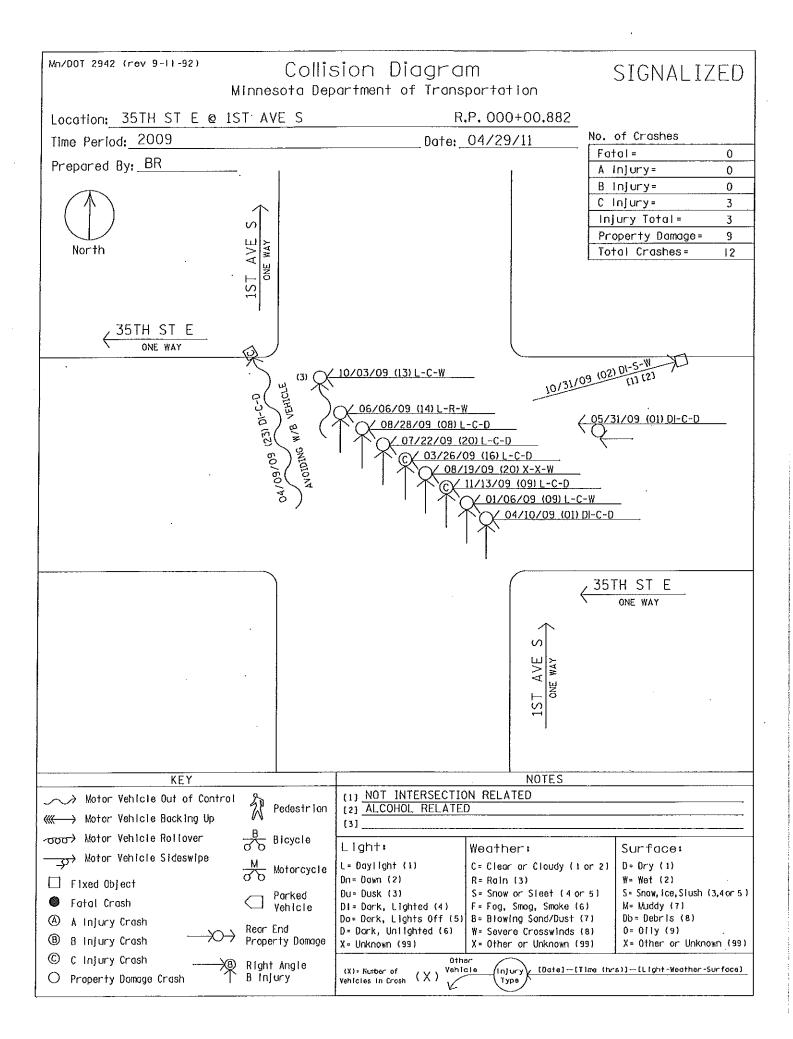


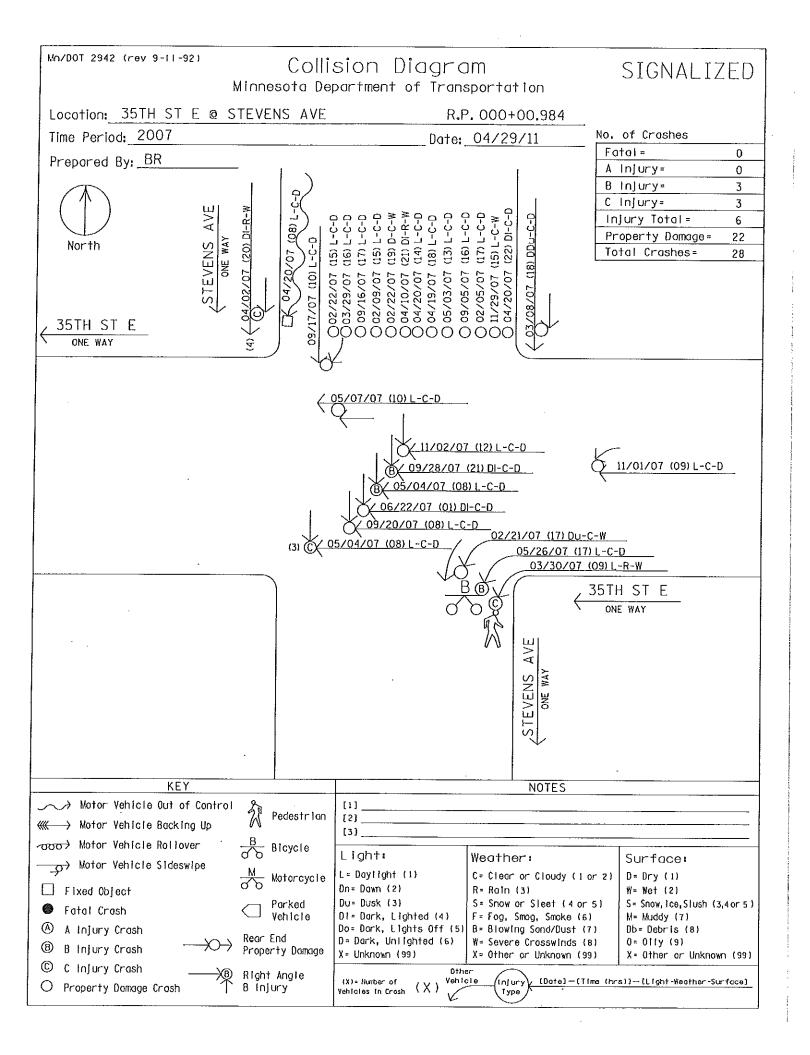


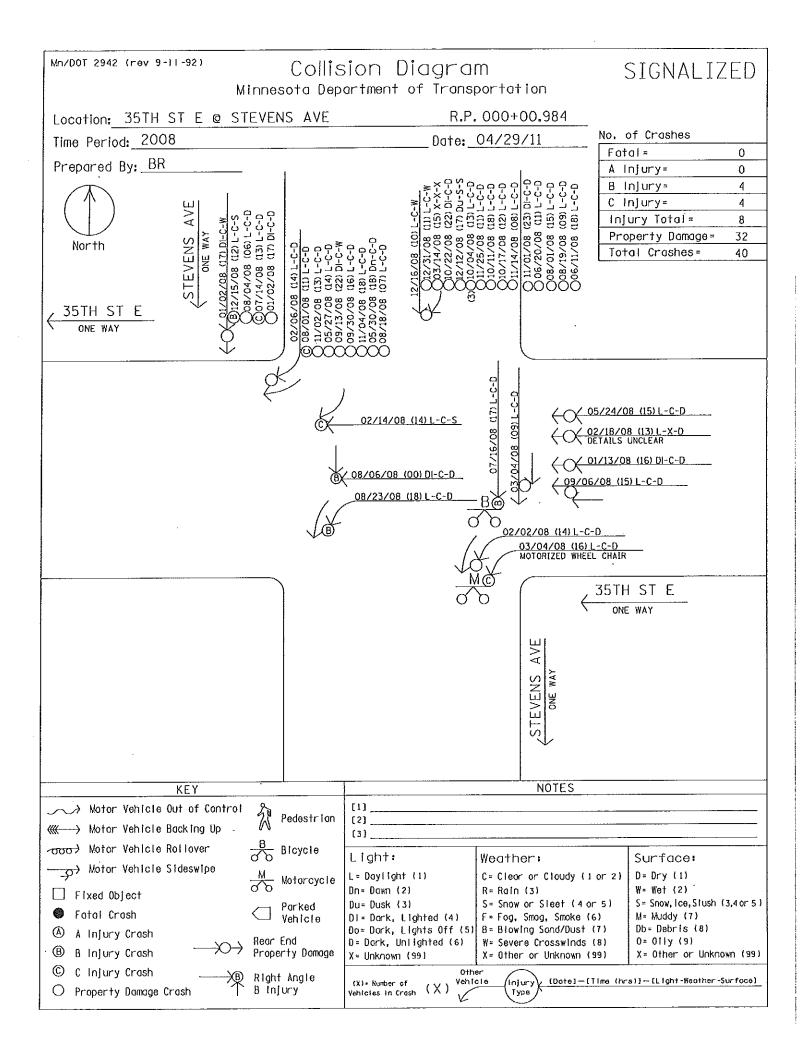


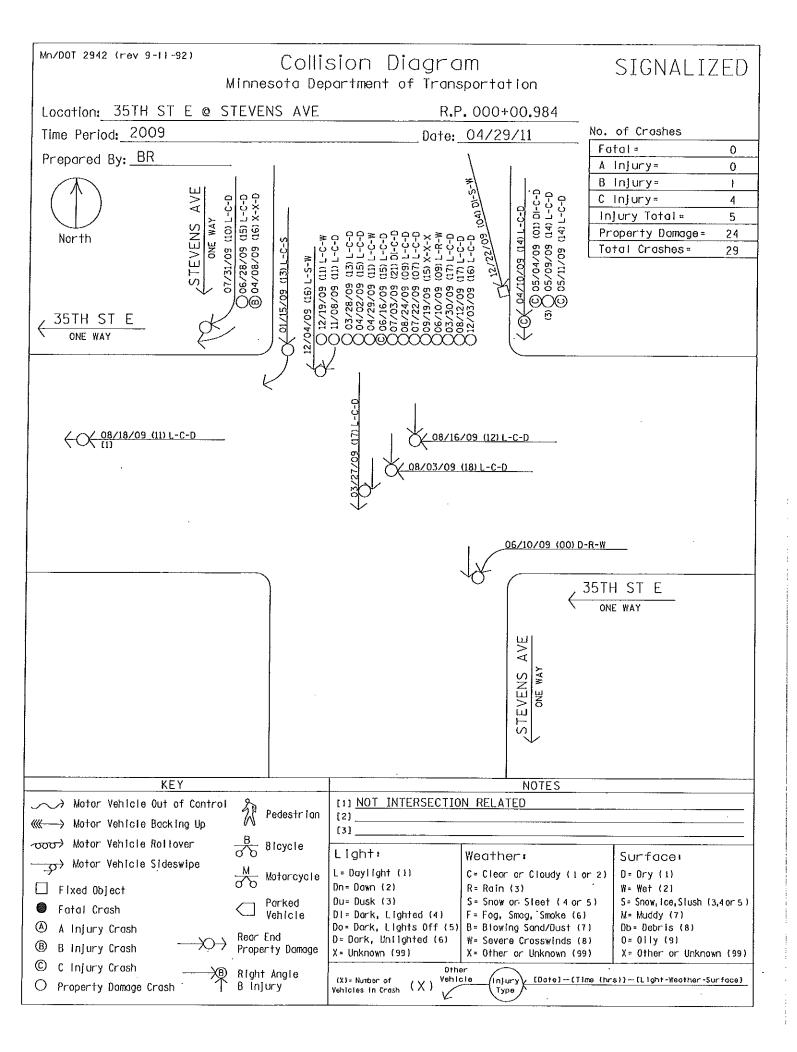


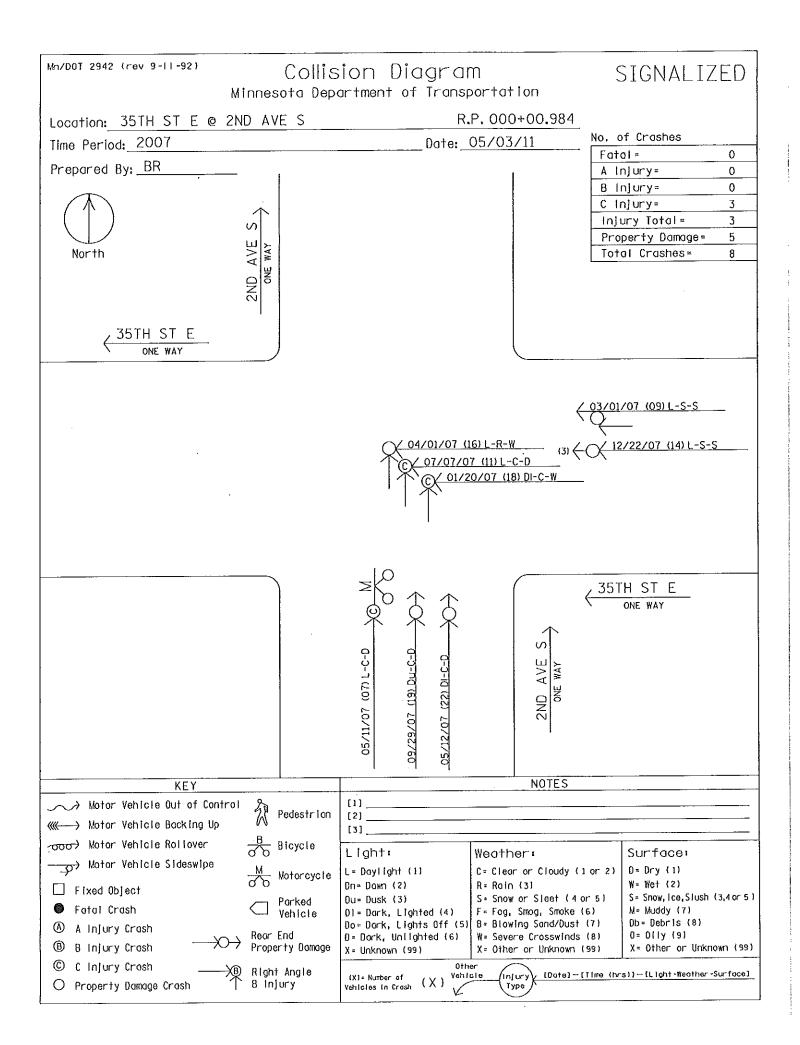


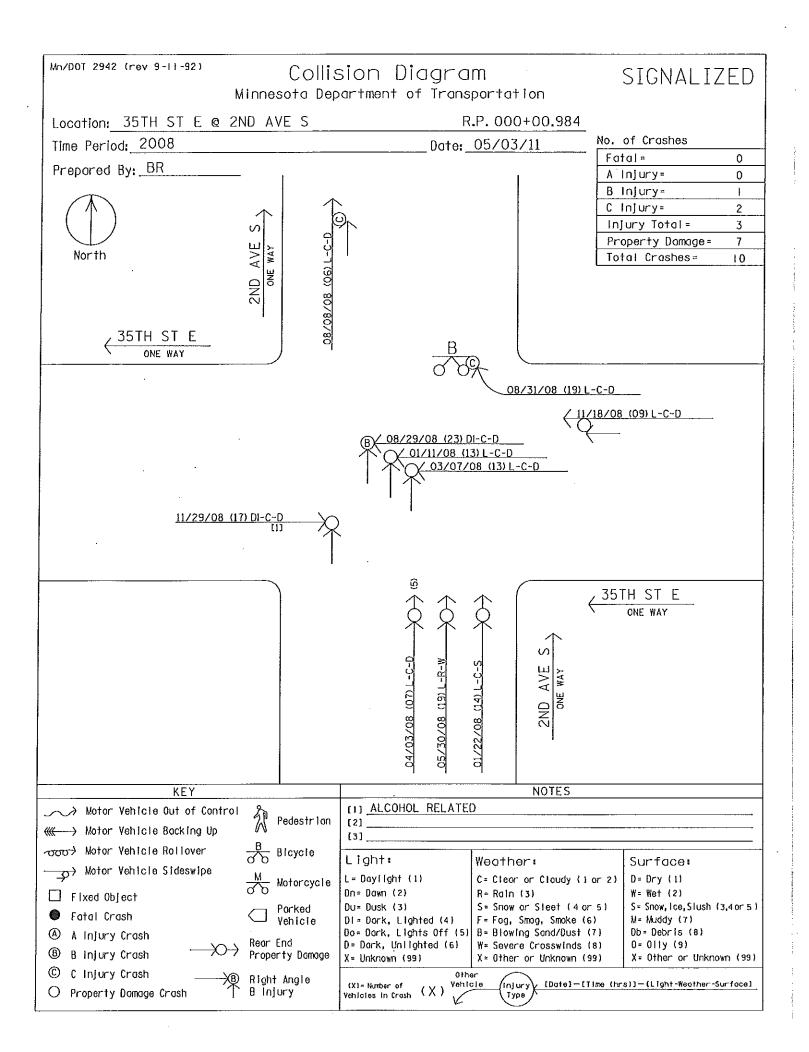


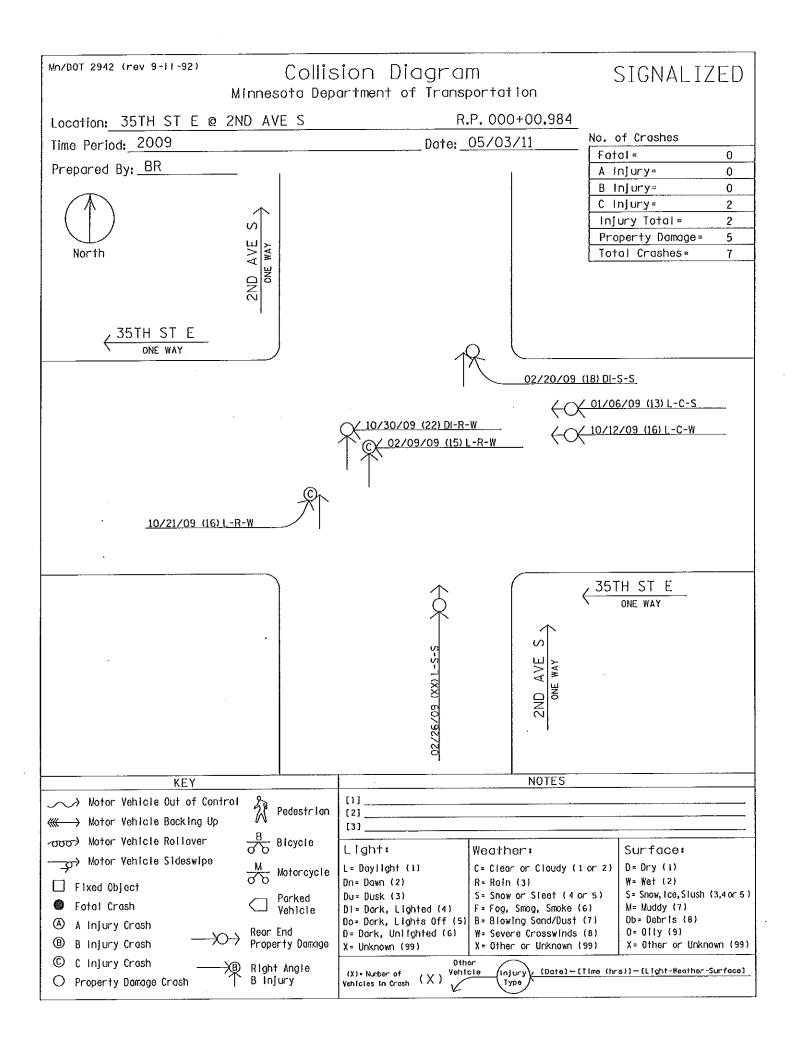




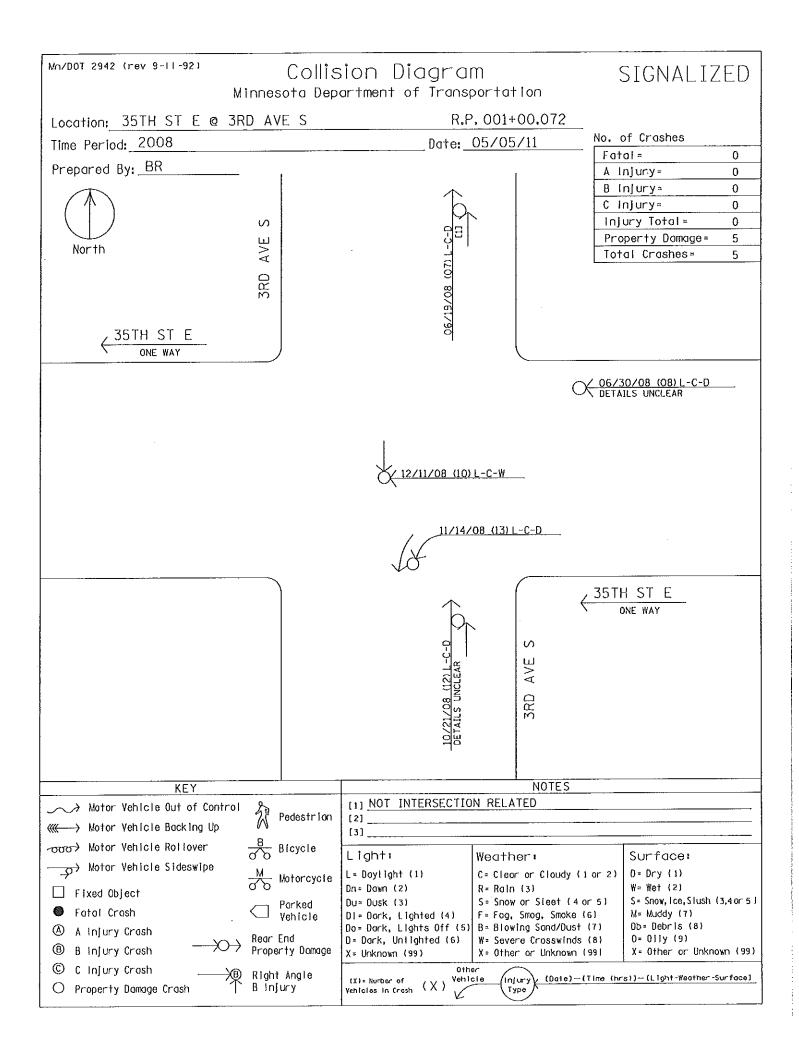


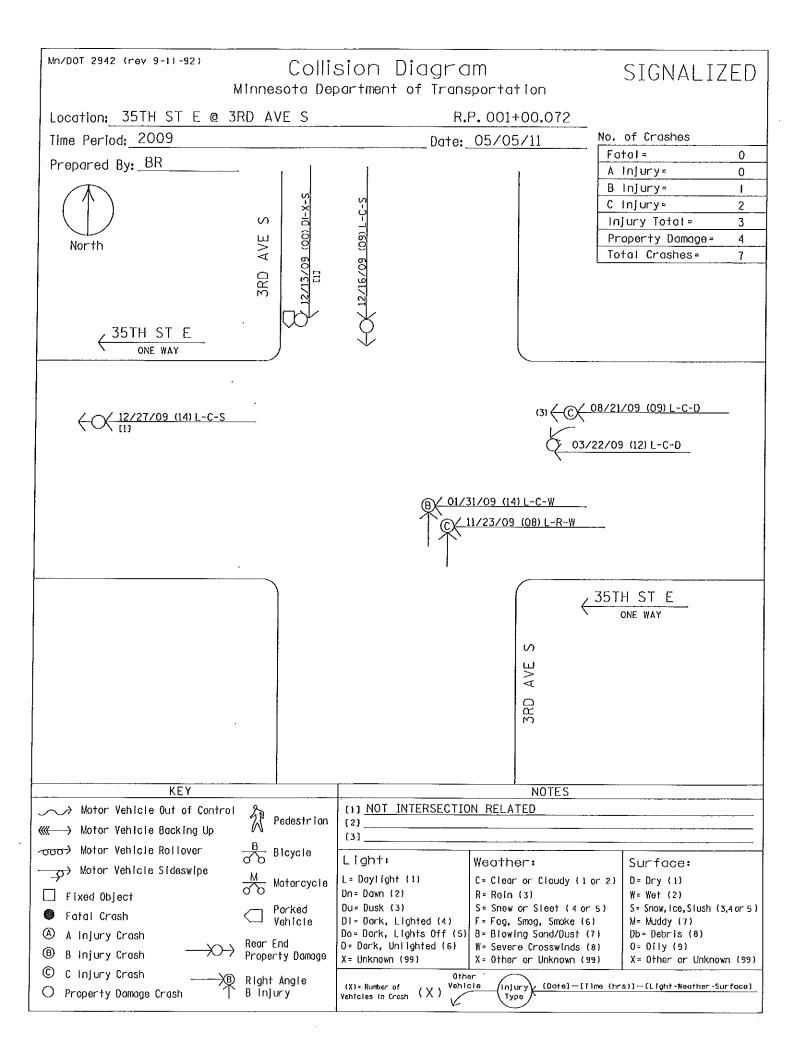


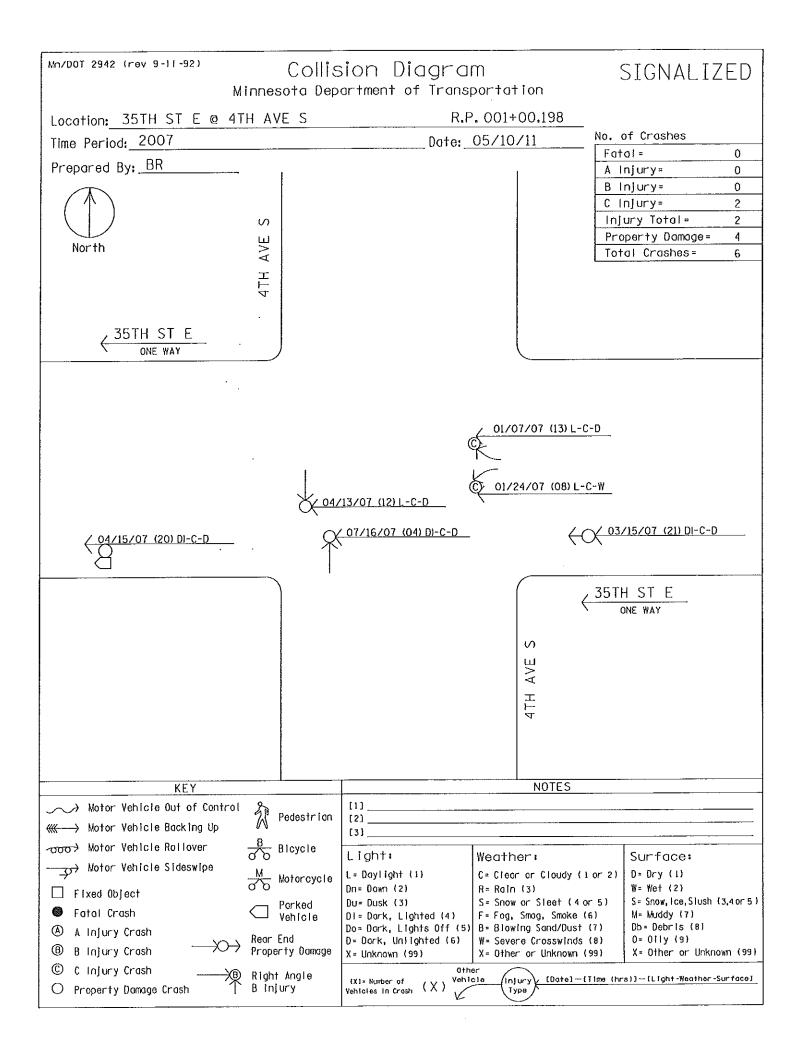


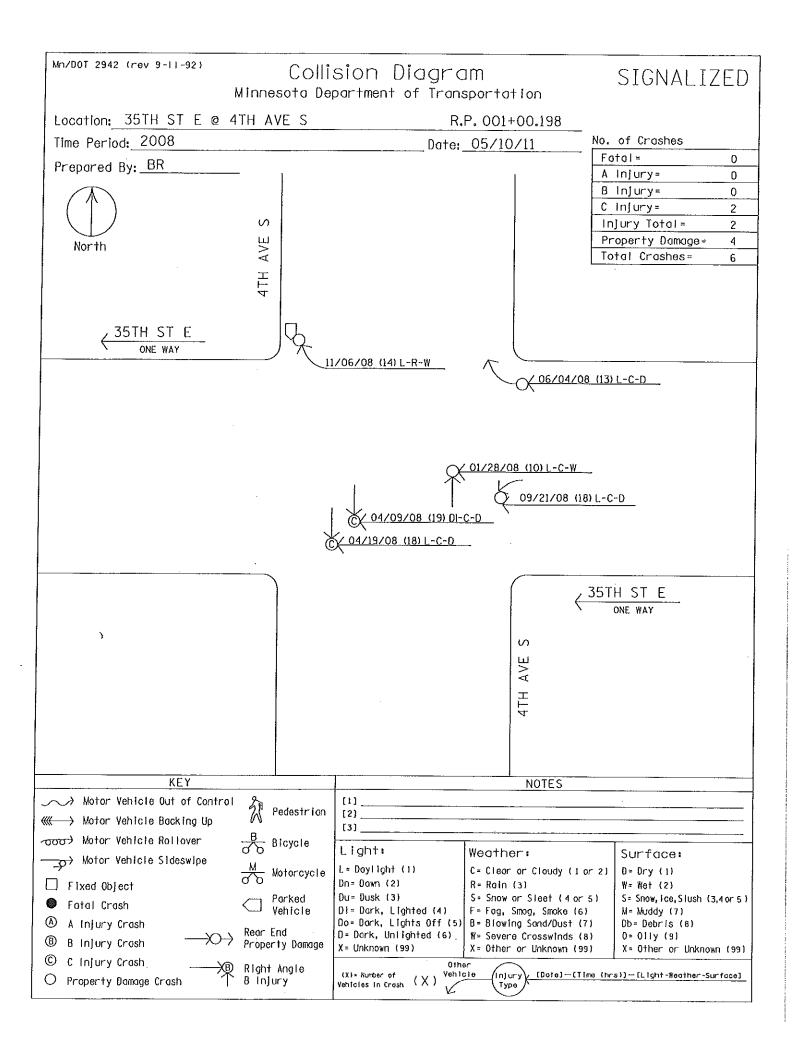


Mn/DOT 2942 (rev 9-11-92)	Collision Diagram Minnesota Department of Transportation					
Location: 35TH ST E @ 31			P. 001+00.072			
Time Period: 2007			05/05/11	No. of Crashes		
Prepared By: BR				Fatal= 0		
North	3RD AVE S			A Injury=0B Injury=0C Injury=1Injury Total=1Property Damage=0Total Crashes=1		
ONE WAY	M					
			(4) (C)	<u>12/08/07 (19) DI-C-D</u>		
•						
			(35TH ST E ONE WAY		
			3RD AVE S	с		
		1				
KEY	&	[1]	NOTES			
Motor Vehicle Backing Up	Pedestrion	[2]		· · · · · · · · · · · · · · · · · · ·		
-000> Notor Vehicle Rollover	B Bloycle					
 Kotor Vehicle Sideswipe Fixed Object Fotol Crosh A Injury Crosh B Injury Crosh 	Motorcycle Parked Vehicle Rear End Property Damage	Light: L= Doylight (1) Dn= Down (2) Du= Dusk (3) DI= Dark, Lighted (4) Do= Dark, Lights Off (5) D= Dark, Unlighted (6) X= Unknown (99)	Weather: C= Cleor or Cloudy (1 R= Rain (3) S= Snow or Sleet (4 or F= Fog, Smog, Smoke (6 B= Blowing Sand/Dust (4 W= Severe Crosswinds (4 X= Other or Unknown (4)	W= Wet (2) 5) S= Snow, ice, Slush (3,4or 5) 5) M= Muddy (7) (7) Db= Debris (8) (8) O= Olly (9)		
© C Injury Crash O Property Domage Crash	Right Angle 8 Injury	(X) - Number of (X) - Number of Yehiles in Crash (X)	er	(Ime (hrs))—[Light-Weather-Surface]		

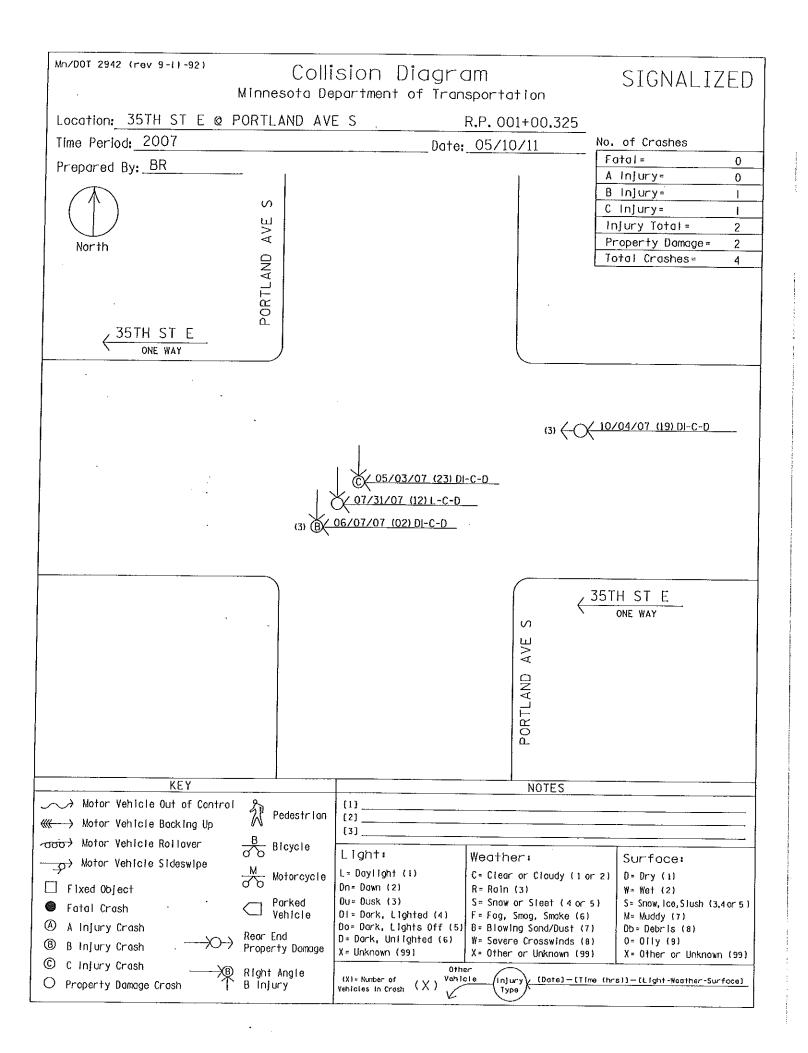


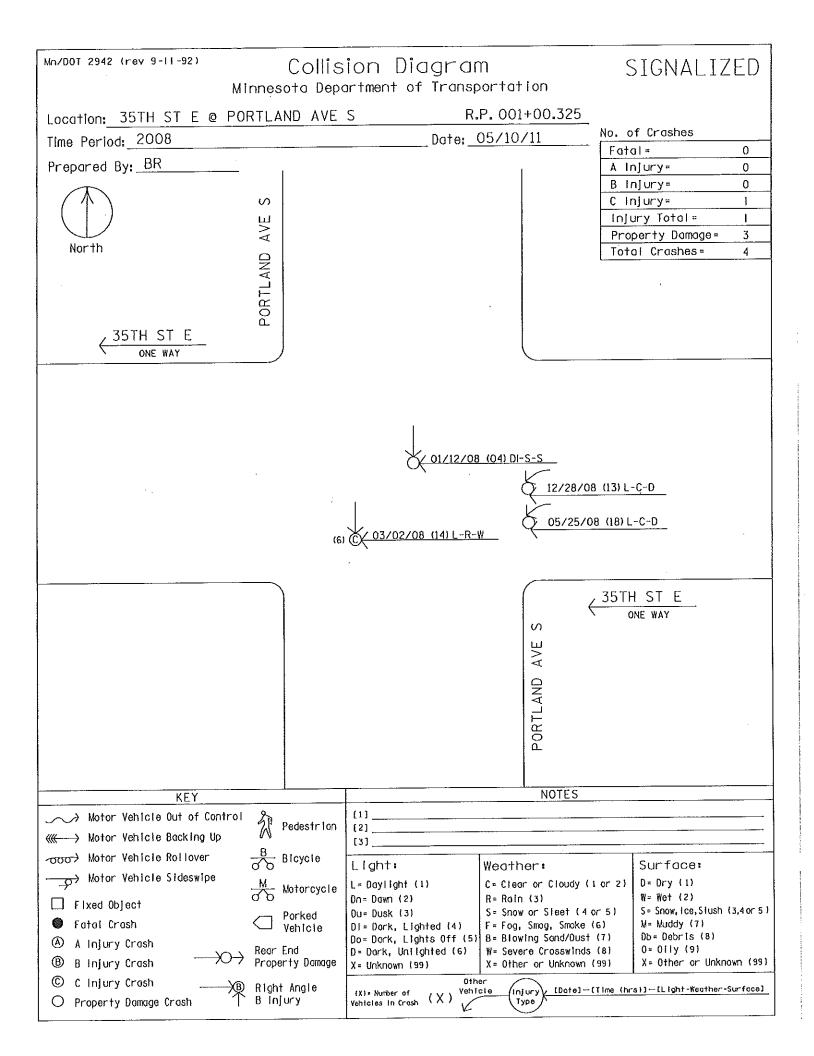


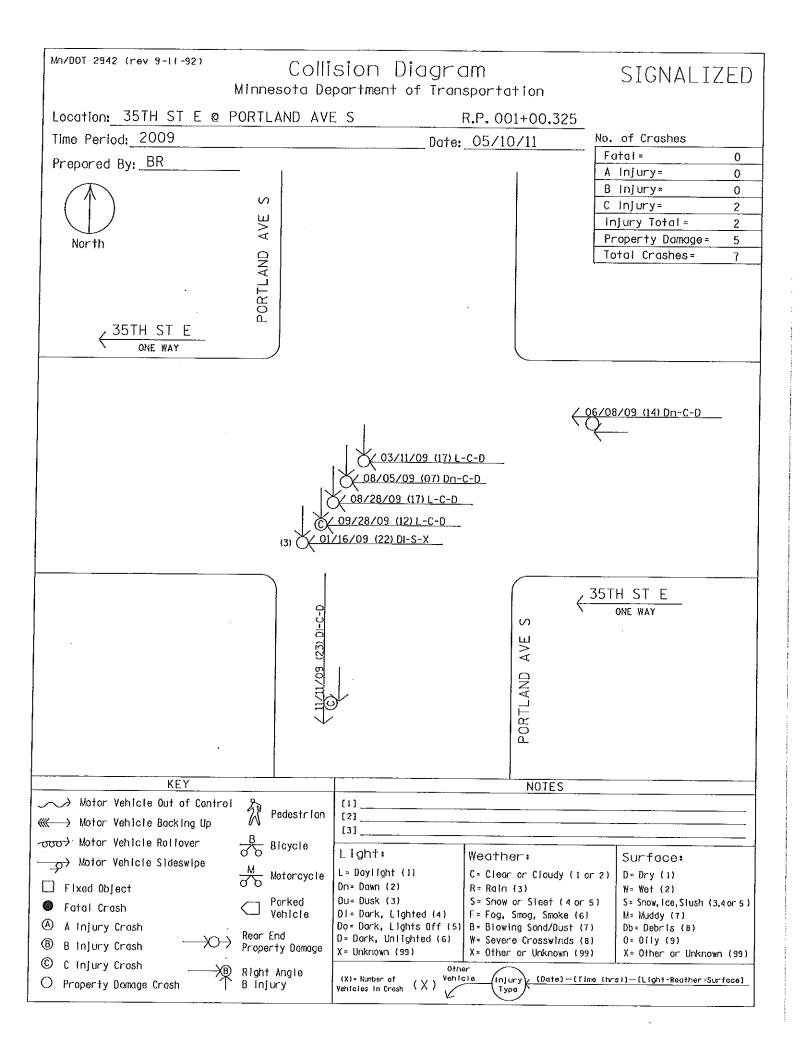


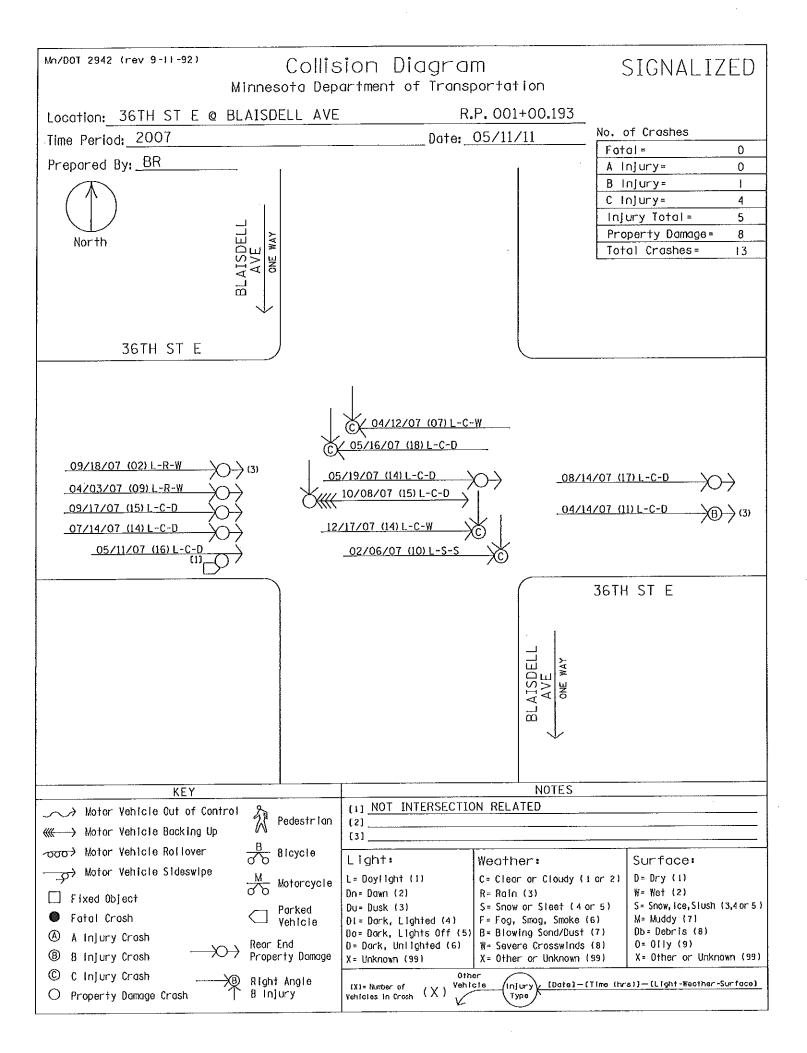


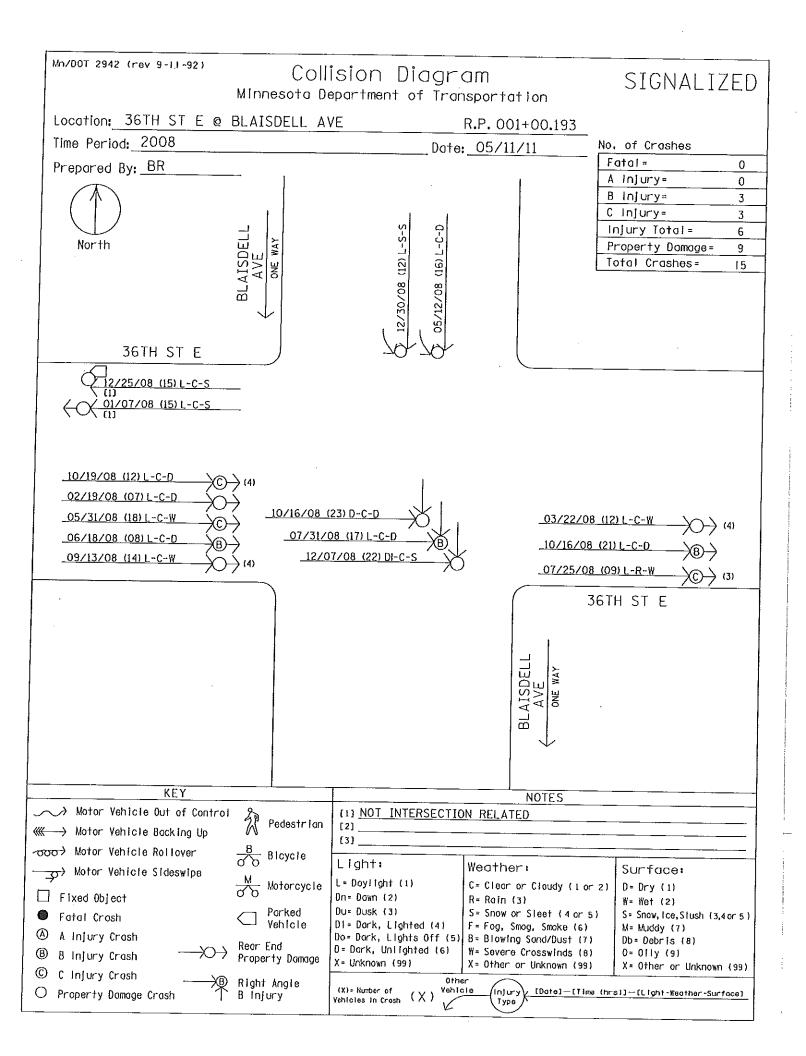
₩n/DOT 2942 (rev 9-11-92) MI	m (portation	SIGNALIZED		
			. 001+00.198	
Location: 35TH ST E @ 4T	HAVES			of Crashes
Time Period: 2009		Date:	05/10/11 No. Fat	
Prepared By: <u>BR</u>	I			njury= 0
				njury= 0 njury= 1
	S			ury Total =
North	Щ			operty Domage= 1
	AV			al Crashes = 2
	4 T H			
, 35TH ST E				
ONE WAY				,
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		X 09/15/09 (11) L-C-D		
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		X <u>0</u> !	5/06/09 (07) L-C-D	
		Ι.		
			35 T	H ST E
				ONE WAY
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KEY	&	[1]	NOTES	
Motor Vehicle Out of Control	Pedestrion	[2]		· · · · · · · · · · · · · · · · · · ·
	Bicycle	[3]		C. and an com
Motor Vehicle Sideswipe		Light: L=Daylight (1)	Weather: C= Clear or Cloudy (1 or 2)	Surface: D= Dry (1)
Fixed Object	M Wotorcycle	Dn≏ Dawn (2)	R= Rain (3)	₩= Wet (2)
Fatal Crosh	Porked Vehicle	Du= Dusk (3) DI= Dork, Lighted (4)	S= Snow or Sleet (4 or 5) F= Fog, Smog, Smoke (6)	S = Snow, Ice, Slush (3,4 or 5) M = Muddy (7)
A Injury Crash	Rear End	Do= Dork, Lights Off (5) D= Dork, Unlighted (6)	B=Blowing Sand/Dust (7) W= Severe Crosswinds (8)	Ob= Debris (8) O= Oily (9)
 B Injury Crosh C Injury Crosh 	Property Damage	X = Unknown (99)	X= Other or Unknown (99)	X= Other or Unknown (99)
		011		

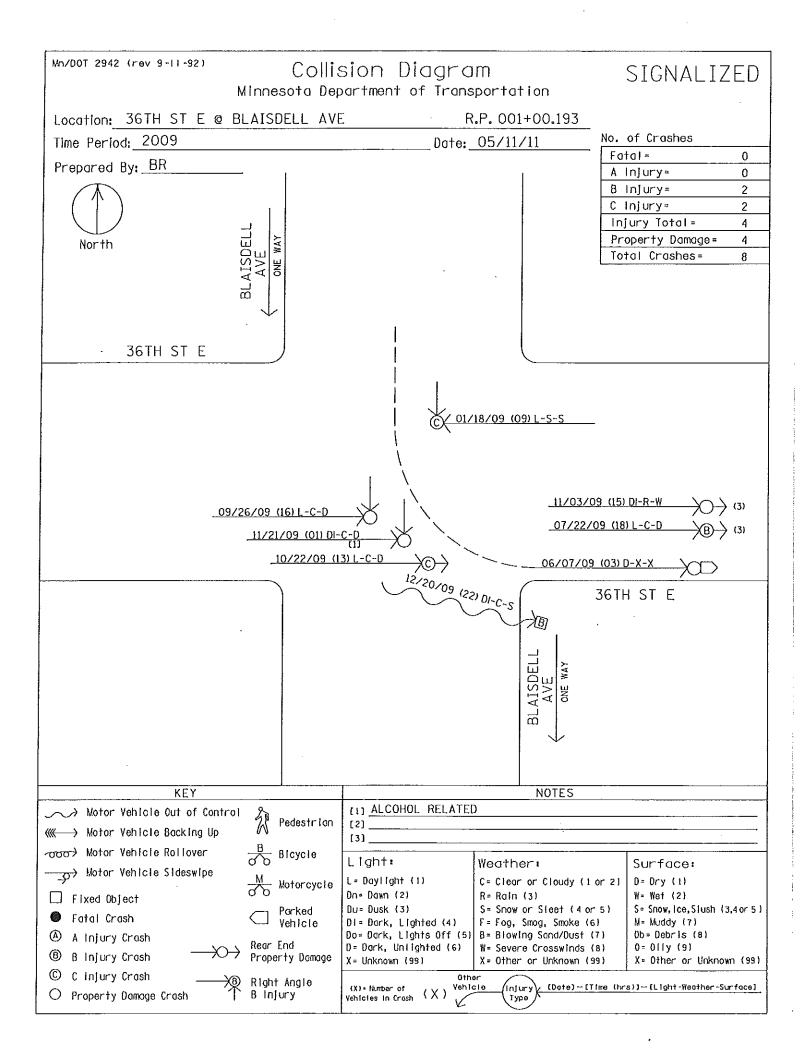


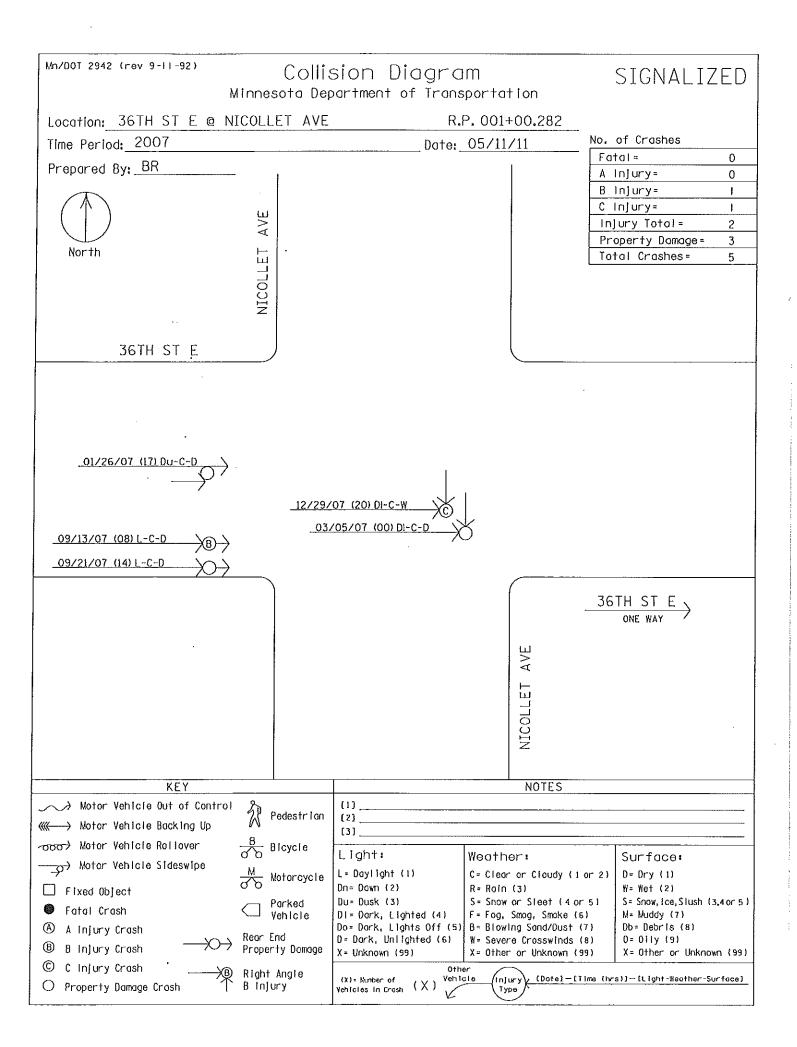


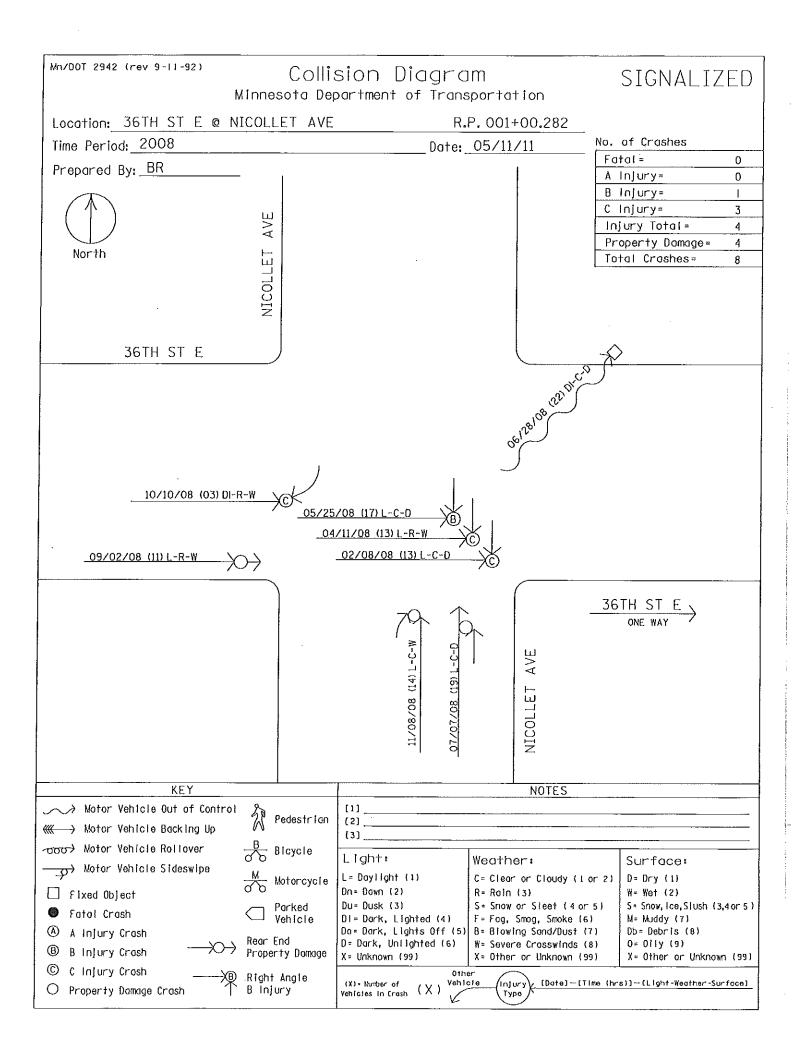


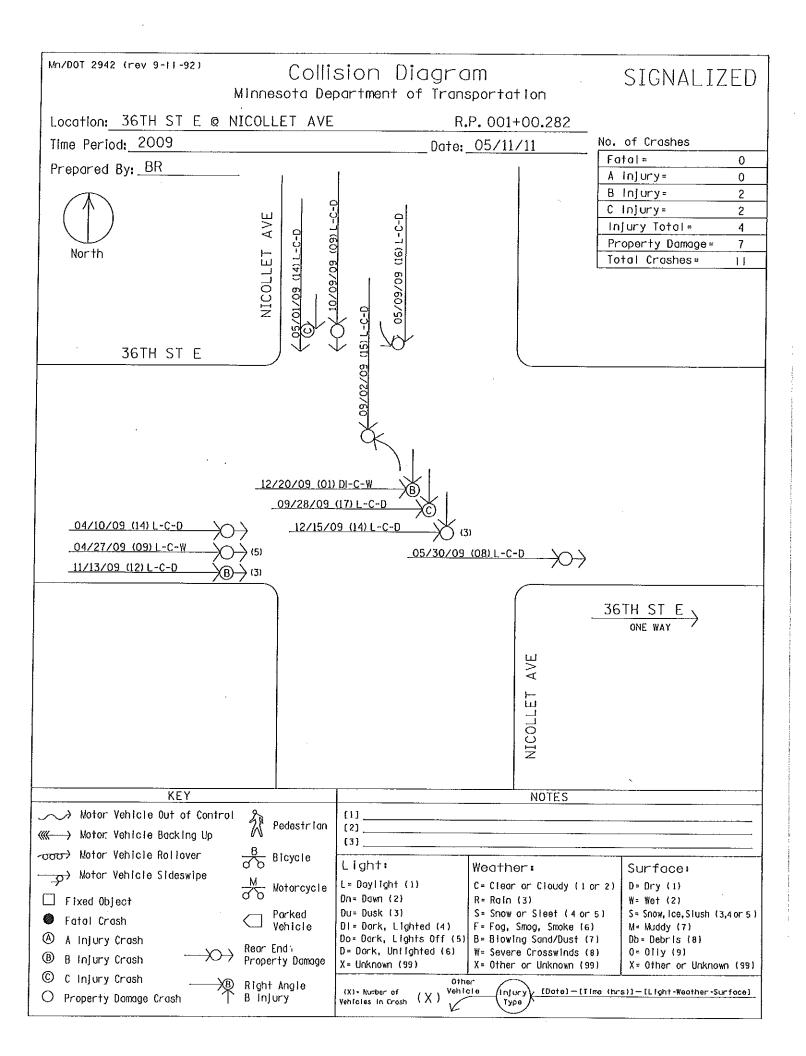


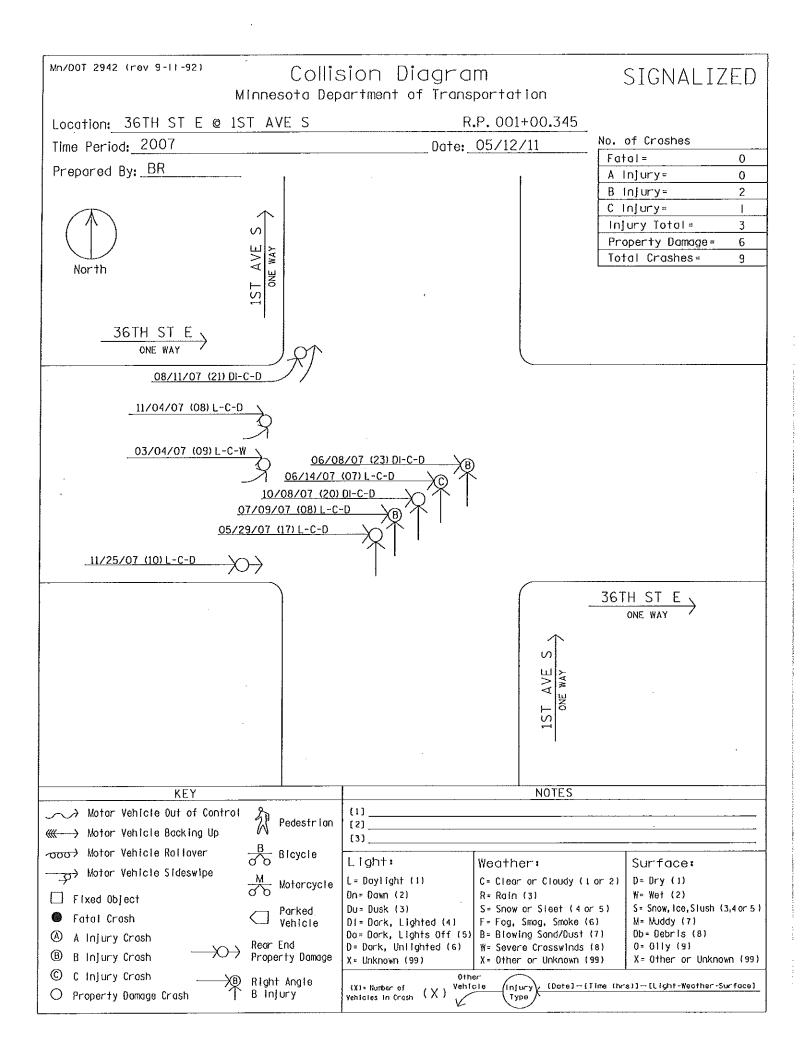


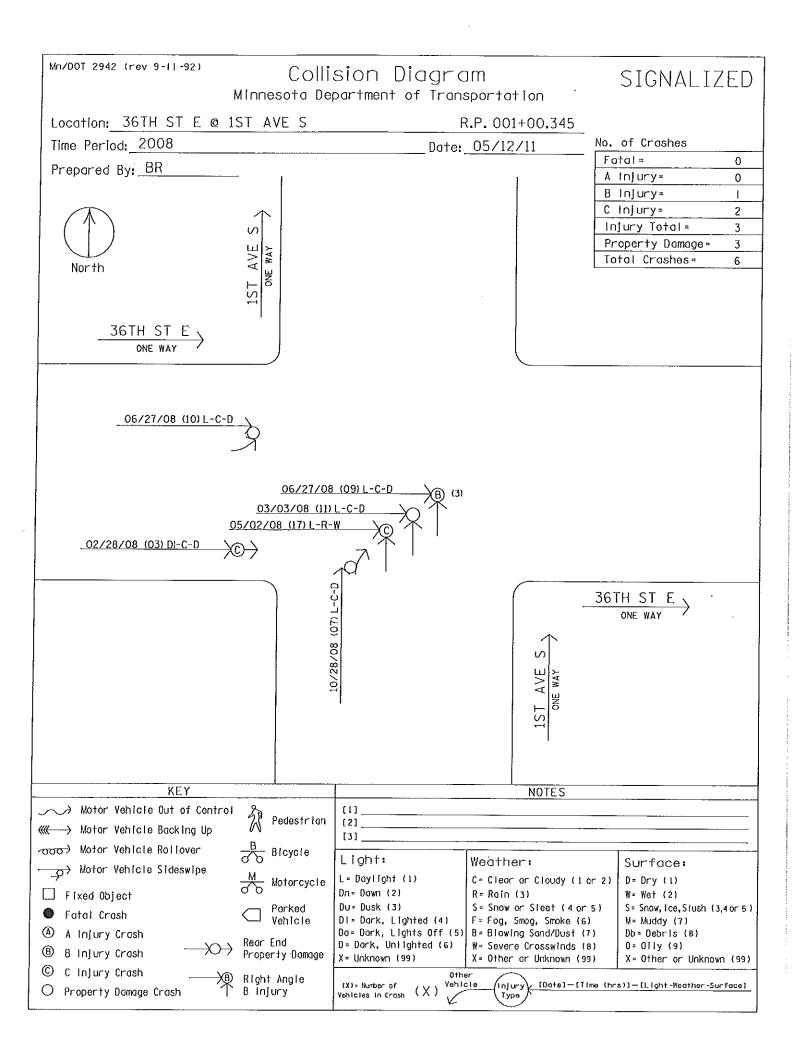


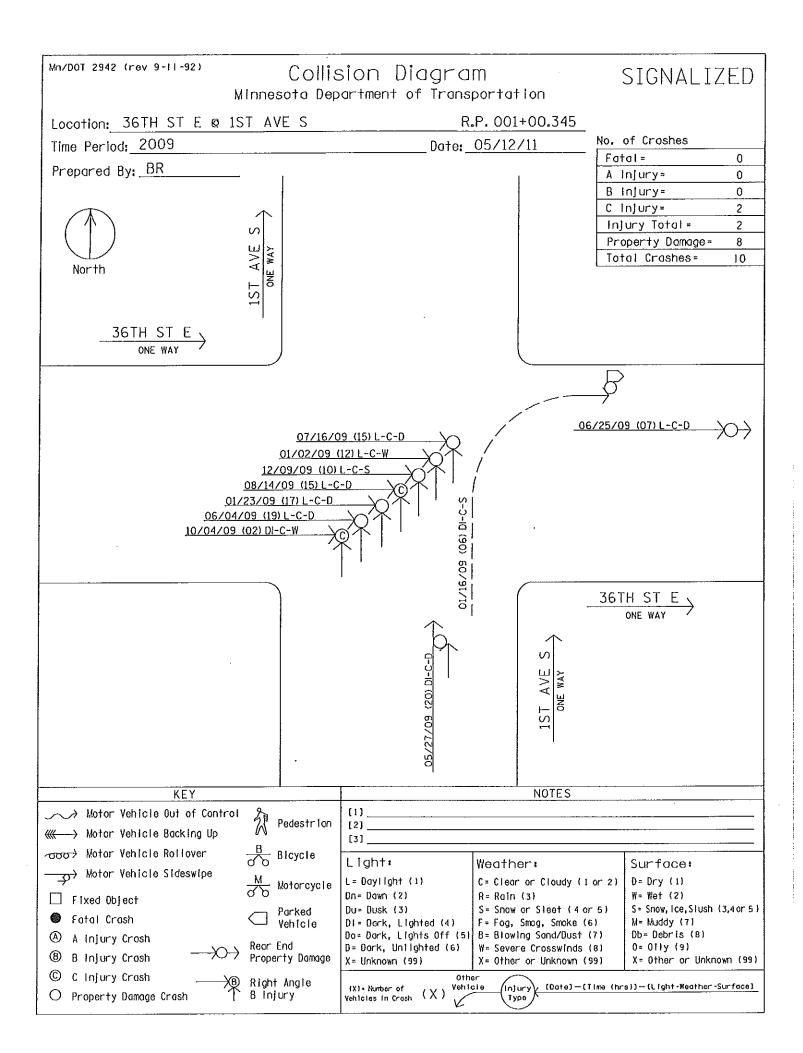


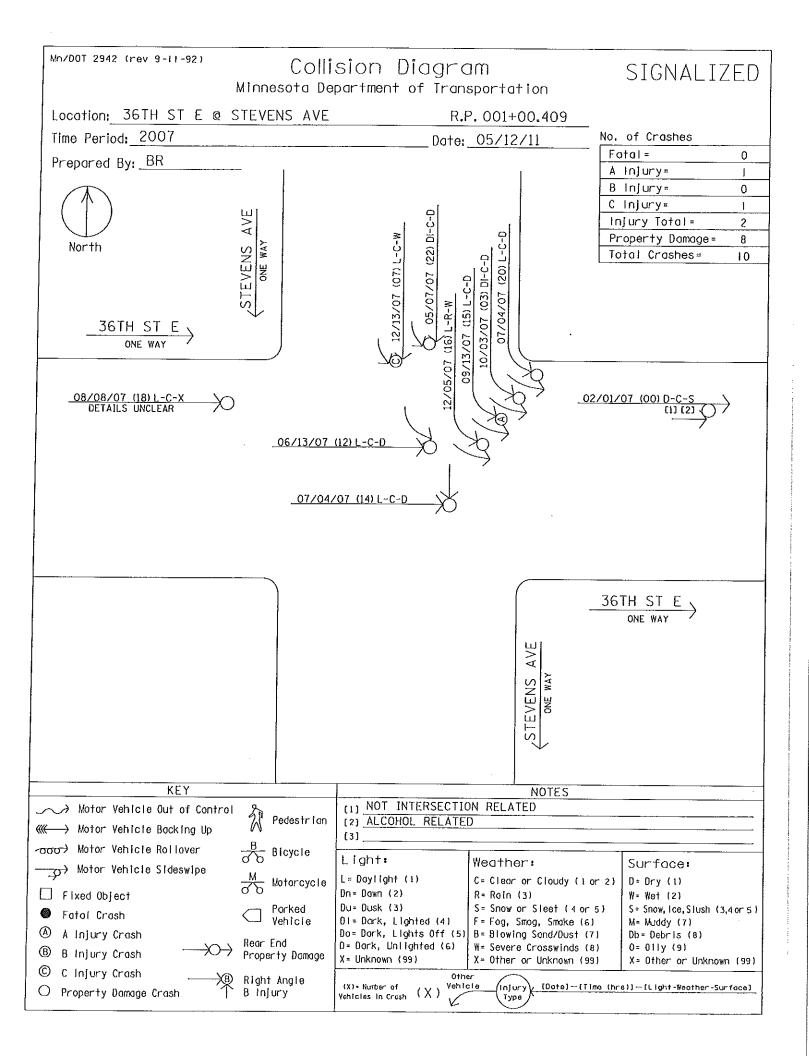


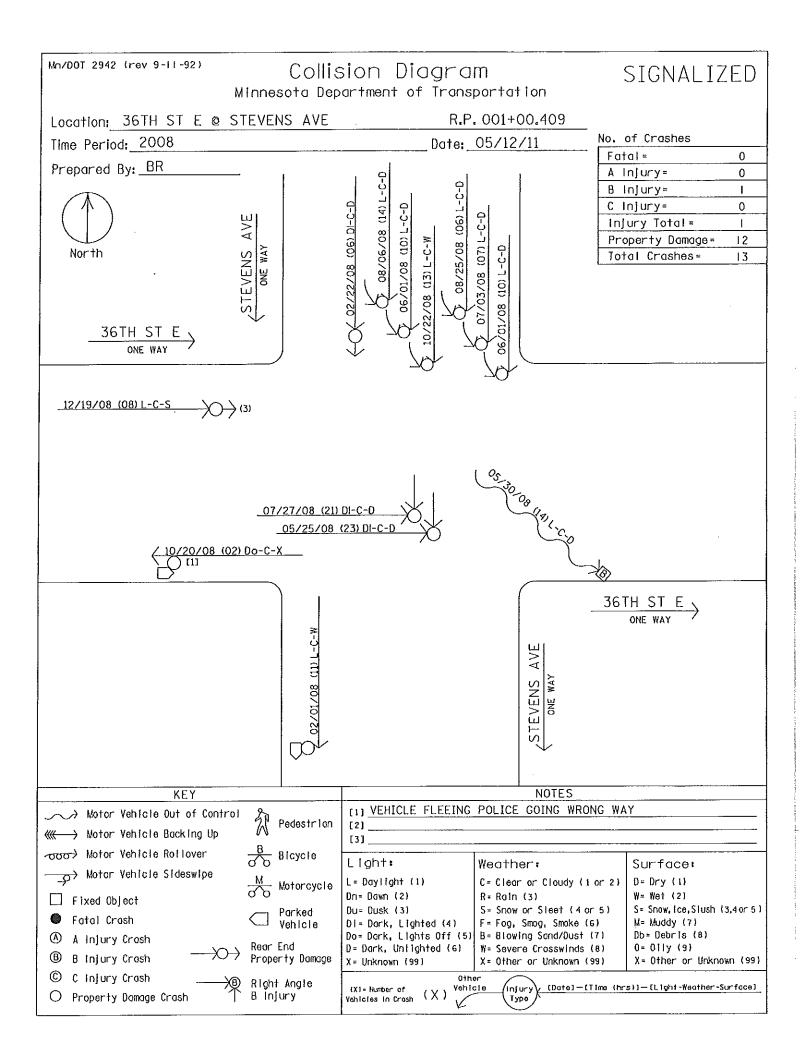


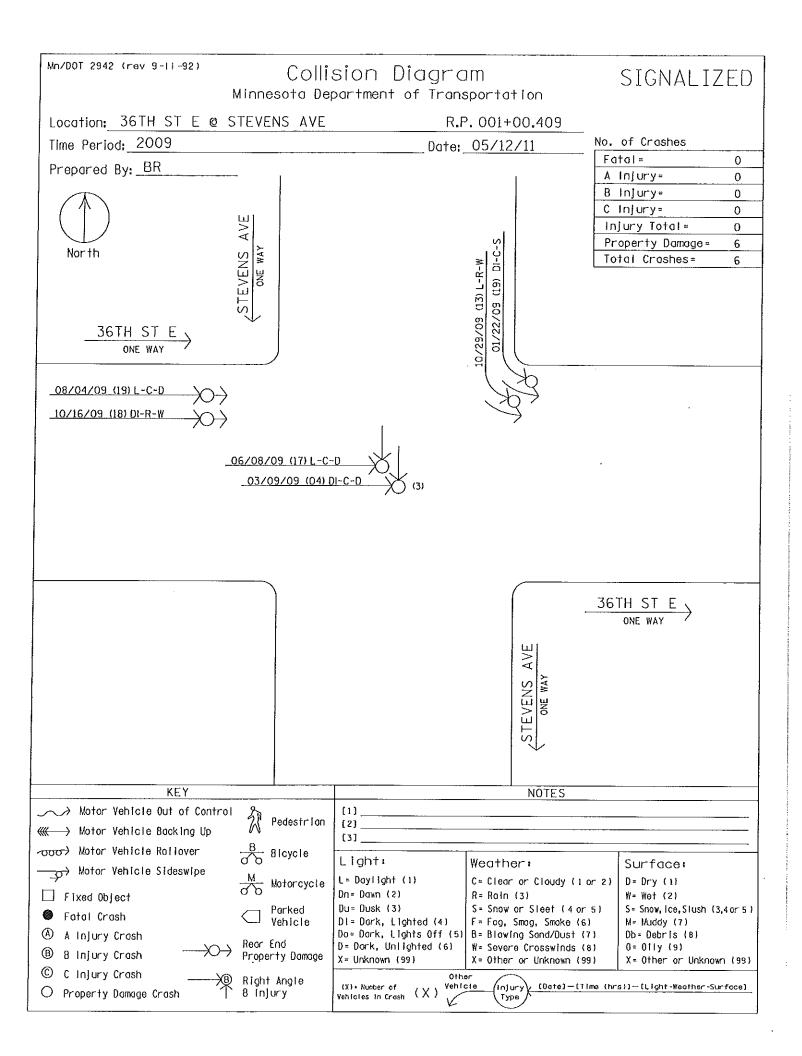


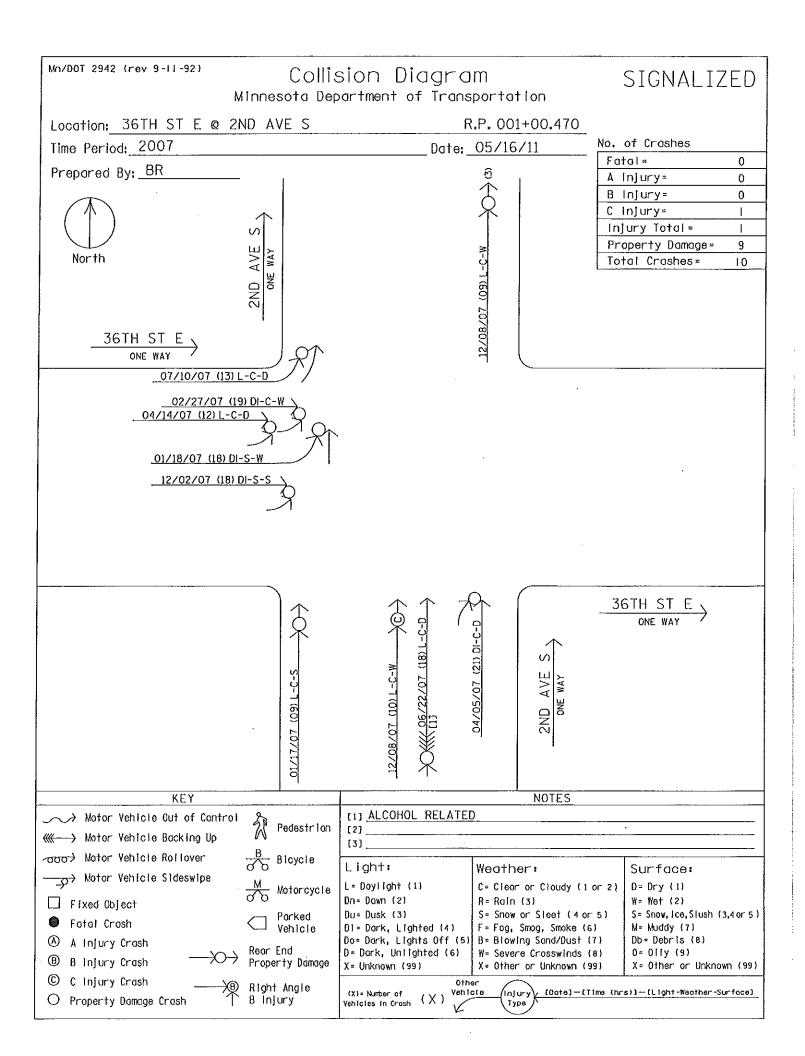


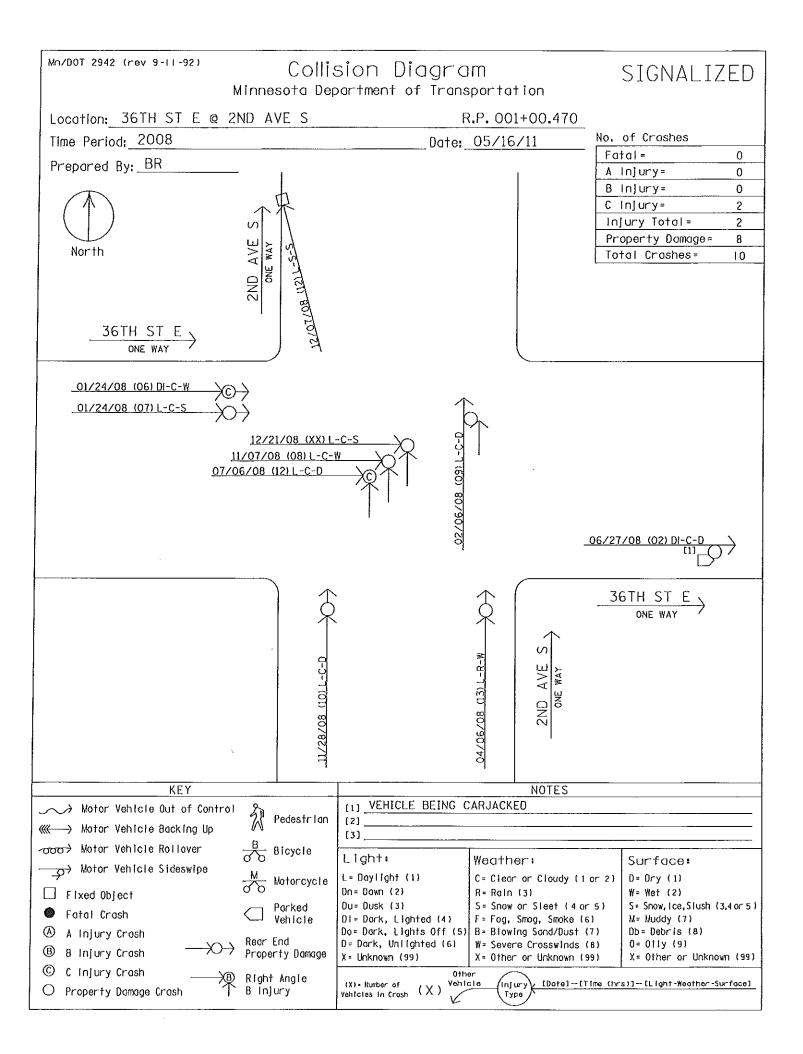


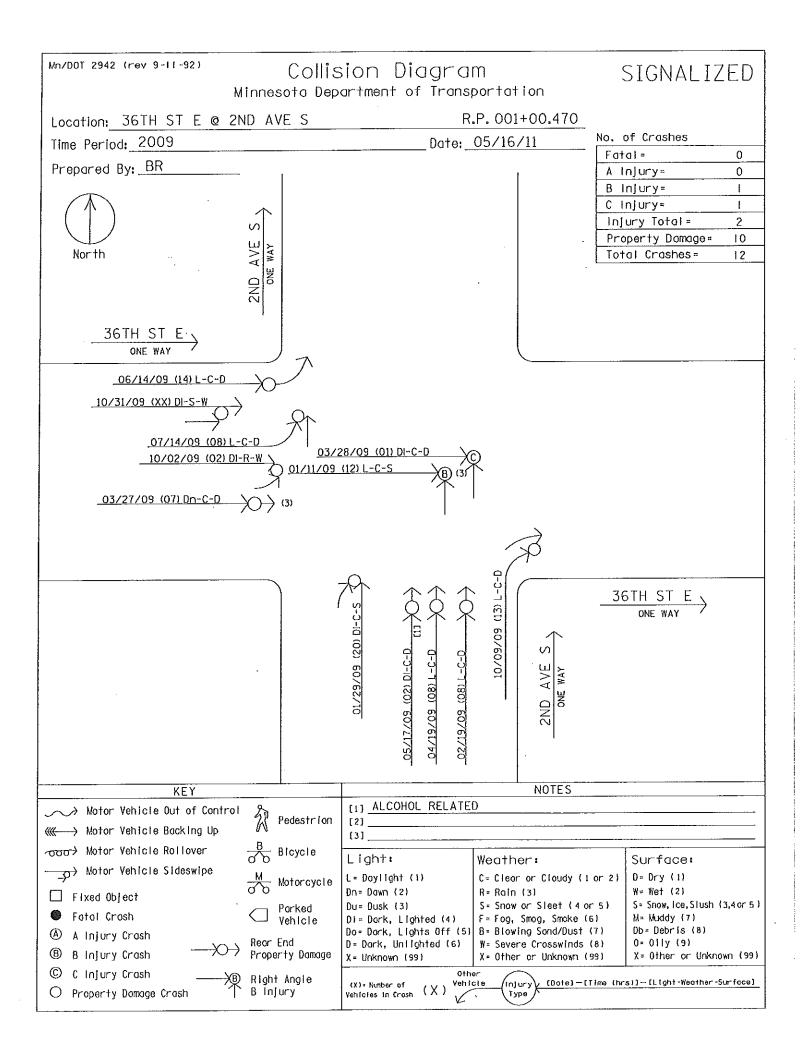


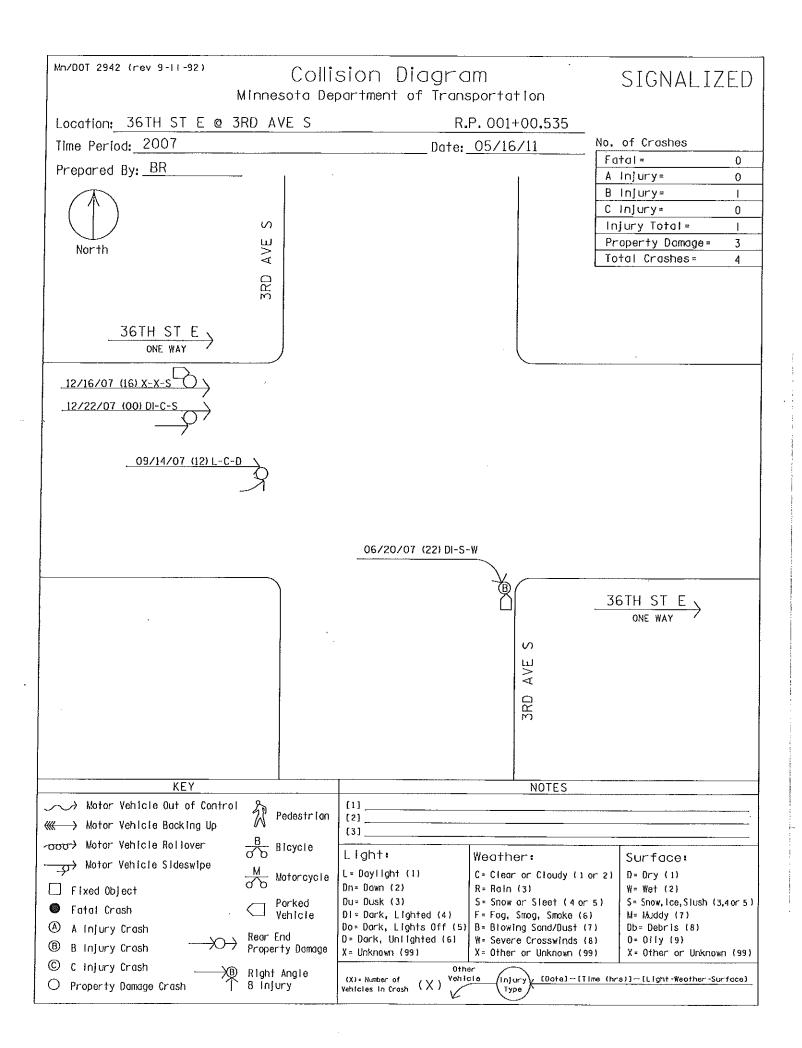


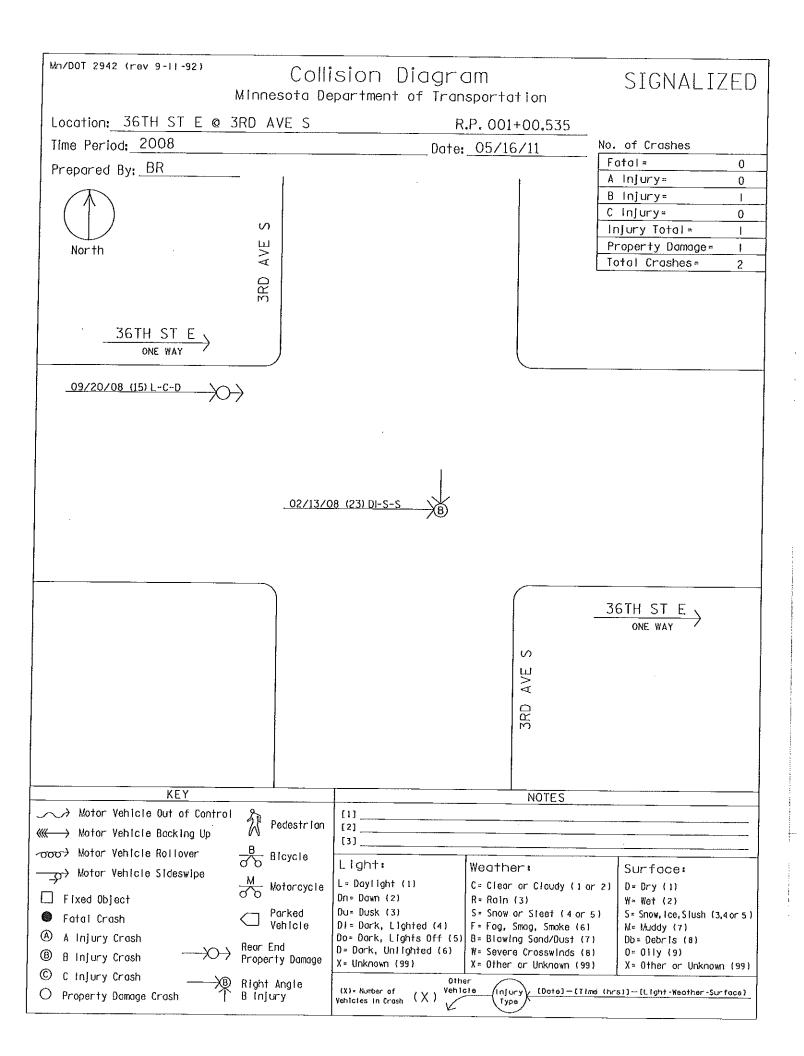


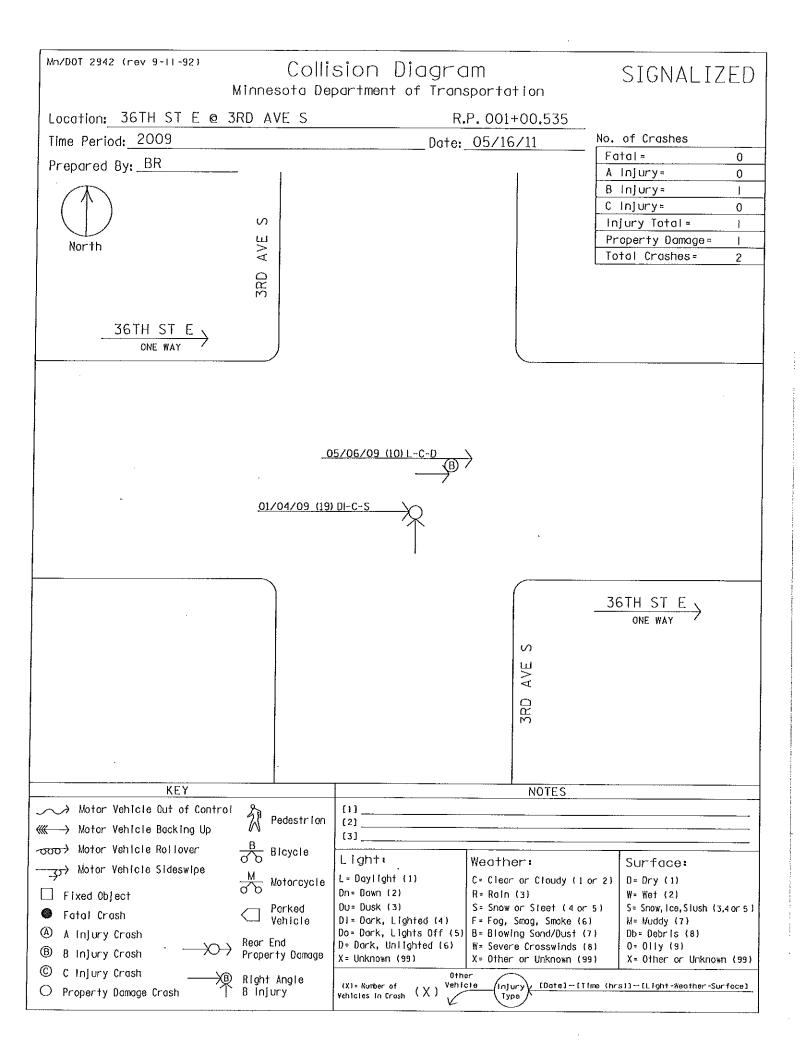


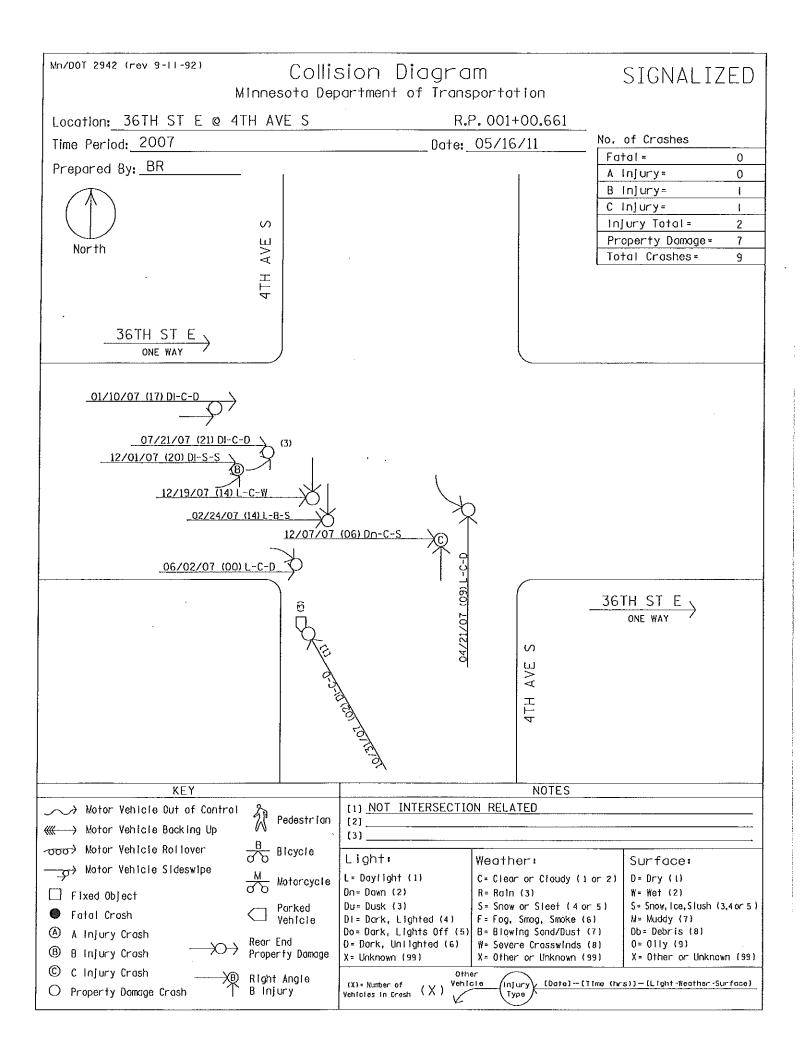


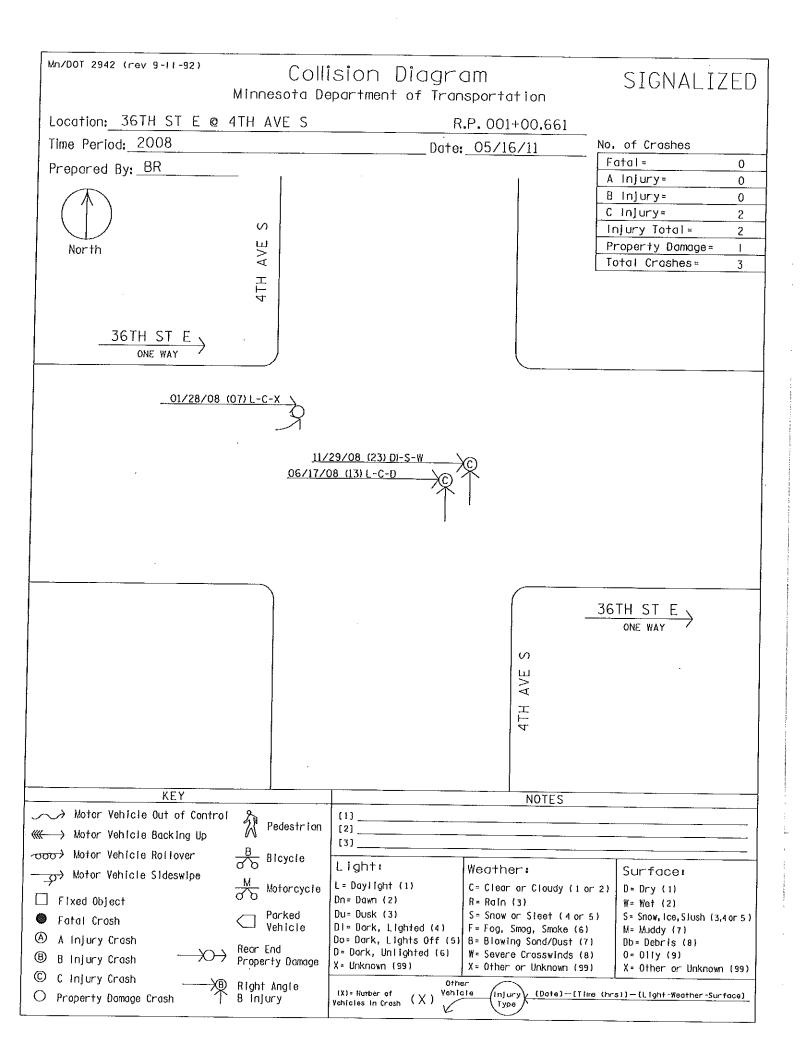












M∩/DOT 2942 (rev 9-11-92) M1	Collision Diagram Minnesota Department of Transportation			SIGNALIZED	
Location: 36TH ST E @ 4TH AVE S R.P. 001+00.661					
Time Period: 2009				. of Crashes	
		D016:	F	atol≖ O	
Prepared By: <u>BR</u>	1			Injury= 0	
				3 Injury= I Cinjury= 0	
	s			njury Total= I	
North	A <e< td=""><td></td><td>I</td><td>Property Damage= 2 otal Crashes= 3</td></e<>		I	Property Damage= 2 otal Crashes= 3	
	4 T H				
36TH ST E					
ONE WAY 7					
$08/06/09 (21) DI-C-D \qquad B \rightarrow (3)$					
<u> 10/10/09 (1))</u>	΄ Ι-C-D \				
			↑ 7		
				ONE WAY	
			C 28		
			AVE AVE		
			077009 111 4TH AVE		
			∛		
			*		
		NOTES			
→ Motor Vehicle Out of Control	Pedestrian	[1] PARKING RELATED)		
₩otor Vehicle Backing Up		[3]			
Notor Vehicle Rollover	Bicycle	Light:	Weather:	Surfoce:	
	M Motorcycle	L= Daylight (1)	C= Clear or Cloudy (1 or :		
Fixed Object	∠ Parked	Dn≃ Đavn (2) Du= Dusk (3)	R= Rain (3) S= Snow or Sleet (4 or 5)		
Fatol Crash	Vehicle	DI= Dork, Lighted (4) Do= Dork, Lights Off (5)	F= Fog, Smog, Smoke (6) B= Blowing Sond/Dust (7)	M= Muddy (7) Db≖ Debris (8)	
 A Injury Crash B Injury Crash 	Rear End Property Damage	D= Dork, Unlighted (6) X= Unknown (99)	W= Severe Crosswinds (8) X= Other or Unknown (99)	0= 011y (9) X= 0ther or Unknown (99)	
© C Injury Crash	Right Angle	0th	er		
O Property Damage Crosh	B Injury	(X)= Number of (X) Vehicle (injury) (Date)-[Time (hrs]]-[Light-Weather-Surface] Vehicles in Crash (X)			

