



Appendix C. Detailed Study Intersection Crash Evaluation



Figure descriptions for the images in this appendix have been provided as alternative text usable by accessibility software. If needed, additional figure interpretation for this appendix is available from the ODOT Senior Environmental Project Manager at (503) 731-4804.

The following provides a summary of crash conditions at each of the study intersections.

N Benton Avenue/N Broadway

There are medians on the east and west legs of the road, separating the vehicles traveling the opposite direction. At this location, there were two bike-related crashes and one pedestrian crash. Table C-1 presents crash trends by severity, year, time of day, collision type, and mode. In summary at this intersection:

- **Total Crashes:** 17
- **Fatal/Serious Injury Crashes:** 0
- **Crash Rate (crashes/million entering vehicles [mev]):** 1.49
- **Annual Average Daily Traffic (AADT):** 12,475 vehicles per day

Table C-1: N Benton/N Broadway Existing Condition Summary

Severity	
Fatal	0
Injury type A	0
Injury type B	3
Injury type C	7
Property Damage Only	7
Total	17
Year	
2011	3
2012	6
2013	2
2014	3
2015	3
Total	17
Time	
AM off peak	0
AM peak (7-9AM)	1
Mid day off peak	5
PM peak (4-6PM)	7
PM off peak	4
Unknown	0
Total	17
Collision Type	
Angle	6
Rear -end	6
Sideswipe-overtaking	1
Turning Movement	2
Parking Maneuver	0
Fixed-Object or Other-Object	1
Pedestrian	1
Backing	0
Total	17
Bike Related Crash	
Bicycle	2



N Larrabee Avenue/N Broadway

This is the first intersection east of the Broadway Bridge. There are medians on the east and west legs of the road, separating the vehicles traveling in opposing directions. At this location, there were four bicycle related crashes. Table C-2 presents crash trends by severity, year, time of day, collision type, and mode. In summary at this intersection:

- **Total Crashes:** 19
- **Fatal/Serious Injury Crashes:** There were three injury Type A crashes.
- **Crash Rate (crashes/mev):** 0.79
- **AADT:** 26,400 vehicles per day

Table C-2: N Larrabee/N Broadway Existing Condition Summary
















Severity	
Fatal	0
Injury type A	3
Injury type B	4
Injury type C	6
Property Damage Only	6
Total	19
Year	
2011	3
2012	6
2013	0
2014	4
2015	6
Total	19
Time	
AM off peak	2
AM peak (7-9AM)	1
Mid day off peak	7
PM peak (4-6PM)	5
PM off peak	4
Unknown	0
Total	19
Collision Type	
Angle	3
Rear -end	10
Sideswipe-overtaking	2
Turning Movement	2
Parking Maneuver	0
Fixed-Object or Other-Object	2
Pedestrian	0
Backing	0
Total	19
Bike Related Crash	
Bicycle	4

N Vancouver Avenue/N Broadway

N Vancouver/N Broadway is a five-legged intersection. The northwest leg of this intersection is the off-ramp from southbound I-5. In addition, there is a bus-only lane southbound on Vancouver. Table C-3 presents crash trends by severity, year, time of day, collision type, and mode. In summary at this intersection:

- **Total Crashes:** 19
- **Fatal/Serious Injury Crashes:** 0
- **Crash Rate (crashes/mev):** 1.35
- **AADT:** 15,400 vehicles per day

Table C-3: N Vancouver/N Broadway Existing Condition Summary

Severity		
Fatal		0
Injury type A		0
Injury type B		0
Injury type C		5
Property Damage Only		14
Total		19
Year		
2011		5
2012		6
2013		3
2014		5
2015		0
Total		19
Time		
AM off peak		0
AM peak (7-9AM)		0
Mid day off peak		13
PM peak (4-6PM)		0
PM off peak		6
Unknown		0
Total		19
Collision Type		
Angle		0
Rear -end		4
Sideswipe-overtaking		9
Turning Movement		6
Parking Maneuver		0
Fixed-Object or Other-Object		0
Pedestrian		0
Backing		0
Total		19
Bike Related Crash		
Bicycle		0



N Vancouver Avenue/NE Weidler Street

This intersection had the third highest total number of crashes and fourth highest combined final ranking (Table C-4). There was one pedestrian-related crash during the study period. Table C-4 presents crash trends by severity, year, time of day, collision type, and mode. In summary at this intersection:

- **Total Crashes:** 32
- **Fatal/Serious Injury Crashes:** There was one injury type A crash.
- **Crash Rate (crashes/mev):** 1.45
- **AADT:** 24,250 vehicles per day

Table C-4: N Vancouver/N Weidler Existing Condition Summary

Severity		
Fatal		0
Injury type A		1
Injury type B		2
Injury type C		5
Property Damage Only		24
Total		32
Year		
2011		5
2012		5
2013		5
2014		9
2015		8
Total		32
Time		
AM off peak		4
AM peak (7-9AM)		1
Mid day off peak		17
PM peak (4-6PM)		5
PM off peak		5
Unknown		0
Total		32
Collision Type		
Angle		9
Rear -end		6
Sideswipe-overtaking		1
Turning Movement		15
Parking Maneuver		0
Fixed-Object or Other-Object		0
Pedestrian		1
Backing		0
Total		32
Bike Related Crash		
Bicycle		0

N Williams Avenue/N Broadway

This intersection connects to the Broadway northbound I-5 on-ramp. There was one bicycle-related crash at this intersection during the study period. Table C-5 presents crash trends by severity, year, time of day, collision type, and mode. In summary at this intersection:

- **Total Crashes:** 30
- **Fatal/Serious Injury Crashes:** 0
- **Crash Rate (crashes/mev):** 1.37
- **AADT:** 24,050 vehicles per day

Table C-5: N Williams/N Broadway Existing Condition Summary

Severity	
Fatal	0
Injury type A	0
Injury type B	1
Injury type C	8
Property Damage Only	21
Total	30
Year	
2011	5
2012	10
2013	2
2014	2
2015	11
Total	30
Time	
AM off peak	3
AM peak (7-9AM)	1
Mid day off peak	13
PM peak (4-6PM)	7
PM off peak	6
Unknown	0
Total	30
Collision Type	
Angle	3
Rear -end	6
Sideswipe-overtaking	4
Turning Movement	17
Parking Maneuver	0
Fixed-Object or Other-Object	0
Pedestrian	0
Backing	0
Total	30
Bike Related Crash	
Bicycle	1



N Williams Avenue/NE Weidler Street

This intersection had third highest number of crashes. Table C-6 presents crash trends by severity, year, time of day, collision type, and mode. In summary at this intersection:

- **Total Crashes:** 34
- **Fatal/Serious Injury Crashes:** 0
- **Crash Rate (crashes/mev):** 2.59
 - This intersection has the highest crash rate out of all the segments, but the crash rate did not exceed the statewide crash rate, 3.07 crashes/mev.
- **AADT:** 24,250 vehicles per day

Table C-6: N Williams/N Weidler Existing Condition Summary

Severity	
Fatal	0
Injury type A	0
Injury type B	1
Injury type C	6
Property Damage Only	27
Total	34
Year	
2011	5
2012	4
2013	9
2014	5
2015	11
Total	34
Time	
AM off peak	4
AM peak (7-9AM)	2
Mid day off peak	18
PM peak (4-6PM)	3
PM off peak	7
Unknown	0
Total	34
Collision Type	
Angle	6
Rear -end	4
Sideswipe-overtaking	6
Turning Movement	18
Parking Maneuver	0
Fixed-Object or Other-Object	0
Pedestrian	0
Backing	0
Total	34
Bike Related Crash	
Bicycle	0

N Williams Avenue/N Hancock Street

This intersection is a relatively lower volume, stop-controlled intersection. Of the two crashes that occurred at this intersection over the 5 years, one was a bike-related crash. Table C-7 presents crash trends by severity, year, time of day, collision type, and mode. In summary at this intersection:

- **Total Crashes: 2**
- **Fatal/Serious Injury Crashes: 0**
- **Crash Rate (crashes/mev): 0.39**
- **AADT: 5,575 vehicles per day**

Table C-7: N Williams/N Hancock Existing Condition Summary

Severity	
Fatal	0
Injury type A	0
Injury type B	0
Injury type C	0
Property Damage Only	2
Total	2
Year	
2011	0
2012	0
2013	2
2014	0
2015	0
Total	2
Time	
AM off peak	0
AM peak (7-9AM)	0
Mid day off peak	0
PM peak (4-6PM)	2
PM off peak	0
Unknown	0
Total	2
Collision Type	
Angle	2
Rear -end	0
Sideswipe-overtaking	0
Turning Movement	0
Parking Maneuver	0
Fixed-Object or Other-Object	0
Pedestrian	0
Backing	0
Total	2
Bike Related Crash	
Bicycle	0



N Flint Avenue/N Hancock Street (Existing Only)

N Flint/N Hancock is a three-legged, stop-controlled intersection. There was one crash during the study period at this intersection, which included a bicycle. Table C-8 presents the crash summary.

- **Total Crashes:** 1
- **Fatal/Serious Injury Crashes:** 0
- **Crash Rate (crashes/mev):** 0.35
- **AADT:** 3,150 vehicles per day

Table C-8: N Hancock/N Flint Existing Condition Summary




















Severity	
Fatal	0
Injury type A	0
Injury type B	1
Injury type C	0
Property Damage Only	0
Total	1
Year	
2011	0
2012	1
2013	0
2014	0
2015	0
Total	1
Time	
AM off peak	0
AM peak (7-9AM)	0
Mid day off peak	1
PM peak (4-6PM)	0
PM off peak	0
Unknown	0
Total	1
Collision Type	
Angle	0
Rear -end	0
Sideswipe-overtaking	0
Turning Movement	1
Parking Maneuver	0
Fixed-Object or Other-Object	0
Pedestrian	0
Backing	0
Total	1
Bike Related Crash	
Bicycle	1

NE 2nd Avenue/NE Broadway

Of the 12 crashes that occurred at the intersection of NE 2nd Avenue/NE Broadway, two involved bicyclists. Table C-9 presents the crash summary:

- **Total Crashes:** 12
- **Fatal/Serious Injury Crashes:** 0
- **Crash Rate (crashes/mev):** 0.76
- **AADT:** 17,350 vehicles per day

Table C-9: NE 2nd/NE Broadway Existing Condition Summary

Severity		
Fatal		0
Injury type A		0
Injury type B		0
Injury type C		5
Property Damage Only		7
Total		12
Year		
2011		4
2012		2
2013		2
2014		1
2015		3
Total		12
Time		
AM off peak		0
AM peak (7-9AM)		0
Mid day off peak		8
PM peak (4-6PM)		0
PM off peak		3
Unknown		1
Total		12
Collision Type		
Angle		2
Rear -end		0
Sideswipe-overtaking		1
Turning Movement		8
Parking Maneuver		1
Fixed-Object or Other-Object		0
Pedestrian		0
Backing		0
Total		12
Bike Related Crash		
Bicycle		2



NE 2nd Avenue/NE Weidler Street

Table C-10 presents crash trends by severity, year, time of day, collision type, and mode for the intersection of NE 2nd Avenue/NE Weidler Street. In summary at this intersection:

- **Total Crashes:** 22
- **Fatal/Serious Injury Crashes:** 0
- **Crash Rate (crashes/mev):** 1.31
- **AADT:** 18,425 vehicles per day

Table C-10: NE 2nd/NE Weidler Existing Condition Summary
























Severity	
Fatal	0
Injury type A	0
Injury type B	3
Injury type C	7
Property Damage Only	12
Total	22
Year	
2011	7
2012	3
2013	4
2014	3
2015	5
Total	22
Time	
AM off peak	2
AM peak (7-9AM)	1
Mid day off peak	12
PM peak (4-6PM)	3
PM off peak	3
Unknown	1
Total	22
Collision Type	
Angle	5
Rear -end	2
Sideswipe-overtaking	5
Turning Movement	10
Parking Maneuver	0
Fixed-Object or Other-Object	0
Pedestrian	0
Backing	0
Total	22
Bike Related Crash	
Bicycle	0

NE Victoria Avenue/NE Broadway

The intersection of NE Victoria/NE Broadway had the highest number of crashes in the study period. Of the 43 crashes in the study period, 7 were bicycle related. Table C-11 presents crash trends by severity, year, time of day, collision type, and mode. In summary at this intersection:

- **Total Crashes:** 43
- **Fatal/Serious Injury Crashes:** 0
- **Crash Rate (crashes/mev):** 2.17
- **AADT:** 21,675 vehicles per day

Table C-11: NE Victoria/NE Broadway Existing Condition Summary

Severity		
Fatal		0
Injury type A		0
Injury type B		6
Injury type C		8
Property Damage Only		29
Total		43
Year		
2011		10
2012		7
2013		8
2014		10
2015		8
Total		43
Time		
AM off peak		4
AM peak (7-9AM)		5
Mid day off peak		24
PM peak (4-6PM)		1
PM off peak		9
Unknown		0
Total		43
Collision Type		
Angle		8
Rear -end		11
Sideswipe-overtaking		3
Turning Movement		20
Parking Maneuver		0
Fixed-Object or Other-Object		0
Pedestrian		0
Backing		1
Total		43
Bike Related Crash		
Bicycle		7



NE Victoria Avenue/NE Weidler Street

This intersection had the second highest number of crashes within the API over the 5-year study period. Of the 35 crashes that occurred, one was bicycle related. Table C-12 presents crash trends by severity, year, time of day, collision type, and mode. In summary at this intersection:

- **Total Crashes:** 35
- **Fatal/Serious Injury Crashes:** 0
- **Crash Rate (crashes/mev):** 1.68
- **AADT:** 22,800 vehicles per day

Table C-12: NE Victoria/NE Weidler Existing Condition Summary

Severity		
Fatal		0
Injury type A		0
Injury type B		0
Injury type C		7
Property Damage Only		28
Total		35
Year		
2011		4
2012		9
2013		10
2014		10
2015		2
Total		35
Time		
AM off peak		2
AM peak (7-9AM)		1
Mid day off peak		19
PM peak (4-6PM)		5
PM off peak		7
Unknown		1
Total		35
Collision Type		
Angle		15
Rear -end		2
Sideswipe-overtaking		3
Turning Movement		15
Parking Maneuver		0
Fixed-Object or Other-Object		0
Pedestrian		0
Backing		0
Total		35
Bike Related Crash		
Bicycle		1

N Wheeler Avenue/N Ramsay Way

Table C-13 presents crash trends by severity, year, time of day, collision type, and mode. In summary on this intersection:

- **Total Crashes: 2**
- **Fatal/Serious Injury Crashes: 0**
- **Crash Rate (crashes/mev): 0.17**
- **AADT: 12,575 vehicles per day**

Table C-13: N Wheeler Ave/N Ramsay Way Street Existing Condition Summary

Severity	
Fatal	0
Injury type A	0
Injury type B	0
Injury type C	1
Property Damage Only	1
Total	2
Year	
2011	0
2012	0
2013	0
2014	2
2015	0
Total	2
Time	
AM off peak	0
AM peak (7-9AM)	0
Mid day off peak	0
PM peak (4-6PM)	1
PM off peak	1
Unknown	0
Total	2
Collision Type	
Angle	0
Rear -end	1
Sideswipe-overtaking	1
Turning Movement	0
Parking Maneuver	0
Fixed-Object or Other-Object	0
Pedestrian	0
Backing	0
Total	2
Bike Related Crash	
Bicycle	0