

# BEFORE/AFTER ANALYSIS

Fletcher Avenue Complete Streets Project



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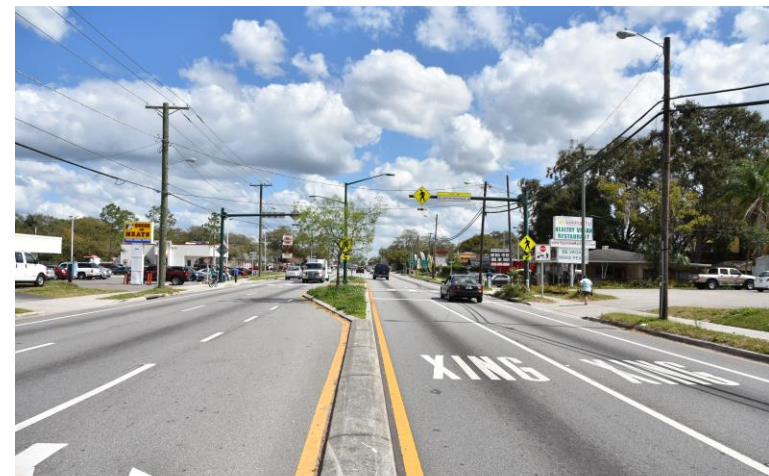
Traffic Volumes, Pedestrian/Bicycle Crossings, Travel Times, and Safety Before/After Analysis  
Fletcher Avenue Complete Streets Project

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# Agenda

- Complete Streets Improvements
- Traffic Volume Data
- Pedestrian & Bicycle Crossing Locations
- Pedestrian & Bicycle Crossing Data
- Travel Time Data
- Crash Analysis
- Before/After Conclusions



# Complete Streets Improvements

- Construction began in 2014; officially opened in February 2015
- Fletcher Avenue Complete Streets Project – From Nebraska Avenue to Bruce B. Downs Boulevard
- Notable changes/improvements:
  - five mid-block pedestrian crossings added with overhead and ground-mounted RRFBs
  - one mid-block pedestrian crossing with a traffic control signal
  - LED lighting added at pedestrian crossings
  - Raised pedestrian refuge islands and raised traffic separators installed
  - Landscaping features incorporated into median
  - Bicycle lanes added to both sides of road
  - Speed limit reduced from 45 mph to 35 mph
  - Media outreach & education of the public
  - High visibility enforcement



# Complete Streets Improvements



Added Bicycle Lanes



Added Raised Traffic Separators

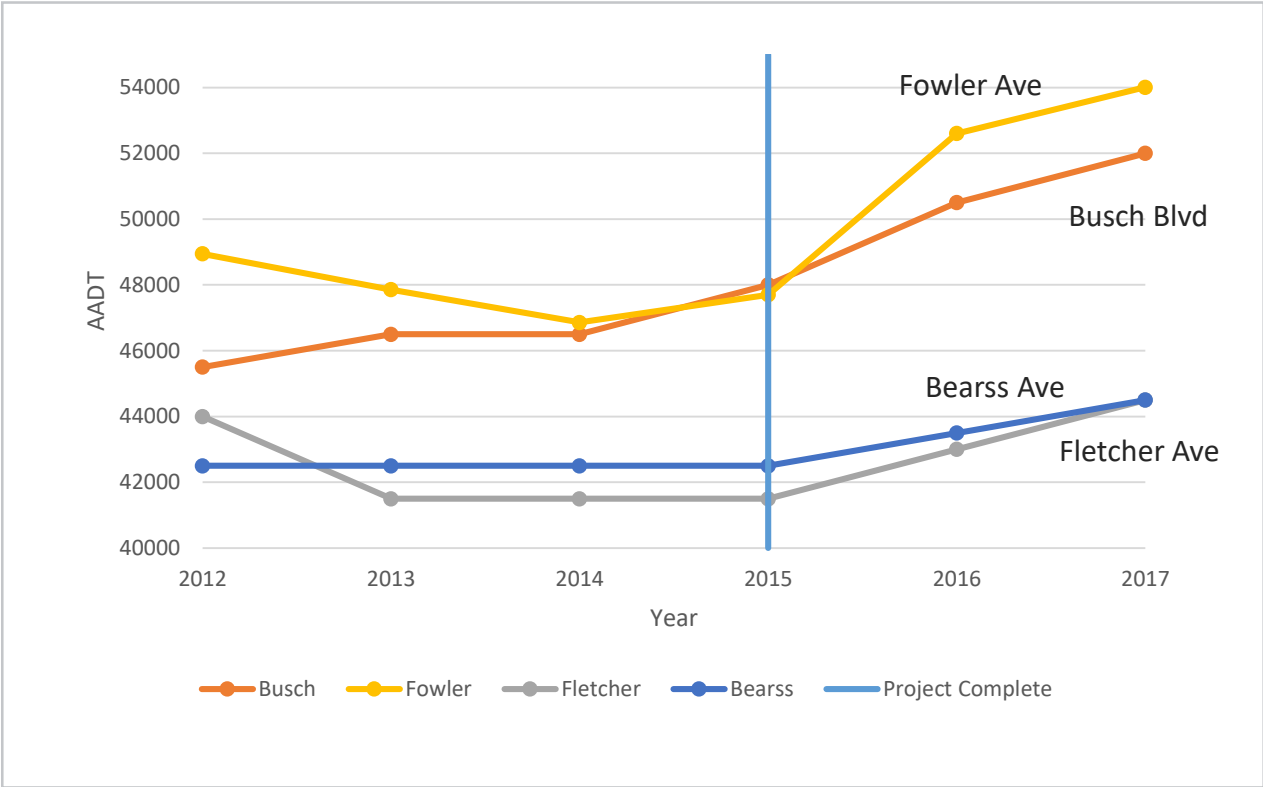


Replaced Two-Way Left Turn Lanes (TWLFL)



Added Ped Refuge Islands & Mid-Block Crosswalks

# Traffic Volume Data

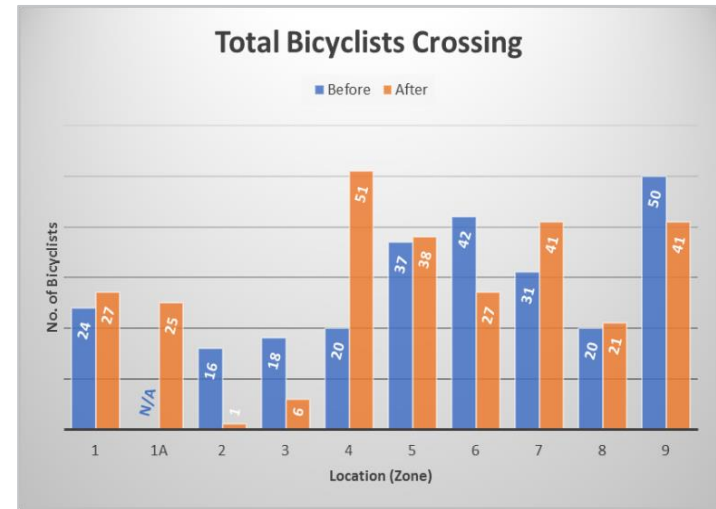
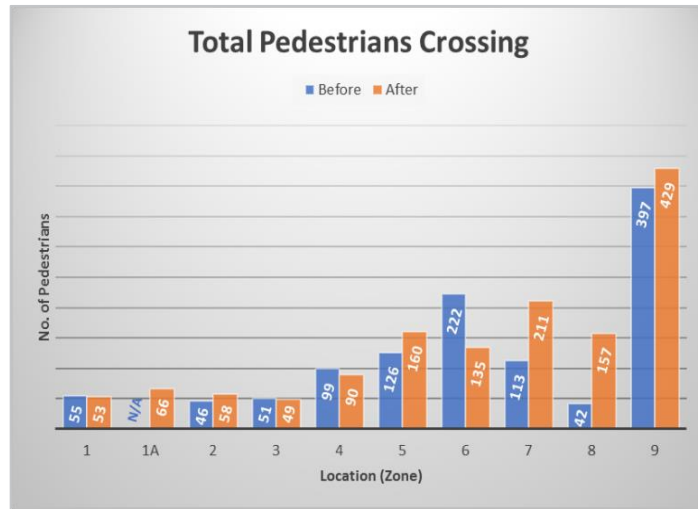


- Portable Traffic Monitoring Site AADT Data:
  - +2% on Fletcher Ave and Bearss Ave
  - +7% on Fowler Ave
  - +9% on Busch Blvd

# Pedestrian & Bicycle Crossing Count Locations



# Pedestrian & Bicycle Crossing Data



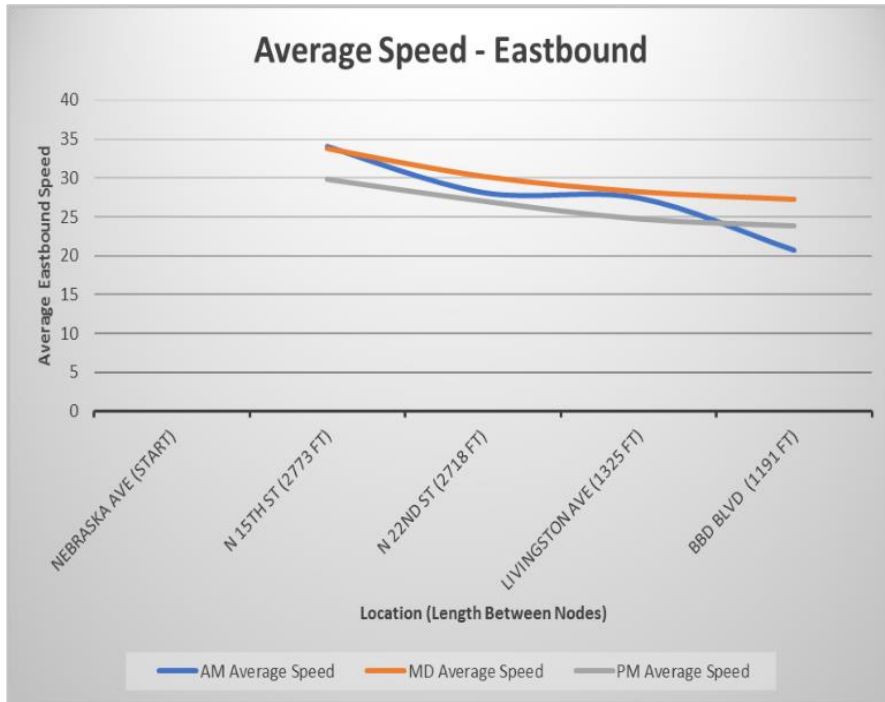
## Compliance per Zone with Controlled Mid-Block Crossings

Study Zone	Traffic Control	People Crossing Within Crosswalk	People Within Crosswalk That Used Pushbutton	Vehicles Yielding For People Within Crosswalk
1A	RRFB	74 (81%)	95%	96%
4	RRFB	123 (87%)	95%	96%
5	RRFB	131 (66%)	92%	96%
7	RRFB	188 (75%)	90%	95%
8	RRFB	137 (77%)	88%	89%
9	Mid-Block Traffic Signal	358 (76%)	87%	83%
<b>Total Average</b>		<b>168.5 (77%)</b>	<b>89.5%</b>	<b>92.5%</b>

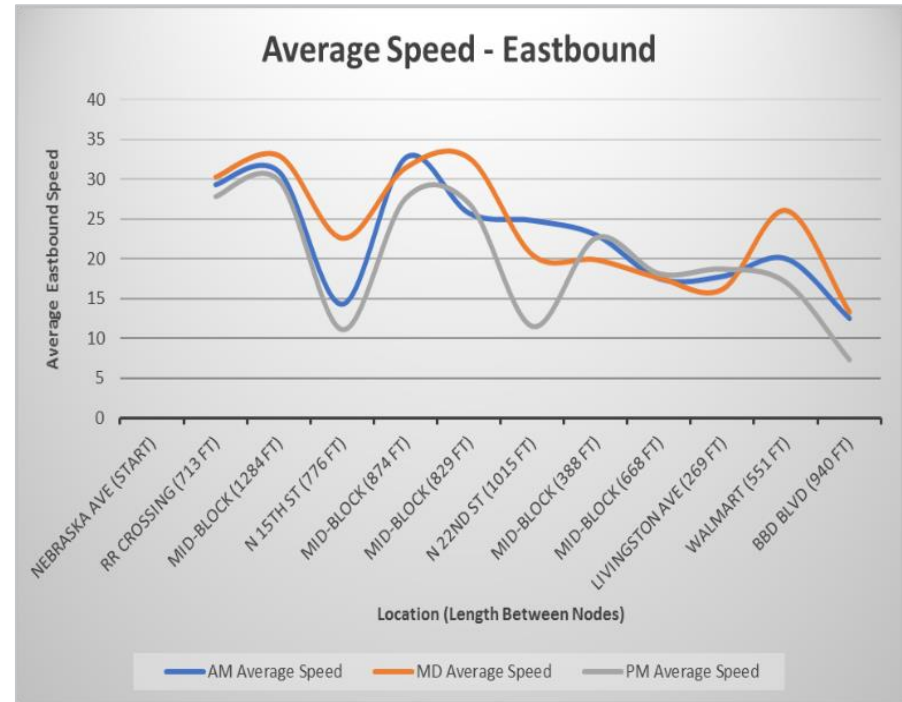


# Travel Time Data

## Before Project Construction

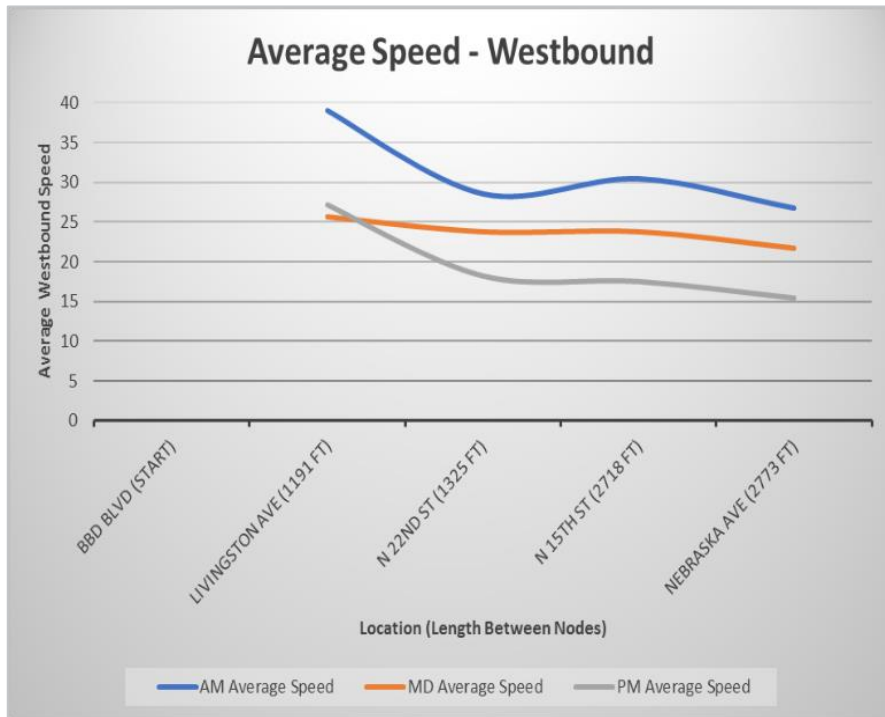


## After Project Construction

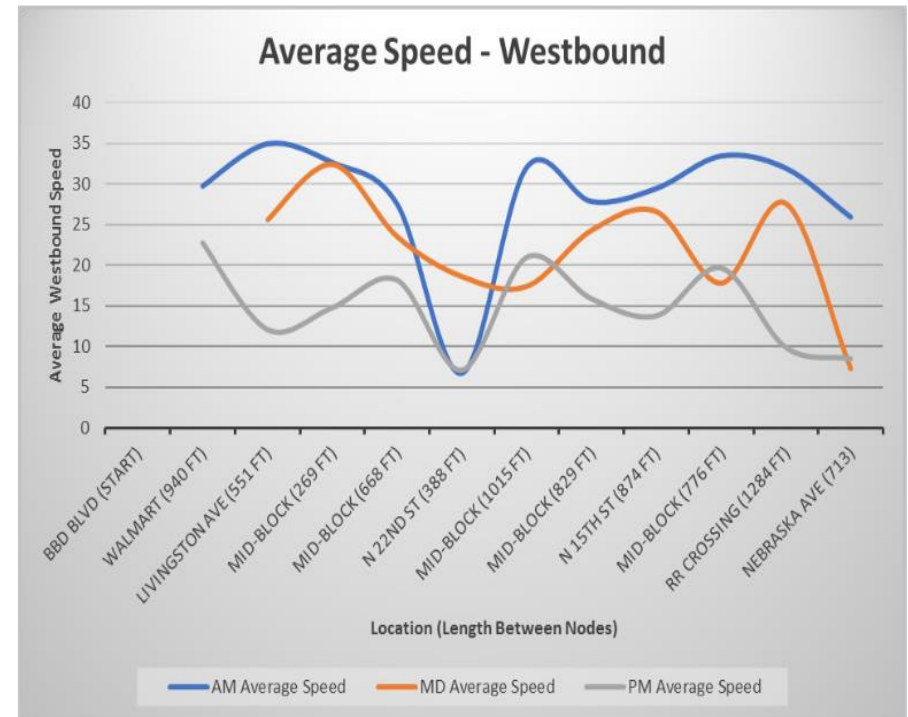


# Travel Time Data

## Before Project Construction



## After Project Construction

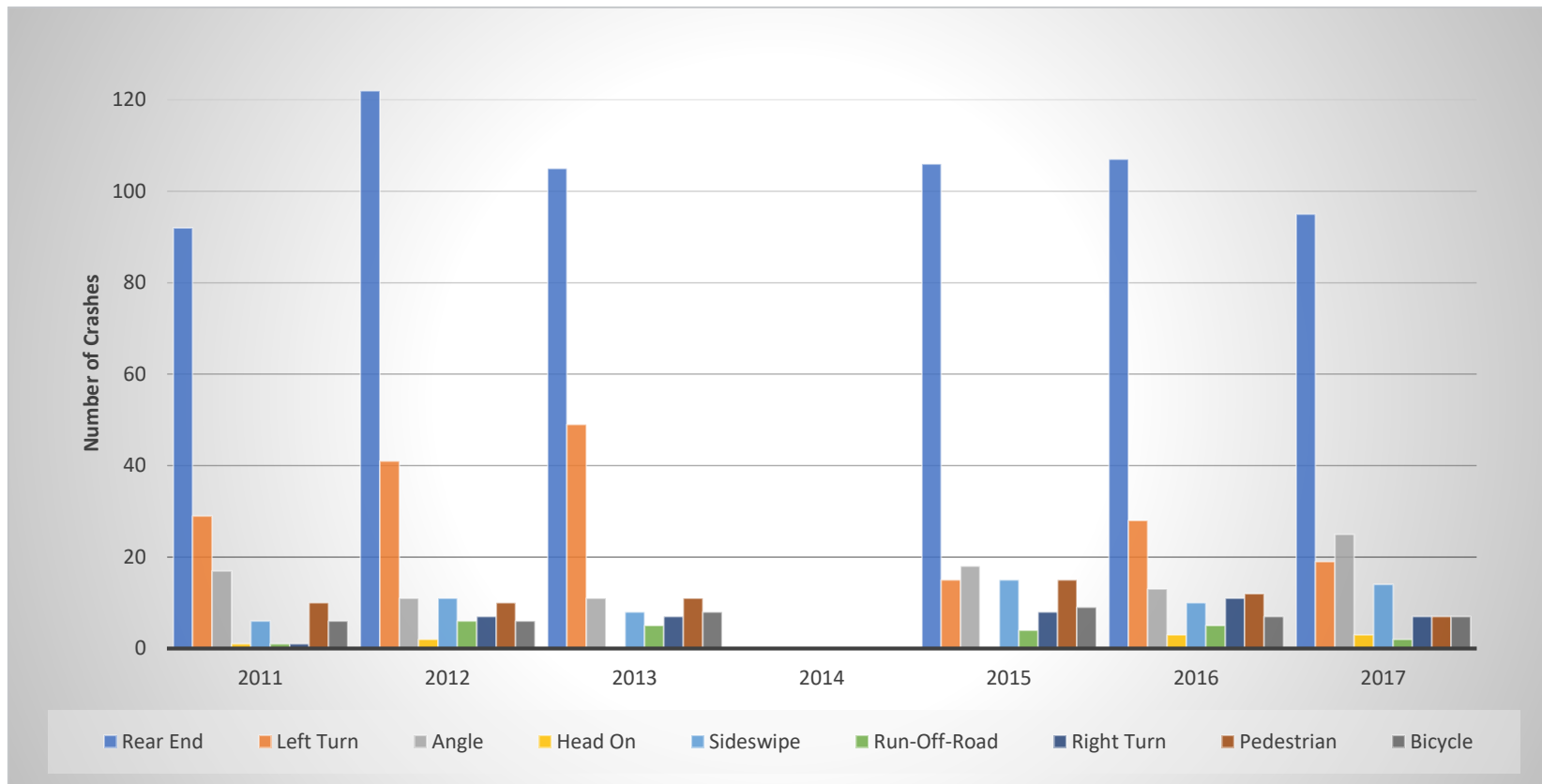


# Travel Time Data

Peak Time	Before (Seconds)			After (Seconds)			Average Difference (Seconds)	Percent Difference (%)
	Eastbound	Westbound	Average	Eastbound	Westbound	Average		
7 AM – 9 AM	289 (4.8 min)	216 (3.6 min)	253	268 (4.5 min)	219 (3.7 min)	244	-9	-4%
11 AM – 1 PM	214 (3.6 min)	268 (4.5 min)	241	240 (4.0 min)	281 (4.7 min)	261	20	8%
4 PM – 6 PM	247 (4.1 min)	399 (6.7 min)	323	334 (5.6 min)	430 (7.2 min)	382	59	18%

- Predominant direction in AM Peak is eastbound
  - EB travel time decreased (-21 sec avg)
  - WB travel time remained about the same (+3 sec avg)
- No predominant direction in Midday Peak
- Predominant direction in PM Peak is westbound
  - EB travel time increased (+87 sec avg)
  - WB travel time increased (+31 sec avg)

# Crash Analysis



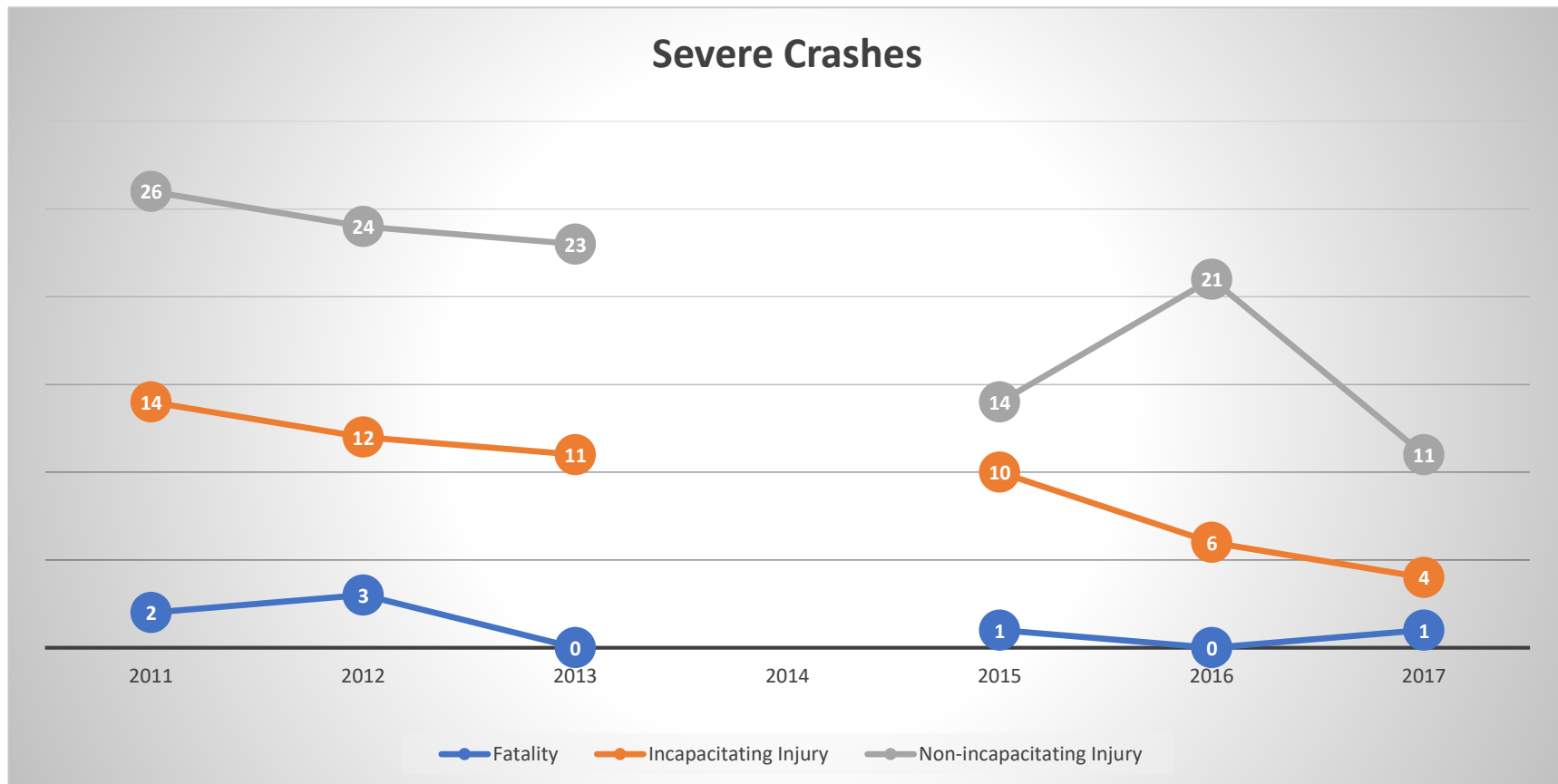
## ➤ Before:

- 632 total crashes
- 319 rear ends
- 119 left turns
- 31 pedestrian crashes
- 20 bicycle crashes
- Avg crash rate = 6.697 crashes/MVM

## ➤ After:

- 602 total crashes (-5%)
- 308 rear ends (-3%)
- 62 left turns (-48%)
- 34 pedestrian crashes (+10%)
- 23 bicycle crashes(+15%)
- Avg crash rate = 6.402 crashes/MVM (-4%)

# Crash Analysis



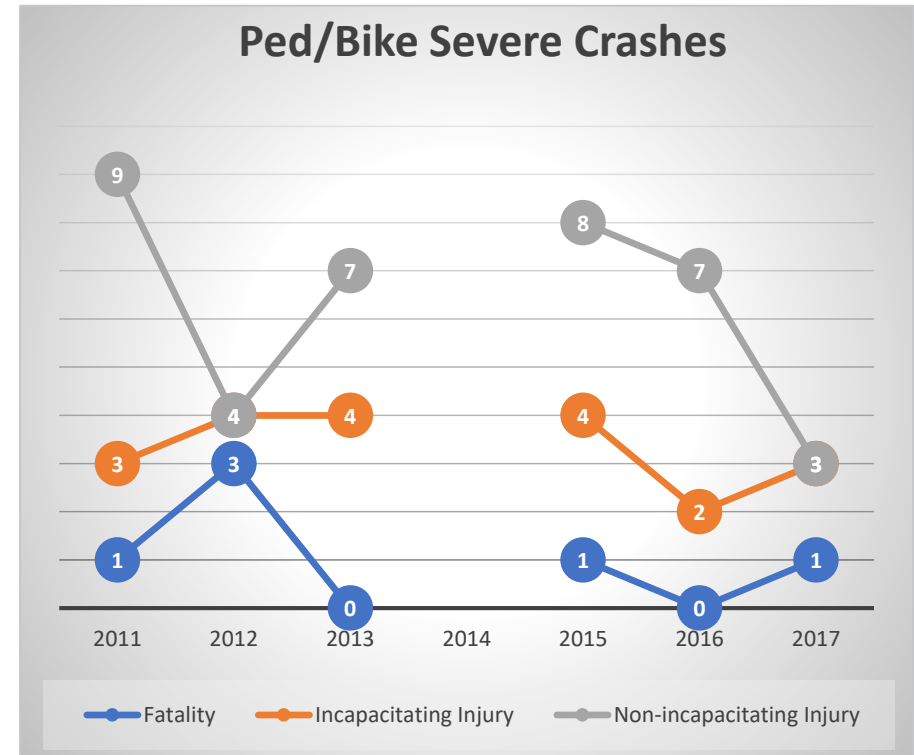
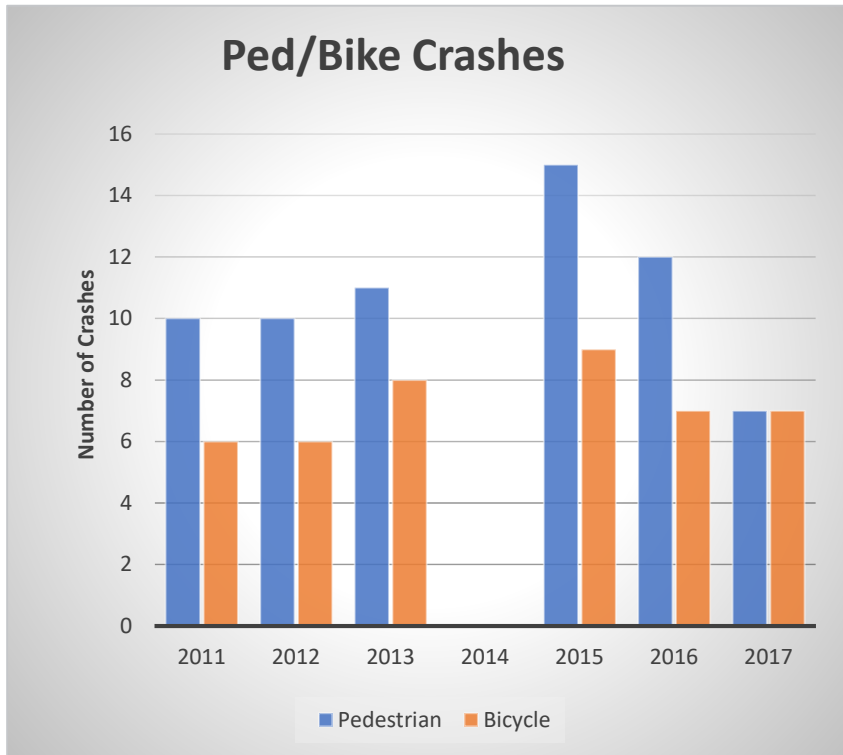
## ➤ Before:

- 73 non-incapacitating injuries
- 37 incapacitating injuries
- 5 fatalities

## ➤ After:

- 46 non-incapacitating injuries (-37%)
- 20 incapacitating injuries (-46%)
- 2 fatalities (-60%)

# Crash Analysis



- Ped/Bike crashes increased by 6 total (3 ped, 3 bike)
- Ped/Bike volumes increased by 13% (186 additional crossings per day)
- Ped/Bike non-incapacitating injuries were reduced by 10% (20 > 18)
- Ped/Bike incapacitating injuries were reduced by 18% (11 > 9)
- Ped/Bike fatalities were reduced by 50% (4 > 2)

# Conclusions

- Average daily traffic volumes on Fletcher Avenue have increased since the completion of the project, but at a lower rate than other parallel roadways.
- Overall, the average speeds of vehicles decreased within the study segment and the average travel times increased.
- Pedestrian and bicyclist volumes along the corridor also increased after the project was completed.
- A majority of the pedestrians, bicyclists, and vehicles utilize the installed facilities properly.
- Overall total number of vehicle crashes was reduced as well as crash severity.
- There was an increase in pedestrian and bicycle crashes. However, taking into account the additional volume of pedestrian and bicycle activity, the pedestrian/bicycle crash rate decreased.
- The severity of the pedestrian and bicycle crashes was also reduced within the project area.