

# APPENDIX J

## Improvement Costs

## Improvements Illustrative Figures

# Recommended Existing-Year Improvements



**Study Intersections**

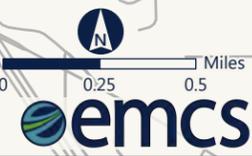
No Change	Traffic Control	Proposed
●	Stop Control	●
Ⓐ	All Way Stop Control	Ⓐ
○	Single Lane Roundabout	○
○	Multilane Roundabout	○
■	Signalized	■

**Study Segments**

- Add Travel Lanes
- - - Study Limits
- Town Limits



Note: Any improvements within the jurisdiction of another incorporated municipality besides the Town of Whitestown were not included in the impact fee calculation.



# Town of Whitestown Road Impact Fee Recommended 10-Year Improvements

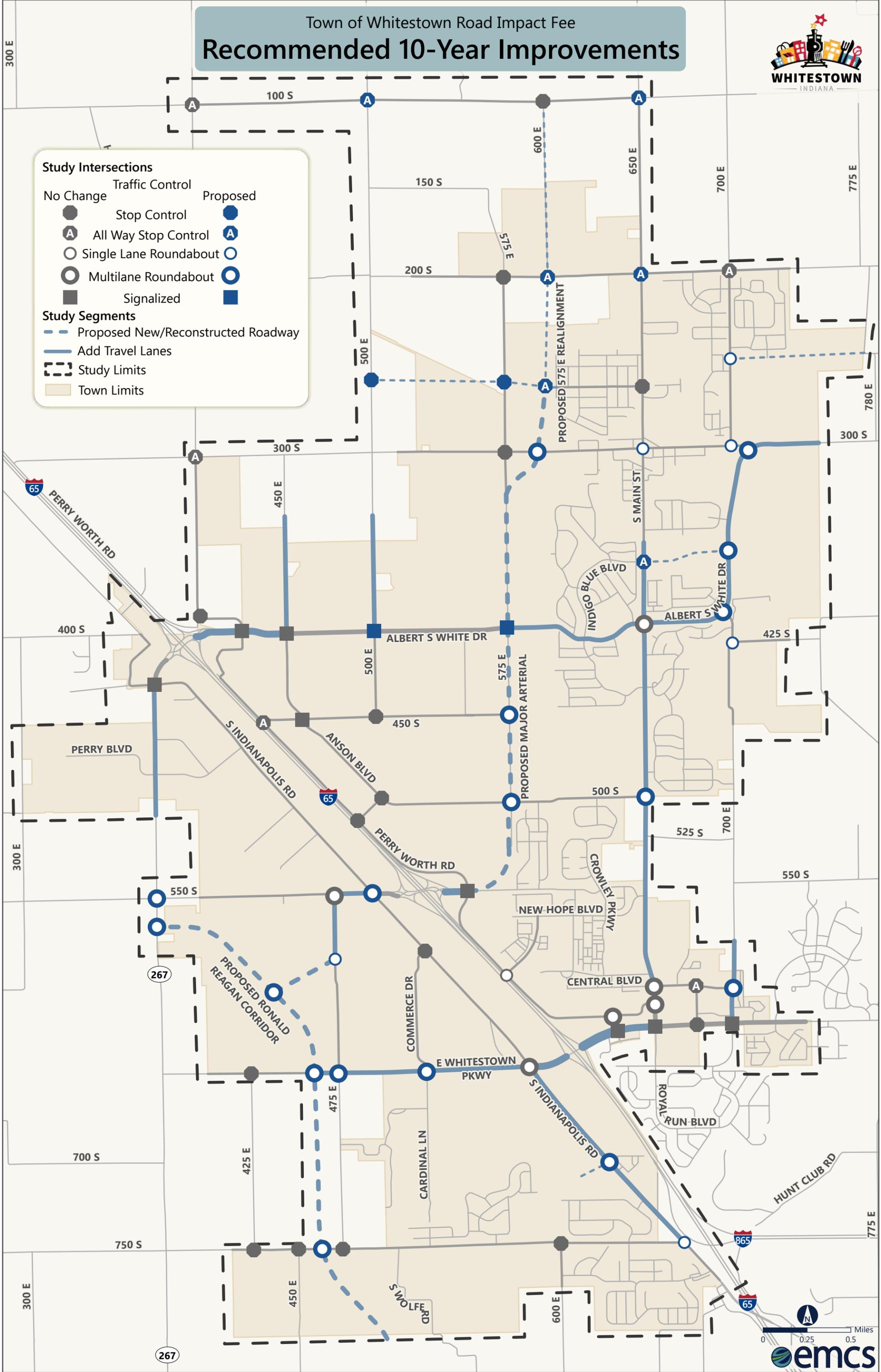


**Study Intersections**

No Change	Traffic Control	Proposed
●	Stop Control	●
Ⓐ	All Way Stop Control	Ⓐ
○	Single Lane Roundabout	○
○	Multilane Roundabout	○
■	Signalized	■

**Study Segments**

- - - Proposed New/Reconstructed Roadway
- Add Travel Lanes
- - - Study Limits
- Town Limits



Note: Any improvements within the jurisdiction of another incorporated municipality besides the Town of Whitestown were not included in the impact fee calculation.



## Improvements Summary Tables

SUBJECT: IMPROVEMENTS - INTERSECTIONS

Intersection	Project Already Funded?	State Controlled?	Other Incorporated Municipality?	New/Integrated Roadway?	Existing Roadway?	Existing Level of Service - AM (PM)	Existing Thru Lanes Address? (see segment improvements for costs)	Improvements Due to Segment Alone	Improvements	# of Added Turn Lanes	Existing Mitigated Level of Service - AM (PM)	Cost to Improve Existing Conditions	50% of New Roadway Applied to Today's Cost	Today's Cost	10-Year Thru Lane Added? (see segment improvements for costs)	Improvements Due to Segment Alone	10-Year Improvements (Intersection only)	10-Year Improved Control	10-Year Level of Service - AM (PM)	10-Year Mitigated Level of Service - AM (PM)	10-Year Level of Service Notes	5-Year Additional Cost†	
Intersection 1: 100 S & 400 E	N	N	N	N	All-way stop	A (A)		No improvement needed	All-way stop	-		\$ -	\$ -			All-way stop	All-way stop	B (C)	-			\$ -	
Intersection 2: 100 S & 500 E	N	N	N	N	Two-way stop	A (B)		No improvement needed	Two-way stop	-		\$ -	\$ -			Convert to All-way stop	All-way stop	C (F)	B (C)			\$ -	
Intersection 3: 100 S & 650 E	N	N	N	N	Two-way stop	B (B)		No improvement needed	Two-way stop	-		\$ -	\$ -			Convert to All-way stop	All-way stop	B (F)	B (B)			\$ -	
Intersection 4: 200 S & 575 E (realigned to 600 E in 10-Year Scenario)	N	N	N	Y	Two-way stop	A (A)		n/a	n/a	-		\$ 0.065 M	\$ 0.065 M			Build All-way stop	All-way stop	C (C)	-			\$ 0.130 M	
Intersection 5: 650 E & 200 S	N	N	N	N	Two-way stop	A (B)		No improvement needed	Two-way stop	-		\$ -	\$ -			Convert to All-way stop	All-way stop	C (F)	B (C)			\$ -	
Intersection 6: 200 S & 700 E	N	N	N	N	All-way stop	A (A)		No improvement needed	All-way stop	-		\$ -	\$ -			No improvement needed	All-way stop	A (B)	-			\$ -	
Intersection 7: 500 E & Future Minor Collector	N	N	N	Y	n/a	n/a		n/a	n/a	-		\$ -	\$ -			Build Two-way stop	Two-way stop	B (B)	-			\$ -	
Intersection 8: 600 East (575 Realigned) & Future Minor Collector	N	N	N	Y	n/a	n/a		n/a	n/a	-		\$ -	\$ -			Build All-way stop	All-way stop	C (C)	-			\$ -	
Intersection 9: 650 E/Main St & Madera Drive	N	N	N	N	Two-way stop	A (A)		No improvement needed	Two-way stop	-		\$ -	\$ -			Build Two-way stop	Two-way stop	B (B)	-			\$ -	
Intersection 10: 700 E & Future Minor Collector	N	N	N	Y	n/a	n/a		n/a	n/a	-		\$ 0.950 M	\$ 0.950 M			Build Single Lane Roundabout	Single Lane Roundabout	A (A)	-			\$ 1.900 M	
Intersection 11: Pierce Street/300 S & 575 E (realigned to 600 E in 10-Year Scenario)	N	N	N	Y	Two-way stop	A (A)		n/a	n/a	-		\$ 1.375 M	\$ 1.375 M			Build Multilane Roundabout	Multilane Roundabout	A (B)	-			\$ 2.750 M	
Intersection 12: Main & Pierce	N	N	N	N	All-way stop	A (A)		No improvement needed	All-way stop	-		\$ -	\$ -			Convert to Single Lane Roundabout	Single Lane Roundabout	C (F)	B (D)		No further reasonable improvements	\$ 1.900 M	
Intersection 13: Pierce Street & 700 E	N	N	N	N	Two-way stop	B (B)		No improvement needed	Two-way stop	-		\$ -	\$ -			Convert to Single Lane Roundabout	Single Lane Roundabout	F (F)	B (B)			\$ 1.900 M	
Intersection 14: Pierce Street & 300 S/Albert South White Drive	N	N	N	N	Two-way stop	C (C)		No improvement needed	Two-way stop	-		\$ -	\$ -	X		Convert to Multilane Roundabout	Multilane Roundabout	F (F)	A (B)			\$ 2.880 M	
Intersection 15: Main Street & Future Minor Collector	N	N	N	Y	n/a	n/a		n/a	n/a	-		\$ -	\$ -			Build All-way stop	All-way stop	A (B)	-			\$ -	
Intersection 16: Albert S. White Drive & Future Minor Collector	N	N	N	Y	n/a	n/a		n/a	n/a	-		\$ 1.375 M	\$ 1.375 M			Build Multilane Roundabout	Multilane Roundabout	A (B)	-			\$ 2.750 M	
Intersection 17: 400 E & Perry Worth Road	N	N	N	N	Two-way stop	A (A)		No improvement needed	Two-way stop	-		\$ -	\$ -			No improvement needed	Two-way stop	B (C)	-			\$ -	
Intersection 20: Albert S. White Dr. (400 S) & 400 E	N	N	N	N	Signalized	B (B)		No improvement needed	Signalized	-		\$ -	\$ -	X		Add turn lanes	Signalized	F (F)	C (D)		No further reasonable improvements	\$ 0.540 M	
Intersection 21: Albert S. White Dr. (400 S) & 450 E/Anson Blvd	N	N	N	N	Signalized	A (B)		No improvement needed	Signalized	-		\$ -	\$ -			Add turn lanes	Signalized	F (F)	C (C)			\$ 0.540 M	
Intersection 22: Albert S. White Dr. (400 S) & 500 E	N	N	N	N	All-way stop	B (B)		No improvement needed	All-way stop	-		\$ -	\$ -			Convert to Signal	Signalized	F (F)	C (C)			\$ 0.270 M	
Intersection 23: Albert S. White Dr. (400 S) & 575 E	N	N	N	Y	All-way stop	A (B)		n/a	n/a	-		\$ 0.590 M	\$ 0.590 M			Convert to Signal	Signalized	C (D)	-		No reasonable improvements beyond build signal/add turn lanes for proposed 575 E arterial construction	\$ 1.180 M	
Intersection 24: 400 S & 650 E	N	N	N	N	Multilane Roundabout	A (A)	X	X	No improvement needed	Multilane Roundabout	-	\$ -	\$ -	X		Add turn lanes	Multilane Roundabout	E (F)	D (F)		No further reasonable improvements	\$ 0.520 M	
Intersection 25: 400 S/Albert S. White Drive & 400 S/Ginger Way	N	N	N	N	Two-way stop	B (C)		No improvement needed	Two-way stop	-		\$ -	\$ -	X		Convert to Multilane Roundabout	Multilane Roundabout	F (F)	B (E)		No further reasonable improvements	\$ 2.880 M	
Intersection 26: 700 E & 425 S	N	N	N	N	Two-way stop	A (B)		No improvement needed	Two-way stop	-		\$ -	\$ -			Convert to Single Lane Roundabout	Single Lane Roundabout	B (F)	A (A)			\$ 1.900 M	
Intersection 27: SR 267 & Indianapolis Road	N	Y	N	N	Signalized	C (C)		No improvement needed	Signalized	-		\$ -	\$ -	X		Signal Mod: added thru lanes	Signalized	C (E)	C (C)			\$ 0.075 M	
Intersection 28: Perry Worth Road & 450 S	N	N	N	N	All-way stop	A (A)		No improvement needed	All-way stop	-		\$ -	\$ -			No improvement needed	All-way stop	A (A)	-			\$ -	
Intersection 29: Anson Blvd & 450 S	N	N	N	N	Signalized	B (A)		No improvement needed	Signalized	-		\$ -	\$ -			No improvement needed	Signalized	B (A)	-			\$ -	
Intersection 30: 450 S & 500 E	N	N	N	N	Two-way stop	A (A)		No improvement needed	Two-way stop	-		\$ -	\$ -			No improvement needed	Two-way stop	A (A)	-			\$ -	
Intersection 31: 450 S & 575 E	N	N	N	Y	Two-way stop	A (A)		n/a	n/a	-		\$ 1.375 M	\$ 1.375 M			Convert to Multilane Roundabout	Multilane Roundabout	C (C)	-			\$ 2.750 M	
Intersection 32: Anson Blvd & 500 S	N	N	N	N	Two-way stop	A (B)		No improvement needed	Two-way stop	-		\$ -	\$ -			No improvement needed	Two-way stop	A (B)	-			\$ -	
Intersection 34: 500 S & 575 E	N	N	N	Y	Two-way stop	A (B)		n/a	n/a	-		\$ 1.570 M	\$ 1.570 M			Convert to Multilane Roundabout	Multilane Roundabout	F (F)	-		No reasonable improvements beyond build multilane roundabout for proposed 575 arterial construction	\$ 3.140 M	
Intersection 35: 500 S & 650 E	N	N	N	N	Two-way stop	C (C)	X	X	No improvement needed	Two-way stop	-	\$ -	\$ -			Convert to Multilane Roundabout	Multilane Roundabout	F (F)	A (B)			\$ 2.750 M	
Intersection 36: Perry Worth Road & 500 S	N	N	N	N	Two-way stop	B (C)		No improvement needed	Two-way stop	-		\$ -	\$ -			No improvement needed	Two-way stop	B (C)	-			\$ -	
Intersection 37: 550 S & 475 E	N	N	N	N	Multilane Roundabout	A (A)		No improvement needed	Multilane Roundabout	-		\$ -	\$ -	X		No improvement needed	Multilane Roundabout	A (B)	-			\$ -	
Intersection 38: 550 S & Indianapolis Road	N	N	N	N	All-way stop	C (C)		No improvement needed	All-way stop	-		\$ -	\$ -	X		Convert to Multilane Roundabout	Multilane Roundabout	F (F)	A (C)			\$ 2.880 M	
Intersection 41: Perry Worth Road & 550 S	N	N	N	Y	Signalized	B (B)		n/a	n/a	-		\$ 0.205 M	\$ 0.205 M	X		Add turn lanes	Signalized	F (F)	C (C)			\$ 0.410 M	
Intersection 42: Indianapolis Road & Commerce Drive	N	N	N	N	Two-way stop	A (B)		No improvement needed	Two-way stop	-		\$ -	\$ -			No improvement needed	Two-way stop	B (B)	-			\$ -	
Intersection 43: Perry Worth Road & Juniors Way	N	N	N	N	Single Lane Roundabout	A (A)		No improvement needed	Single Lane Roundabout	-		\$ -	\$ -			No improvement needed	Single Lane Roundabout	A (A)	-			\$ -	
Intersection 44: 650 E & Central Blvd	N	N	N	N	Multilane Roundabout	A (A)	X	X	No improvement needed	Multilane Roundabout	-	\$ -	\$ -			No improvement needed	Multilane Roundabout	A (C)	-			\$ -	
Intersection 45: Central Blvd & Heartland Drive	N	N	N	N	All-way stop	A (A)		No improvement needed	All-way stop	-		\$ -	\$ -			No improvement needed	All-way stop	A (B)	-			\$ -	
Intersection 46: Veterans Drive & Central Boulevard	N	N	N	N	Two-way stop	B (C)		No improvement needed	Two-way stop	-		\$ -	\$ -	X		Convert to Multilane Roundabout	Multilane Roundabout	C (F)	A (B)			\$ 2.750 M	
Intersection 47: Perry Worth Road & Mills Drive	N	N	N	N	Multilane Roundabout	A (A)		No improvement needed	Multilane Roundabout	-		\$ -	\$ -			No improvement needed	Multilane Roundabout	A (B)	-			\$ -	
Intersection 48: 650 E & Mills Drive	N	N	N	N	Multilane Roundabout	A (B)		No improvement needed	Multilane Roundabout	-		\$ -	\$ -			No Reasonable Improvements	Multilane Roundabout	D (F)	-		No reasonable improvements	\$ -	
Intersection 49: Whitestown Parkway & 425 E	N	N	N	N	Two-way stop	B (B)		No improvement needed	Two-way stop	-		\$ -	\$ -			No improvement needed	Two-way stop	B (B)	-			\$ -	
Intersection 50: Whitestown Parkway & 475 E	N	N	N	N	Two-way stop	C (F)		Convert to All-way stop	All-way stop	B (C)		\$ -	\$ -	X		Convert to Multilane Roundabout	Multilane Roundabout	F (F)	A (A)			\$ 2.750 M	
Intersection 51: Whitestown Parkway & 525 E/Commerce Drive	N	N	N	N	Two-way stop	C (D)		Convert to Single Lane Roundabout	Single Lane Roundabout	A (A)		\$ 1.900 M	\$ -	\$ 1.900 M	X	X	Convert to Multilane Roundabout	Multilane Roundabout	B (C)	A (A)			\$ 2.750 M
Intersection 52: Whitestown Parkway & Indianapolis Road	N	N	N	N	Multilane Roundabout	B (B)		No improvement needed	Multilane Roundabout	-		\$ -	\$ -	X		Add turn lanes	Multilane Roundabout	F (F)	D (F)		No further reasonable improvements	\$ 0.130 M	
Intersection 55: Whitestown Parkway & Perry Worth Road	N	N	N	N	Signalized	C (C)		No improvement needed	Signalized	-		\$ -	\$ -	X		Add turn lanes	Signalized	F (F)	C (D)		No further reasonable improvements	\$ 0.410 M	
Intersection 56: Whitestown Parkway & 650 E	N	N	N	N	Signalized	C (C)		No improvement needed	Signalized	-		\$ -	\$ -	X		Add turn lanes	Signalized	E (F)	C (C)			\$ 0.410 M	
Intersection 57: Whitestown Parkway & Heartland Drive	N	N	N	N	Two-way stop	B (B)		No improvement needed	Two-way stop	-		\$ -	\$ -			No Reasonable Improvements	Two-way stop	C (D)	-		No reasonable improvements	\$ -	
Intersection 58: Whitestown Parkway & Veterans Drive/700 E	N	N	N	N	Signalized	C (C)		No improvement needed	Signalized	-		\$ -	\$ -	X		Add turn lanes	Signalized	E (F)	C (C)			\$ 0.540 M	
Intersection 59: Indianapolis Road & Future Minor Collector	N	N	N	Y	n/a	n/a		n/a	n/a	-		\$ 1.375 M	\$ 1.375 M			Build Multilane Roundabout	Multilane Roundabout	A (A)	-			\$ 2.750 M	
Intersection 60: 750 S & 425 E	N	N	N	N	Two-way stop	A (A)		No improvement needed	Two-way stop	-		\$ -	\$ -			No improvement needed	Two-way stop	A (A)	-			\$ -	
Intersection 61: 750 S & 475 E	N	N	N	N	Two-way stop	B (B)		No improvement needed	Two-way stop	-		\$ -	\$ -			No improvement needed	Two-way stop	B (B)	-			\$ -	
Intersection 62: County Road 750 S & 600 E	N	N	N	N	Two-way stop	A (A)		No improvement needed	Two-way stop	-		\$ -	\$ -			No improvement needed	Two-way stop	B (B)	-			\$ -	
Intersection 63: Indianapolis Road & 750 S	N	N	N	N	Two-way stop	C (C)		No improvement needed	Two-way stop	-		\$ -	\$ -	X	X	Convert to Single Lane Roundabout	Single Lane Roundabout	F (F)	A (B)			\$ 1.900 M	
Intersection 64: SR 267 & Proposed Ronald Reagan Corridor	N	Y	Y	Y	n/a	n/a		n/a	n/a	-		\$ -	\$ -			Build Multilane Roundabout	Multilane Roundabout	A (B)	-			\$ -	
Intersection 65: Proposed Ronald Reagan Spur & 475 E	N	N	N	Y	n/a	n/a		n/a	n/a	-		\$ 1.375 M	\$ 1.375 M	X	X	Build Multilane Roundabout	Single Lane Roundabout	A (B)	-			\$ 2.750 M	
Intersection 66: Proposed Ronald Reagan Corridor & Proposed Ronald Reagan Spur	N	N	N	Y	n/a	n/a		n/a	n/a	-		\$ 1.375 M	\$ 1.375 M			Build Multilane Roundabout	Multilane Roundabout	A (B)	-			\$ 2.750 M	
Intersection 67: Proposed Ronald Reagan Corridor & Whitestown Parkway	N	N	N	Y	n/a	n/a		n/a	n/a	-		\$ 1.440 M	\$ 1.440 M			Build Multilane Roundabout	Multilane Roundabout	B (C)	-			\$ 2.880 M	
Intersection 68: Proposed Ronald Reagan Corridor & 750 S	N	N	N	Y	n/a	n/a		n/a	n/a	-		\$ 1.440 M	\$ 1.440 M			Build Multilane Roundabout	Multilane Roundabout	A (B)	-			\$ 2.880 M	
Intersection 69: 100 S & 600 E	N	N	N	N	Two-way stop	A (A)		No improvement needed	Two-way stop	-		\$ -	\$ -			No improvement needed	Two-way stop	C (B)	-			\$ -	
Intersection 70: 300 S & 400 E	N	N	N	N	All-way stop	A (A)		No improvement needed	All-way stop	-		\$ -	\$ -			No Reasonable Improvements	All-way stop	B (D)	-		No reasonable improvements	\$ -	
Intersection 71: SR 267 & 550 S	N	Y	Y	Y	Two-way stop	D (F)		Convert to Single Lane Roundabout	Single Lane Roundabout	A (A)		\$ -	\$ -	X		Convert to Multilane Roundabout	Multilane Roundabout	A (B)	-			\$ -	
Intersection 72: 750 S & 450 E	N	N	N	N	Two-way stop																		



# Unit Costs

SUBJECT: IMPROVEMENTS - INTERSECTIONS

**Intersection Unit Costs**

Improvement	Cost	Unit
Add Turn Lane	\$ 130,000.00	per 300' turn lane
New Traffic Sign	\$ 270,000.00	per Each
Modified traf sig	\$ 150,000.00	per Each
Single Lane RAB	\$ 1,900,000.00	per Each
Dual Lane RAB	\$ 2,750,000.00	per Each

SUBJECT: IMPROVEMENTS - SEGMENTS

**Segment Unit Costs**

Improvement	Cost	Unit	Description
Widen from 2 Lane to 4 Lane	\$ 581.44	per foot	
Widen from 4 to 6	\$ 625.00	per foot	
Widen lanes from 10' to 12'	\$ 197.92	per foot	Used for any general segment improvements including widening lanes and improving shoulders.
New 4 lane roadway	\$ 973.48	per foot	Used for reconstructed roadways as well such as parts of 575 E rebuilt as a 4 lane arterial.
New 2 lane roadway	\$ 571.97	per foot	

**Minimum Lane Widths (per Thoroughfare Plan)**

Classification	Abbrev.	Min Lane Width (ft)
Arterial	A	12
Collector	C	11
Local	L	11
Proposed Arterial	PA	12
Proposed Collector	PC	11