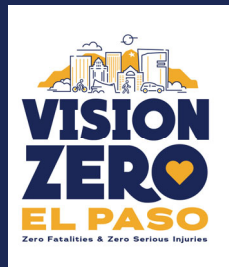




Joint Update Presentation

Intersection Safety Improvement Program (ISIP)



April 26, 2022



Presentation Overview



- ❖ Program Initiatives
- ❖ Program Development
- ❖ Investment in Traffic Safety
- ❖ Vision Zero Umbrella
- ❖ Project Objective + Scope
- ❖ City + UTEP Team
- ❖ Tasks
 - ❖ Top 20 Intersections
 - ❖ Top 10 Intersections
 - ❖ Proposed Improvements Analysis
 - ❖ Proposed Improvements
- ❖ Next Steps





Program Initiatives

Align with ALL Strategic Plan Goals:

- Goal 1. Cultivate an Environment Conducive to Strong, Sustainable Economic Development
- Goal 2. Set the Standard for a Safe and Secure City
- Goal 3. Promote the Visual Image of El Paso
- Goal 4. Enhance El Paso's Quality of Life Through Recreational Cultural and Educational Environments
- Goal 5. Promote Transparent and Consistent Communication Amongst All Members of the Community
- Goal 6. Set the Standard for Sound Governance and Fiscal Management
- Goal 7. Enhance and Sustain El Paso's Infrastructure Network
- Goal 8. Nurture and Promote a Healthy, Sustainable Community

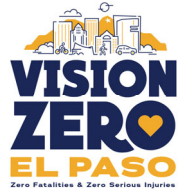
Program Development



Investment in Traffic Safety



Lee Trevino Median Enhancements_Trawood to Montwood (2020 HSIP Project Awarded Funding, \$247,786 construction, 10% City share, for letting of FY 2022)



Selective Traffic Enforcement Program

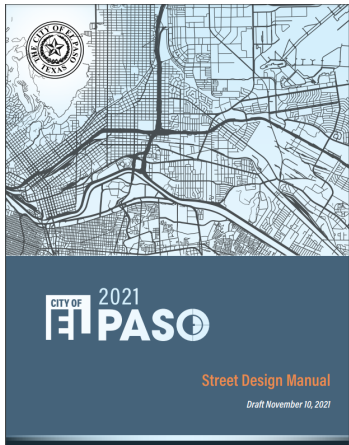


EL PASO VISION ZERO

Zero Fatalities & Zero Serious Injuries



ENGINEERING + EDUCATION + EVALUATION + ENFORCEMENT + EQUITY*





Project Objective + Scope

Previous Council Action:	Funding approved with FY22 Budget Interlocal Agreement Approved: October 12, 2021 First Amendment to Interlocal Agreement Approved: March 15, 2022
Entities:	City of El Paso & University of Texas at El Paso
Scope & Purpose:	Citywide; Produce and deliver a written Project Report with a minimum of the top 10 ranked intersections <ul style="list-style-type: none">❖ Countermeasures❖ Conceptual renderings❖ Preliminary cost estimate
Project Duration:	7 months
Start of Agreement:	October 18, 2021
End:	May 17, 2022

Program Team



Departmental
Management



William Aguirre
GIS Analyst



Hannah Williams Allen
Traffic Engineering
Associate



Alfredo Austin
Bicycle Program
Coordinator



Sergio Reyes
P.E.
Traffic Engineer



Jiann-Shing Yang
P.E., PTOE
City Traffic Engineer



Front Left: Diego Mendoza, UGRAD Research Assistant
Front Center: Larissa Hernandez, Graduate Research Assistant
Front Right: Dr. Kelvin Cheu, Ph.D., P.E., Professor
Back Center: Arath Jauregui, UGRAD Research Assistant



Tasks



Review existing tools & practices

- TxDOT HSIP
 - Costs of crashes by severity
 - Cost of improvements
 - Crash reduction factors

Data Collection & processing

- **Collision Data**
- TxDOT vs City maintained roads
- HSIP calcs
- Collision diagram template
- Signal timing plans
- Past/Present/Future project plans

Crash Analysis (2016 – 2021)

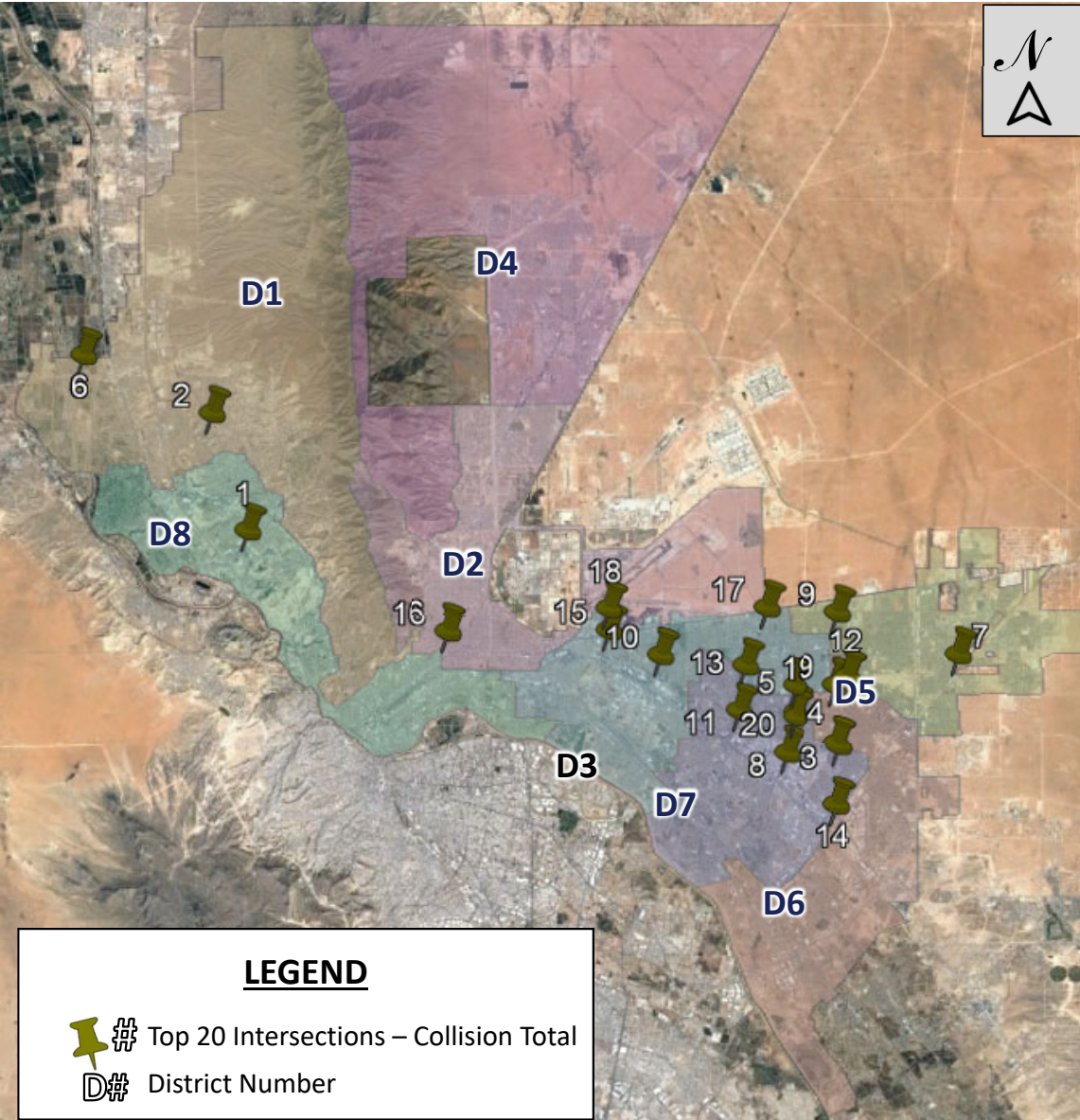
- Filtered 95k+ ↓ to 35k+
 - Out of city limits
 - On TxDOT managed/maintained roads
 - Not at intersection
- Crash severity
- Road Names
- **Crash Frequency Table**
- **Major Findings**

Intersection Identification

- **Cost of Crash**
 - National Safety Council vs TxDOT Highway Safety Improvement Program (HSIP)
- **Ranking**
 - Top 20 Intersections

Joint Proposed Improvements & Cost Estimation

- Tier 1
- Tier 2
- Tier 3



Top 20 Intersections* – Collision Total

City Maintained ROW



Ranking (#)	Road1	Road2	TOTAL	Fatal	Serious	Minor	Unknown	District
1	MESA HILLS DR	SUNLAND PARK DR	140	0	1	25	114	8
2	REDD RD	RESLER DR	118	0	1	31	86	1
3	GEORGE DIETER DR	PELLICANO DR	117	0	1	30	86	7
4	LEE TREVINO DR	VISTA DEL SOL DR	94	0	0	33	61	7
5	LEE TREVINO DR	TRAWOOD DR	85	0	0	29	56	7
6	ARTCRAFT RD	UPPER VALLEY RD	82	0	2	14	66	1
7	EDGEMERE BLVD	TIERRA ESTE RD	82	0	0	25	57	5
8	LEE TREVINO DR	ROJAS DR	81	0	1	18	62	7
9	EDGEMERE BLVD	GEORGE DIETER DR	81	0	0	21	60	3 & 5
10	HAWKINS BLVD	VISCOUNT BLVD	78	0	2	18	58	3
11	VISTA DEL SOL DR	YARBROUGH DR	78	1	0	16	61	7
12	MONTWOOD DR	TRAWOOD DR	76	0	0	24	52	6
13	MONTWOOD DR	YARBROUGH DR	73	2	0	24	47	3 & 7
14	ESTHER LAMA DR	GEORGE DIETER DR	73	0	1	24	48	6 & 7
15	AIRWAY BLVD	EDGEMERE BLVD	72	0	0	28	44	3
16	MONTANA AVE	PIEDRAS ST	67	0	1	26	40	2 & 8
17	EDGEMERE BLVD	YARBROUGH DR	65	0	0	26	39	3
18	AIRWAY BLVD	BOEING DR	59	0	2	10	47	3
19	GEORGE DIETER DR	TRAWOOD DR	58	1	1	12	44	6
20	LA QUINTA PL	LEE TREVINO DR	54	0	2	24	28	7



TxDOT Collision Evaluation Process Highway Safety Improvement Program (HSIP)

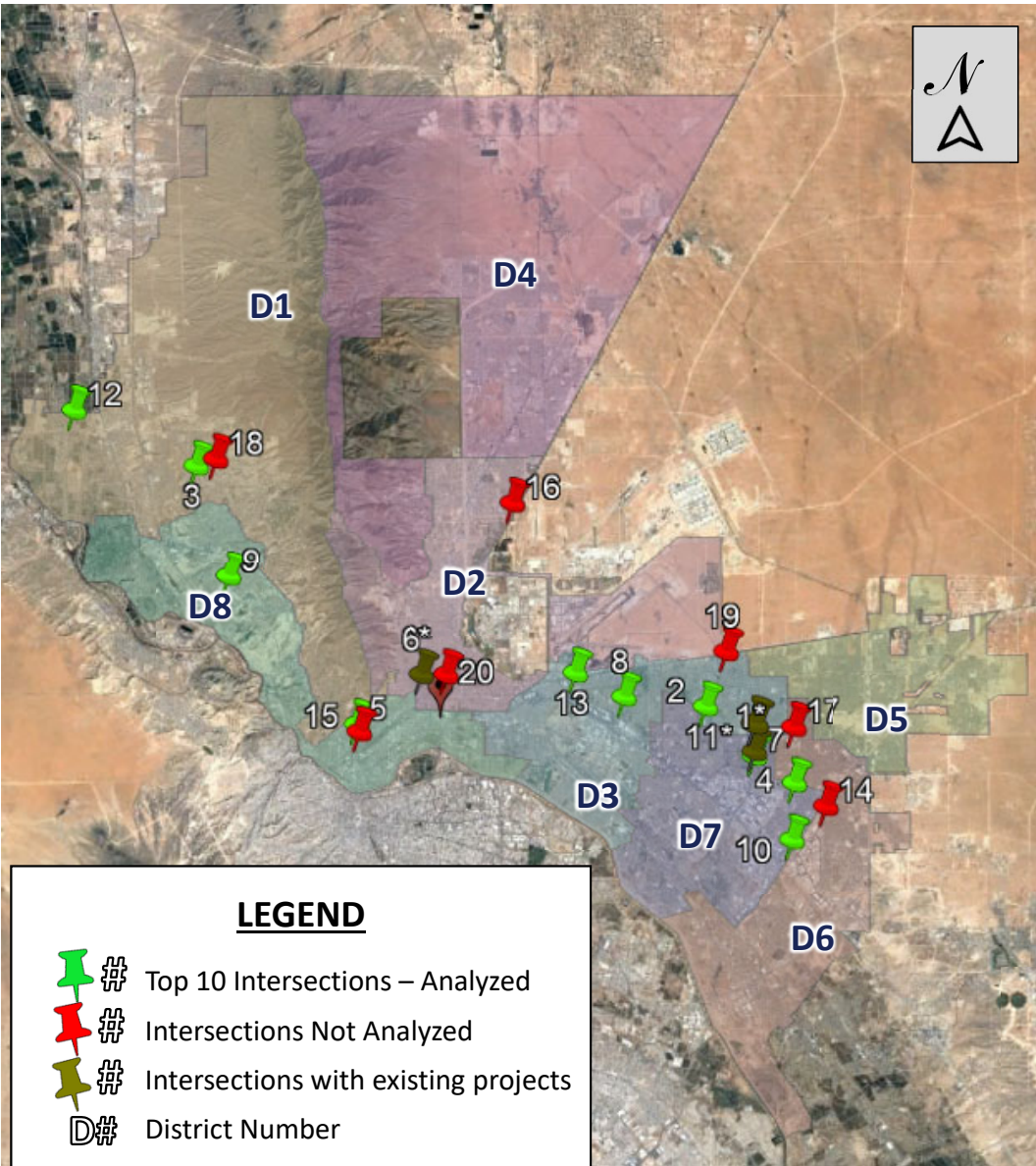


TxDOT formulas for competitive ranking process when submitting HSIP projects.



Top 20 Intersections* – Cost Impact

City Maintained ROW



Ranking	Road1	Road2	Cost Impact	District
1*	LA QUINTA PL	LEE TREVINO DR	\$19,880,000	7
2	MONTWOOD DR	YARBROUGH DR	\$19,880,000	3 & 7
3	REDD RD	RESLER DR	\$19,820,000	1
4	GEORGE DIETER DR	PELLICANO DR	\$19,300,000	7
5	CAMPBELL ST	MONTANA AVE	\$17,280,000	8
6*	MONTANA AVE	PIEDRAS ST	\$17,220,000	2 & 8
7	LEE TREVINO DR	VISTA DEL SOL DR	\$17,160,000	7
8	HAWKINS BLVD	VISCOUNT BLVD	\$16,760,000	3
9	MESA HILLS DR	SUNLAND PARK DR	\$16,700,000	1
10	ESTHER LAMA DR	GEORGE DIETER DR	\$16,180,000	6 & 7
11*	LEE TREVINO DR	TRAWOOD DR	\$15,080,000	7
12	ARTCRAFT RD	UPPER VALLEY RD	\$14,680,000	3
13	AIRWAY BLVD	EDGEMERE BLVD	\$14,560,000	3
14	PELLICANO DR	PULLMAN DR	\$14,160,000	6
15	KANSAS ST	MISSOURI AVE	\$14,100,000	8
16	DIANA DR	RAILROAD DR	\$13,640,000	2
17	GEORGE DIETER DR	TRAWOOD DR	\$13,640,000	6
18	REDD RD	WESTWIND DR	\$13,640,000	1
19	EDGEMERE BLVD	YARBROUGH DR	\$13,520,000	3
20	COPIA ST	MONTANA AVE	\$13,060,000	2

*Existing Project





Top 20 Intersections – Cost of Impact vs Collision Total

*City Maintained ROW



Rank by Cost	Road1	Road2	Total \$	Rank by Total Collision	Total #
1*	LA QUINTA PL	LEE TREVINO DR	\$19,880,000	20	54
2	MONTWOOD DR	YARBROUGH DR	\$19,880,000	13	73
3	REDD RD	RESLER DR	\$19,820,000	2	118
4	GEORGE DIETER DR	PELLICANO DR	\$19,300,000	3	117
5	CAMPBELL ST	MONTANA AVE	\$17,280,000	24	48
6*	MONTANA AVE	PIEDRAS ST	\$17,220,000	16	67
7	LEE TREVINO DR	VISTA DEL SOL DR	\$17,160,000	4	94
8	HAWKINS BLVD	VISCOUNT BLVD	\$16,760,000	10	78
9	MESA HILLS DR	SUNLAND PARK DR	\$16,700,000	1	140
10	ESTHER LAMA DR	GEORGE DIETER DR	\$16,180,000	14	73
11*	LEE TREVINO DR	TRAWOOD DR	\$15,080,000	5	85
12	ARTCRAFT RD	UPPER VALLEY RD	\$14,680,000	6	82
13	AIRWAY BLVD	EDGEMERE BLVD	\$14,560,000	15	72
14	PELLICANO DR	PULLMAN DR	\$14,160,000	25	44
15	KANSAS ST	MISSOURI AVE	\$14,100,000	23	50
16	DIANA DR	RAILROAD DR	\$13,640,000	30	32
17	GEORGE DIETER DR	TRAWOOD DR	\$13,640,000	19	58
18	REDD RD	WESTWIND DR	\$13,640,000	26	43
19	EDGEMERE BLVD	YARBROUGH DR	\$13,520,000	17	65
20	COPIA ST	MONTANA AVE	\$13,060,000	21	51
<i>*Existing projects</i>			BOLD – Top 10 Intersections Being Analyzed		

Proposed Improvement Process

Collision Diagram Analysis

Review Existing Projects + Signal Timing

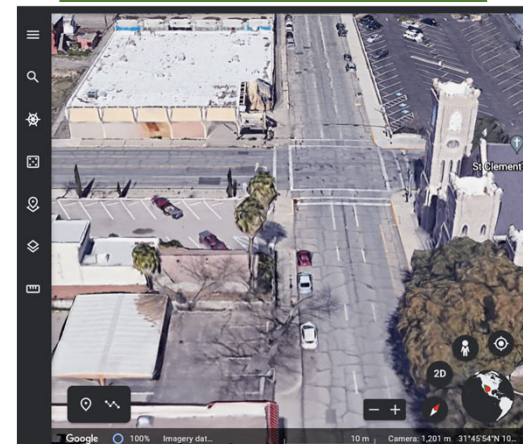
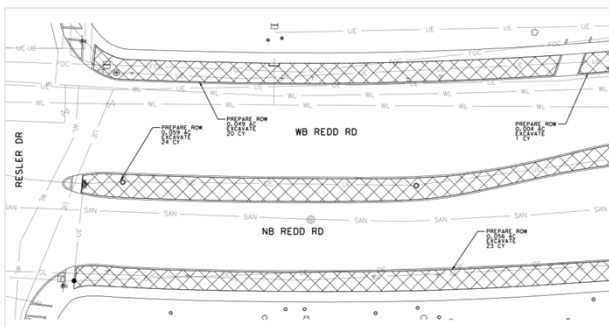
Site Investigation

Sheet	Contributing Factors (Investigator's Opinion)		Vehicle Defects (Investigator's Opinion)		Environmental and Roadway Conditions				
	Category	Yes/No/Code	Category	Yes/No/Code	10 Weather Cond.	16 Light Cond.	41 Roadway Type	42 Roadway Alignment	44 Surface Condition
1	14				1	1	1	1	1

Investigator's Narrative Opinion of What Happened
(Must Address Driver's Viewpoint)
500 Montana is a four lane, two way, roadway for east and west bound traffic. 800 North Campbell is a three lane, one way, roadway for north bound traffic. Unit #1 was traveling west bound on the #1 lane. Unit #2 was traveling north bound on the #2 lane. The driver of unit #1 advised he was traveling north bound and when he was passing through the intersection he felt the impact. The driver of unit #2 stated she was traveling west bound and when she was going to pass through the intersection she observed unit #2. The driver of unit #1 advised she was not able to stop and collided into unit #2. The driver of unit #1 stated she did not pay attention that the traffic light was red. The driver of unit #2 was cited for a red light violation (missing the collision). No injuries were reported and no witnesses were found at the scene.

Field Diagram - Not to Scale

Not To Scale



06/21/19 1040 19-172076
08/09/19 1651 19-201203
10/27/19 0748 19-300059
12/31/19 1514 19-365116
11/06/20 2110 20-311199
07/26/21 1250 21-207119

08/15/19 0347 19-229047

03/20/20 1444 20-080122
12/30/20 1407 20-265103
06/23/21 1010 21-174080
07/08/21 2041 21-109237

04/11/19 0855 19-101050
10/25/19 1615 19-298189
01/25/20 1230 20-030066

05/23/19 1106 19-143105
03/13/20 0834 20-073056
09/22/20 0811 20-256029
01/11/21 1300 21-01128

ACCIDENTS TOTALS 18

SYMBOLS

- MOVING VEHICLE
- PARKED VEHICLE
- FIXED OBJECT
- FATAL COLLISION
- INJURY COLLISION

TYPES OF COLLISION

- HEAD ON
- REAR END
- SIDE SWIPES
- OUT OF CONTROL
- LEFT TURN
- RIGHT ANGLE

INTERSECTION: CAMPBELL ST AND MONTANA AVE
PERIOD: 36 MONTHS YEAR: 2023-2025 BY: ISAAC MEDINA, UTEP DATE: 05_APR_2022

CITY OF EL PASO
STREETS AND MAINTENANCE / TRANSPORTATION MANAGEMENT
TRAFFIC SIGNAL TIMING SHEET

LOCATION: MONTANA & CAMPBELL ADDRESS: 1-8-108

SYSTEM ID: 139

Interval Name	Phase Description					
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Phase 6
Minimum Green	15	15				
Vehicle Detection Gap	2	2				
Maximum Green	50	50				
Yellow Change Interval	2	2				
Red Clearance Interval	2	1.5				
Pedestrian Walk	15	15				
Pedestrian Change Interval	15	15				
Prescription Pad Clearance	15	15				

Table B - Schedule

Phase	Start	End	Day of Week	Setback
1	1AM-7AM		ALL DAY	
2	7AM-8:00M		NA	
3			NA	
4			NA	



Collision Diagram Analysis

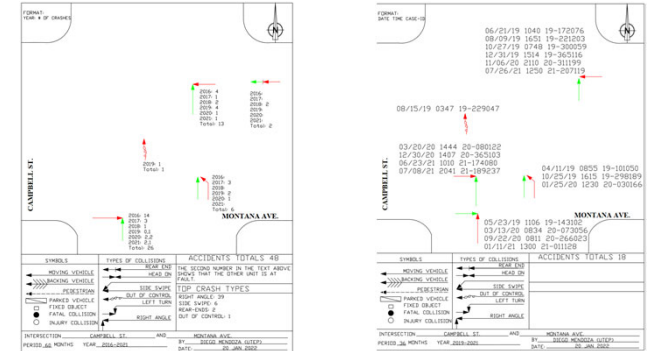
Review Crash Report (State Database)

Unit #	3/ Contributory Factors Investigator's Opinion			3/ Vehicle Defects Investigator's Opinion			Environmental and Roadway Conditions						
	Controlled	Minor Contrib	Contributing	Minor Contrib	Contributing	Major Contrib	38 Weather Cond.	39 Light Cond.	40 Existing Road	41 Roadway Type	42 Roadway Alignment	43 Surface Condition	44 Traffic Control
1	16						1	1	97	1	1	1	17

Investigator's Narrative Opinion of What Happened
(Make Additional Sheets if Necessary)

500 Montana is a four lane, two way, roadway for east and west bound traffic. 600 North Campbell is a three lane, one way, roadway for north bound traffic. Unit #1 was traveling west bound on the #1 lane. Unit #2 was traveling south bound on the #2 lane. The driver of unit #2 advised he was traveling south bound and when he was passing through the intersection he felt the impact. The driver of unit #1 stated she was traveling west bound and when she was going to pass through the intersection she observed unit #2. The driver of unit #1 advised she was not able to stop and collided into unit #2. The driver of unit #1 stated she did not pay attention that the traffic light was red. The driver of unit #1 was cited for a red light violation causing the collision. No injuries were reported and no witnesses were found at the scene.

Crash Diagram Summary (2016 – 2021)



Major Findings

Rear-end

Contributing Factors:

- Speeding
- Driver Inattention
- Tailgating



Left-Turn

Contributing Factors:

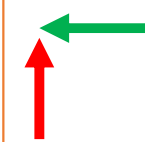
- Failed to Yield ROW
- Speeding
- Driver Inattention



Right Angle

Contributing Factors:

- Disregard Traffic Signal
- Speeding
- Driver Inattention



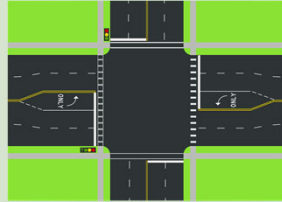
Tier 1



Tree trimming



Install signs



Refresh markings



Install Backplates

- Realign/add signal heads
- Replace + extend cross arms
- Standardize crosswalks (Schools → Citywide)
- Rumble strips*

Tier 2

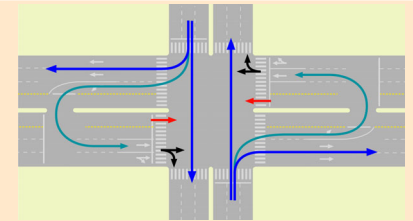
Speed Feedback Sign



Flashing Warning Sign

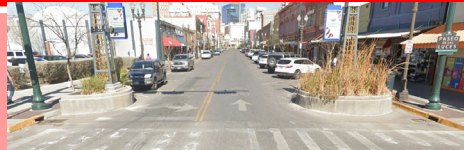
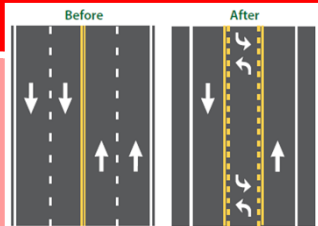


Restrict Turning Movements



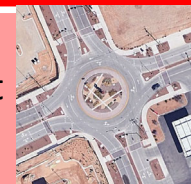
Tier 3

Lane Reduction / Road Diet



Curb Extensions

Roundabout



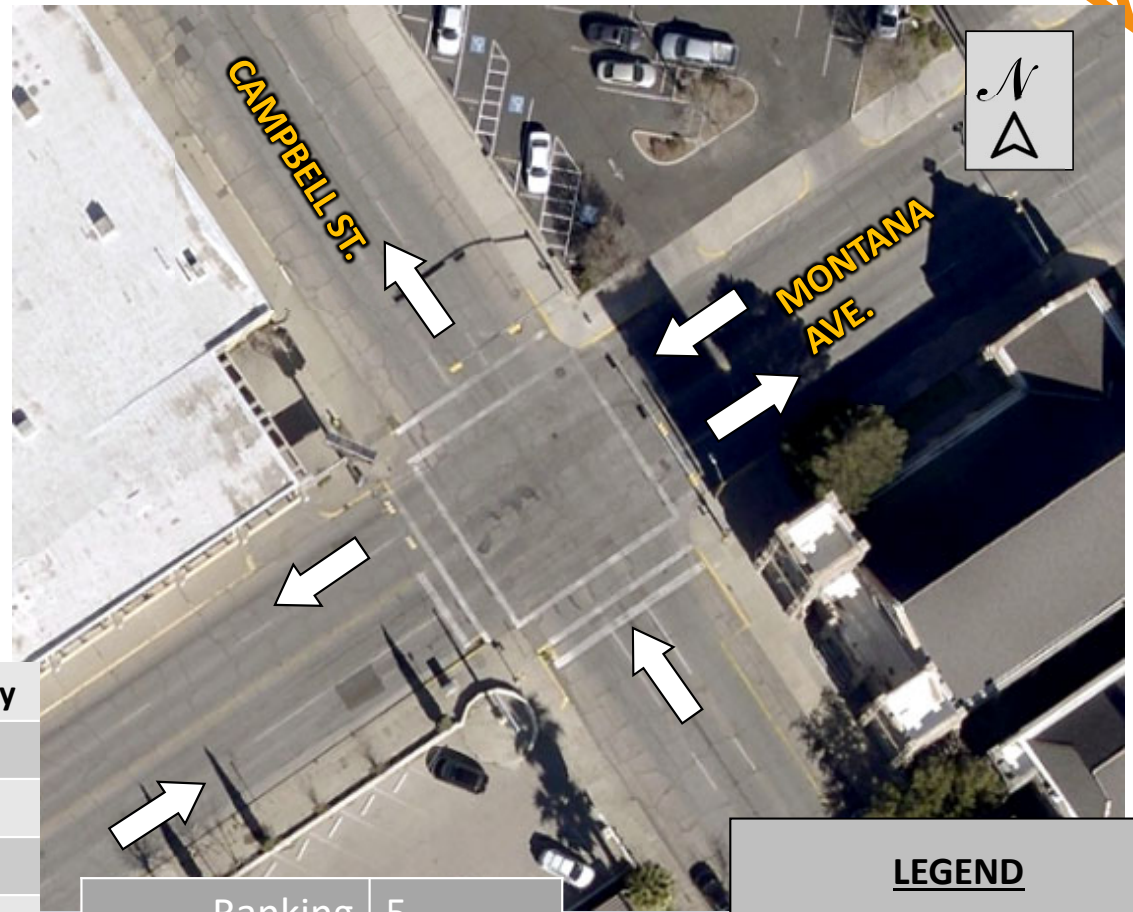
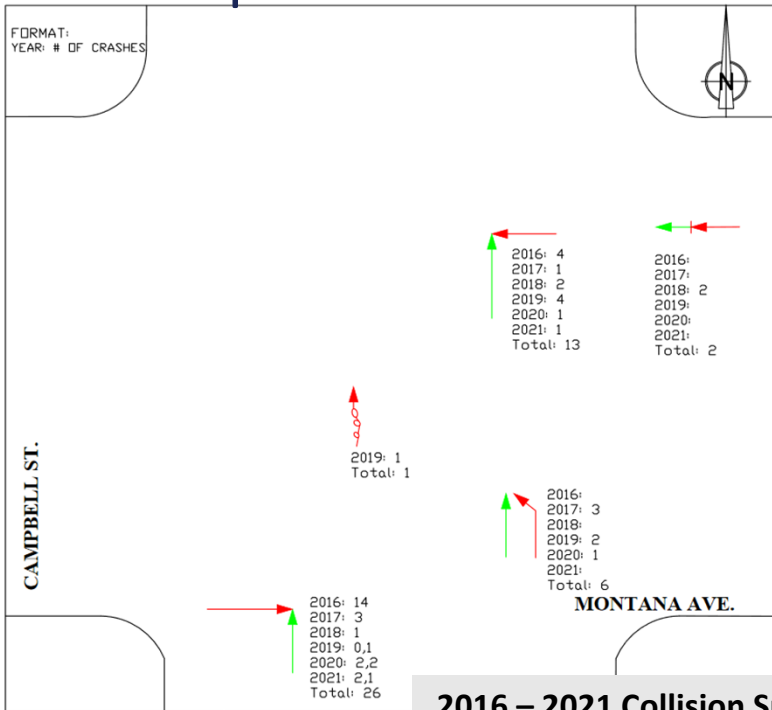
Complete Street





Joint Proposed Improvements

5. Campbell St and Montana Ave – Existing Conditions



2016 – 2021 Collision Summary

Right Angle	39	81%
Sideswipe	6	13%
Rear-end	2	4%
Lost Control	1	2%
TOTAL	48	

Ranking	5
District	8

LEGEND

↑ Direction of traffic

Contributing Factors

- Speeding
- Inattention
- Disregard Traffic Signal

Joint Proposed Improvements

5. Campbell St and Montana Ave – Proposed Improvements

Campbell St. (northbound)
EXISTING



Campbell St. (northbound)
PROPOSED



- 1. Replace mast arm with longer arm
- 2. Add signal head
- 3. Add backplates to signal heads
- 4. Add lane assignment signs

ALL APPROACHES

Joint Proposed Improvements

5. Campbell St and Montana Ave – Proposed Improvements

Montana Ave (eastbound)
EXISTING



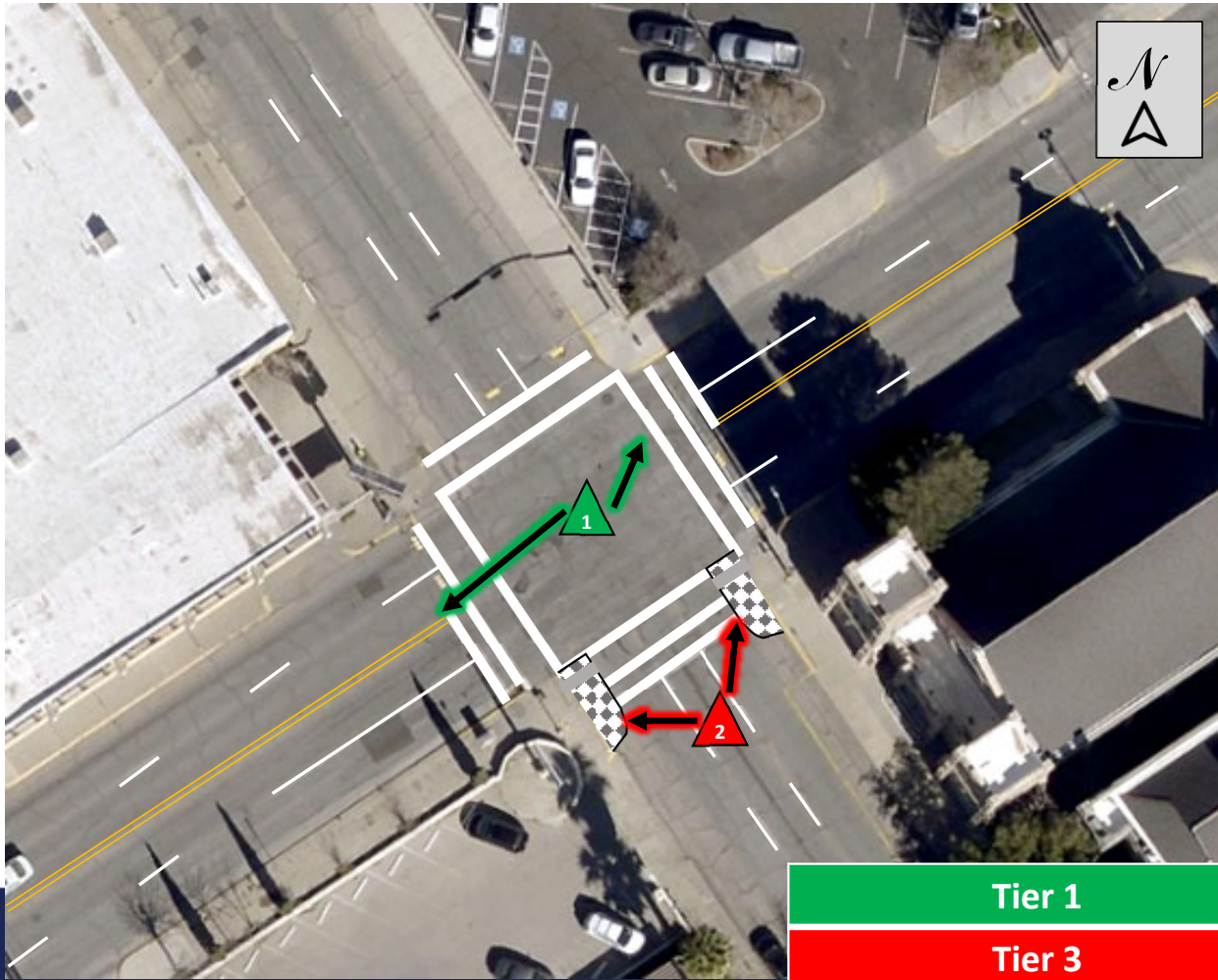
Montana Ave (eastbound)
PROPOSED



Install Speed Feedback Sign

Joint Proposed Improvements

5. Campbell St and Montana Ave – Proposed Improvements



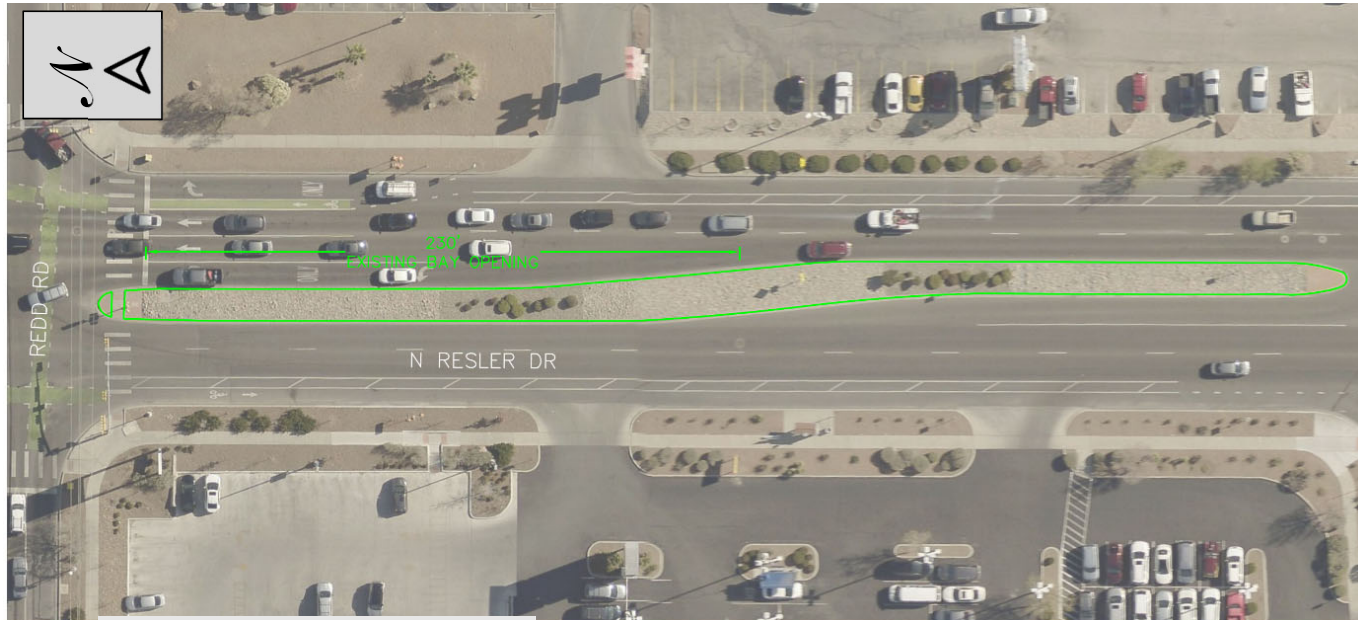
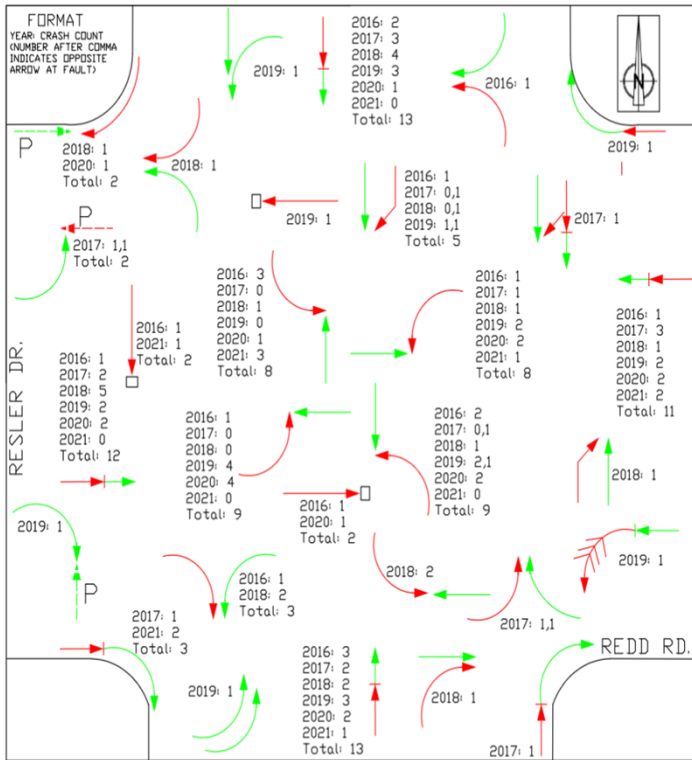
- 1. Repaint all pavement markings
- 2. Install curb extensions

Tier 1

Tier 3

Joint Proposed Improvements

3. Redd Rd & Resler Dr – Existing Conditions



2016 – 2021 Collision Summary

Rear-end	56	47%
Sideswipe	6	5%
Left-turn	48	41%
Other	8	7%
TOTAL	118	

Contributing Factors

- Speeding
- Inattention

Ranking 3

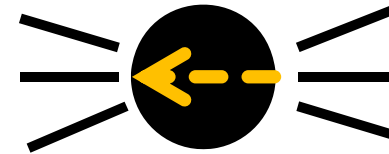
District 1



3. Redd Rd & Resler Dr – Proposed Improvements

Tier 1

- Refresh/Install Pavement Marking
- Install raised pavement markers (RPMs)
- Backplates
- Install flashing yellow left turn arrow + signs
- Install at-grade islands (striping + RPMs)



Tier 2

- Install raised medians

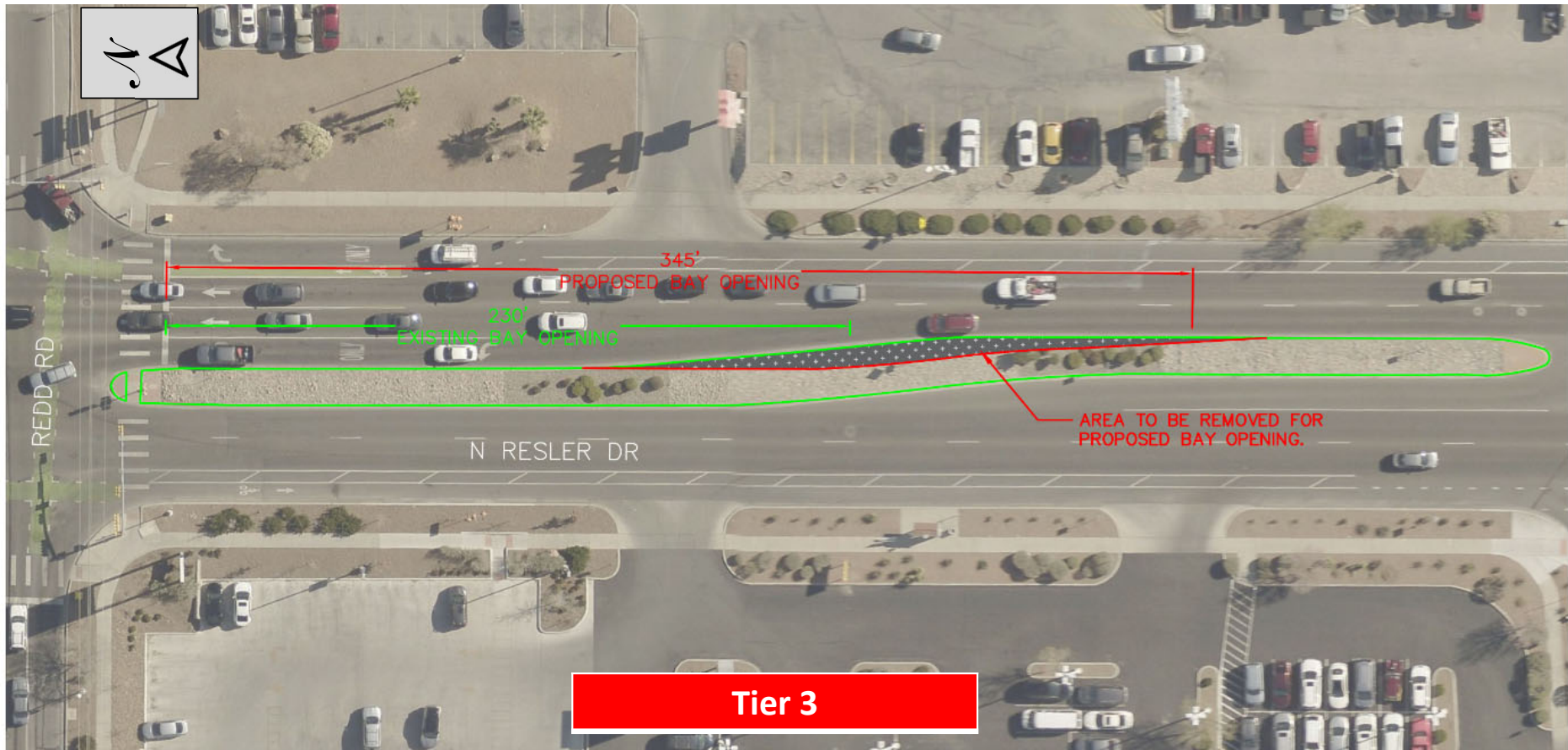


2019 Resurfacing Project at Redd & Resler



Joint Proposed Improvements

3. Redd Rd & Resler Dr – Proposed Improvements: Extend Left Turn Bay



Next Steps

Milestone: May 17, 2022

- ❖ Final Report
 - ❖ Countermeasures (Tiers 1 -3)
 - ❖ Conceptual renderings
 - ❖ Preliminary cost estimate
 - ❖ Finalized Benefit-Cost Analysis
- ❖ Future partnership





 **Mission**

Deliver exceptional services to support a high quality of life and place for our community

 **Vision**

Develop a vibrant regional economy, safe and beautiful neighborhoods and exceptional recreational, cultural and educational opportunities powered by a high performing government

 **Values**

Integrity, Respect, Excellence, Accountability, People



Misión

Brindar servicios excepcionales para respaldar una vida y un lugar de alta calidad para nuestra comunidad

Visión

Desarrollar una economía regional vibrante, vecindarios seguros y hermosos y oportunidades recreativas, culturales y educativas excepcionales impulsadas por un gobierno de alto desempeño

Valores

Integridad, Respeto, Excelencia, Responsabilidad, Personas

Backup



Top 20 Intersections – Collision Total

City Maintained ROW



Ranking (#)	Road1	Road2	TOTAL	Fatal	Serious	Minor	Unknown	District
1	MESA HILLS DR	SUNLAND PARK DR	140	0	1	25	114	8
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9	EDGEMERE BLVD	GEORGE DIETER DR	81	0	0	21	60	3 & 5
10	HAWKINS BLVD	VISCOUNT BLVD	78	0	2	18	58	3
11	VISTA DEL SOL DR	YARBROUGH DR	78	1	0	16	61	7
12	MONTWOOD DR	TRAWOOD DR	76	0	0	24	52	6
13	MONTWOOD DR	YARBROUGH DR	73	2	0	24	47	3 & 7
14	ESTHER LAMA DR	GEORGE DIETER DR	73	0	1	24	48	6 & 7
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18	AIRWAY BLVD	BOEING DR	59	0	2	10	47	3
19	GEORGE DIETER DR	TRAWOOD DR	58	1	1	12	44	6
20	LA OLIVIA PI	LEE TREVINO DR	54	0	2	24	28	7

Top 20 Intersections – Cost Impact

City Maintained ROW



Ranking (\$)	Road1	Road2	Cost Impact	District
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9	MESA HILLS DR	SUNLAND PARK DR	\$16,700,000	1
10	ESTHER LAMA DR	GEORGE DIETER DR	\$16,180,000	6 & 7
11*	LEE TREVINO DR	TRAWOOD DR	\$15,080,000	7
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13	AIRWAY BLVD	EDGEMERE BLVD	\$14,560,000	3
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16	DIANA DR	RAILROAD DR	\$13,640,000	2
17	GEORGE DIETER DR	TRAWOOD DR	\$13,640,000	6
18	REDD RD	WESTWIND DR	\$13,640,000	1
19	EDGEMERE BLVD	YARBROUGH DR	\$13,520,000	3
20	CORIA ST	MONTANA AVE	\$13,060,000	2