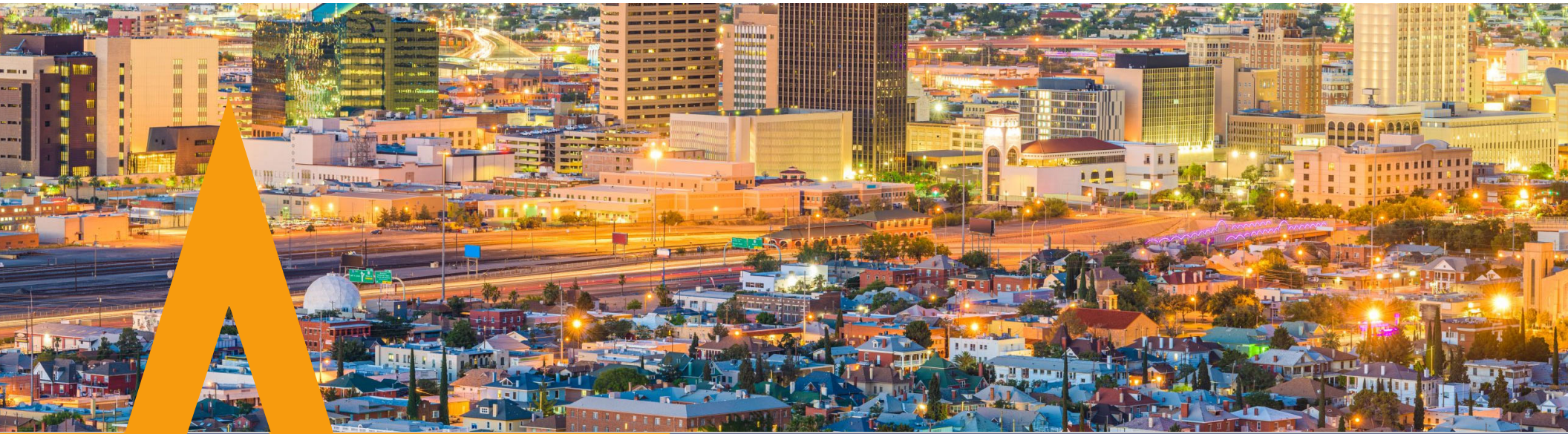
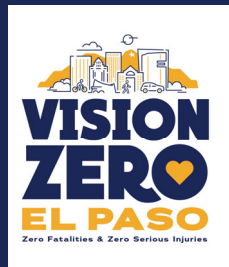




Joint Update Presentation

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

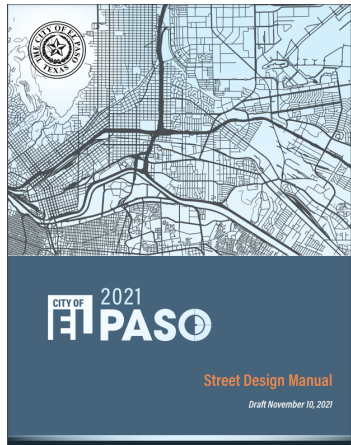


Lee Trevino Median Enhancements_Trawood to Montwood (2020 HSIP Project Awarded Funding, \$247,786 construction, 10% City share, for letting of FY 2022)





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 ❖ Countermeasures ❖ Conceptual renderings ❖ Preliminary cost estimate
Project Duration:	7 months
Start of Agreement:	October 18, 2021
End:	May 17, 2022



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

Program Team



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)

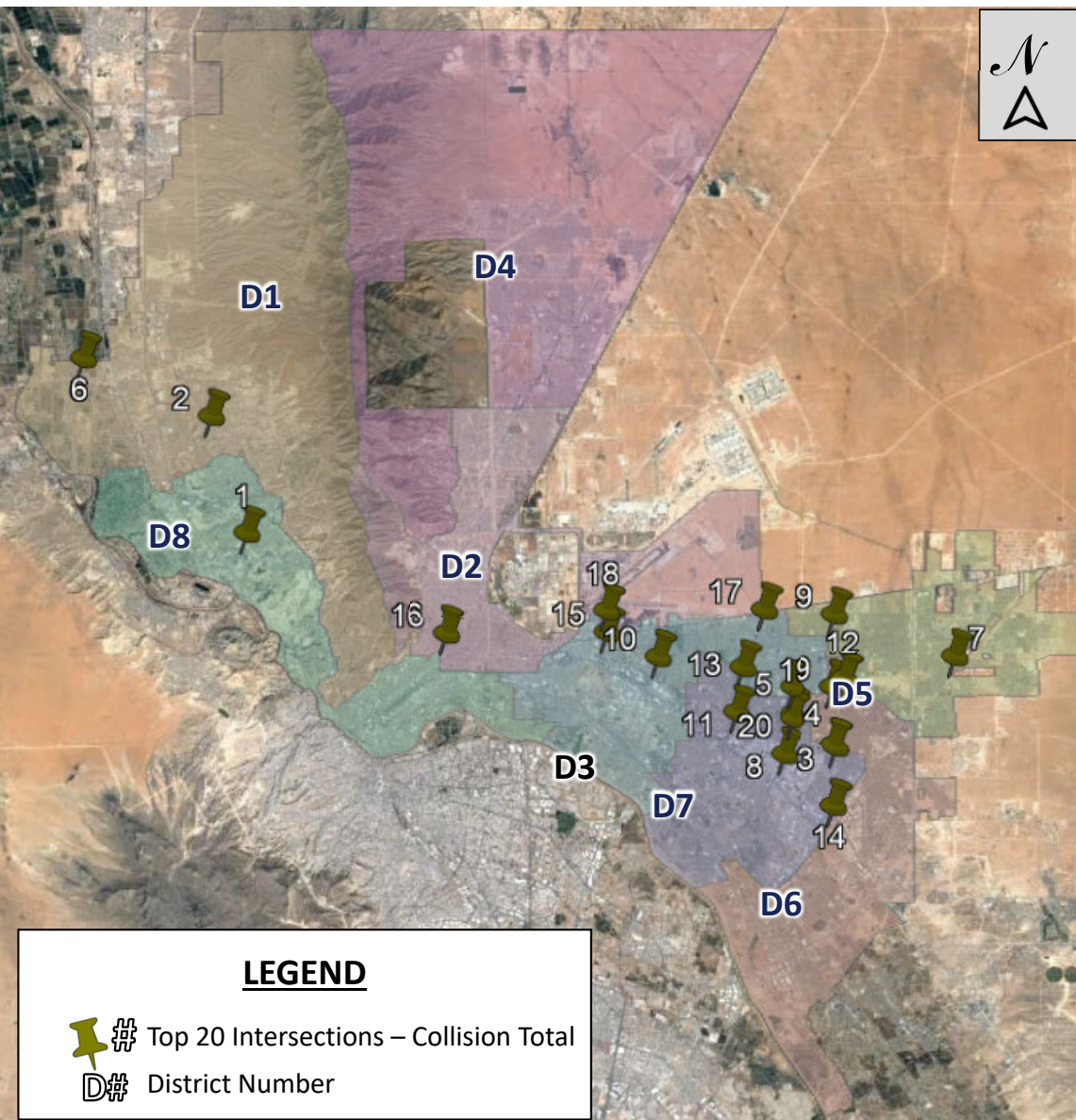
- Filtered 95k+ ↓ to 35k+
 - Out of city limits
 - On TxDOT managed/maintained roads
 - Not at intersection
- Crash severity
- Road Names
- **Crash Frequency Table**
- **Major Findings**

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

LEGEND

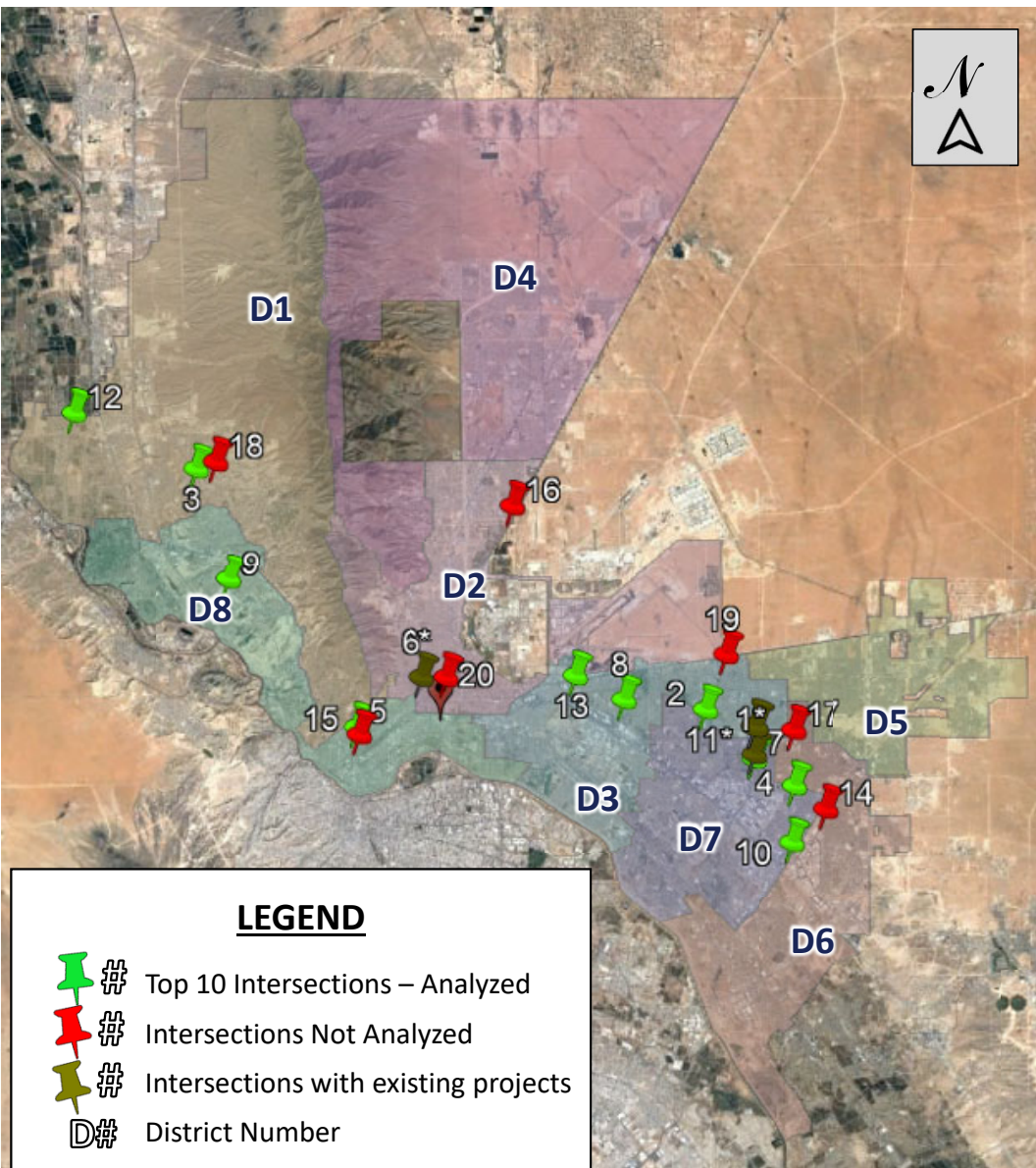
- Top 20 Intersections – Collision Total
- District Number



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



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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
*Existing projects			BOLD – Top 10 Intersections Being Analyzed		

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Review Existing Projects + Signal Timing

PERIOD: DATE THE CASE-10

06/21/19 1040 19-172076
08/29/19 1631 19-221203
10/27/19 0748 19-300059
12/31/19 1514 19-365116
01/16/20 2110 20-311199
07/26/21 1250 21-207719

08/15/19 0347 19-229047

12/30/20 1444 20-960102
12/30/20 1407 20-960123
03/23/21 1010 21-174080
07/08/21 2041 21-089237

04/11/19 0855 19-101050
10/25/19 1615 19-298189
01/25/20 1230 20-030166

CAMPBELL ST.

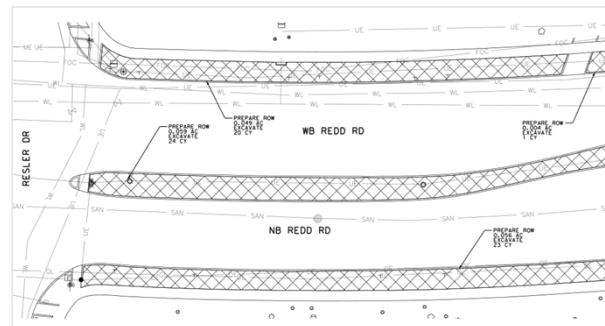
MONTANA AVE.

05/22/19 1106 19-143106
03/12/20 0834 20-073056
09/22/20 0811 20-264640
01/11/21 1300 21-011128

SYMBOLS	TYPES OF COLLISIONS	ACCIDENTS TOTALS 18
MOVING VEHICLE	HEAD ON	
MOVING VEHICLE	REAR END	
PEDESTRIAN	RIGHT SWAMP	
PEDESTRIAN	LEFT SWAMP	
PARKED VEHICLE	RIGHT TURN	
PIECE OBJECT	LEFT TURN	
PIECE OBJECT	RIGHT TURN	
PIECE OBJECT	RIGHT SWAMP	
PIECE OBJECT	LEFT SWAMP	

INTERSECTION: CAMPBELL ST. AND
 PERIOD: 36 MONTHS YEAR 2020-2021

BY: SERGIO MENDOZA ALFREY
 DATE: 28 JAN 2022



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

LOCATION: **MONTANA / CAMPBELL**

SYSTEM ID: **109**

ADDRESS: **LA 109**

Table A: Controller Timing Information

	Phase Description				
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5
Interval Name	PH1010	PH2010			
Maximum Green	52	52			
Vehicle Detection Gap	5	5			
Maximum Green Extension	5	5			
Yellow Change Interval	5	5			
Red Clearance Interval	5	5			
Preemption Total Clearance	15	15			
Preemption Gap Interval	15	15			
Detector Recall	DET50N	DET50N			
Detector Memory	DET50N	DET50N			
Control Plan	DET	DET			
Event/ID	DET	DET			

Table B: Schedule

Identification	Time Period	Interval
LA 109	07:00 - 08:00	52
LA 109	08:00 - 09:00	52
LA 109	09:00 - 10:00	52
LA 109	10:00 - 11:00	52
LA 109	11:00 - 12:00	52
LA 109	12:00 - 13:00	52
LA 109	13:00 - 14:00	52
LA 109	14:00 - 15:00	52
LA 109	15:00 - 16:00	52
LA 109	16:00 - 17:00	52
LA 109	17:00 - 18:00	52
LA 109	18:00 - 19:00	52
LA 109	19:00 - 20:00	52
LA 109	20:00 - 21:00	52
LA 109	21:00 - 22:00	52
LA 109	22:00 - 23:00	52
LA 109	23:00 - 24:00	52

Table C: Schedule

Phase	Time Period	Interval
PH1010	07:00 - 08:00	52
PH1010	08:00 - 09:00	52
PH1010	09:00 - 10:00	52
PH1010	10:00 - 11:00	52
PH1010	11:00 - 12:00	52
PH1010	12:00 - 13:00	52
PH1010	13:00 - 14:00	52
PH1010	14:00 - 15:00	52
PH1010	15:00 - 16:00	52
PH1010	16:00 - 17:00	52
PH1010	17:00 - 18:00	52
PH1010	18:00 - 19:00	52
PH1010	19:00 - 20:00	52
PH1010	20:00 - 21:00	52
PH1010	21:00 - 22:00	52
PH1010	22:00 - 23:00	52
PH1010	23:00 - 24:00	52



15

Crash Diagram Summary (2016 – 2021)

[illegible]

- Speeding
- Driver Inattention
- Tailgating

- Failed to Yield ROW
- Speeding
- Driver Inattention

- Disregard Traffic Signal
- Speeding
- Driver Inattention

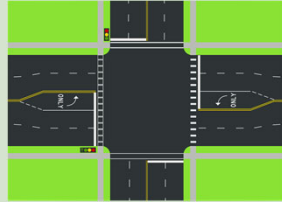
Tier 1



Tree trimming



Install signs



Refresh markings



Install Backplates

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

Tier 2

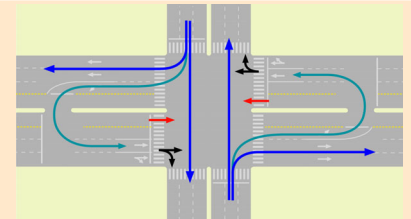
Speed
Feedback
Sign



Flashing
Warning
Sign

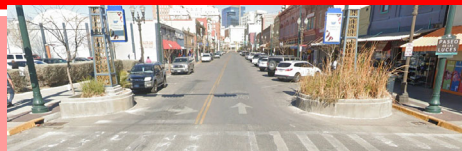
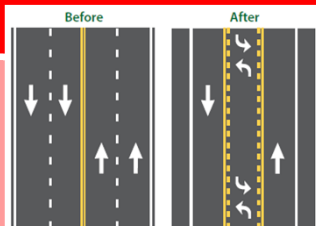


Restrict
Turning
Movements



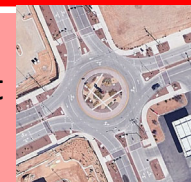
Tier 3

Lane
Reduction /
Road Diet



Curb Extensions

Roundabout



Complete
Street



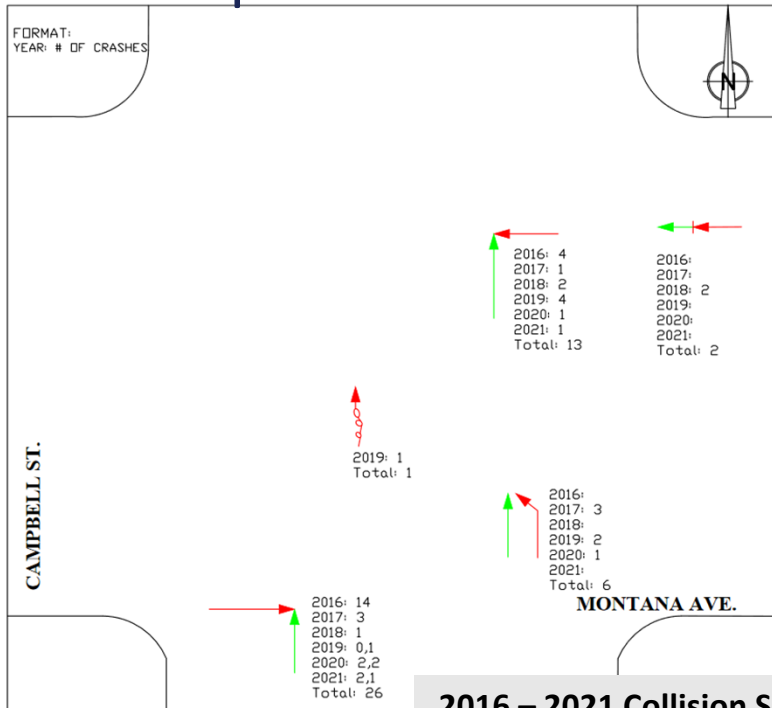


Joint Proposed Improvements

5. Campbell St and Montana Ave – Existing Conditions

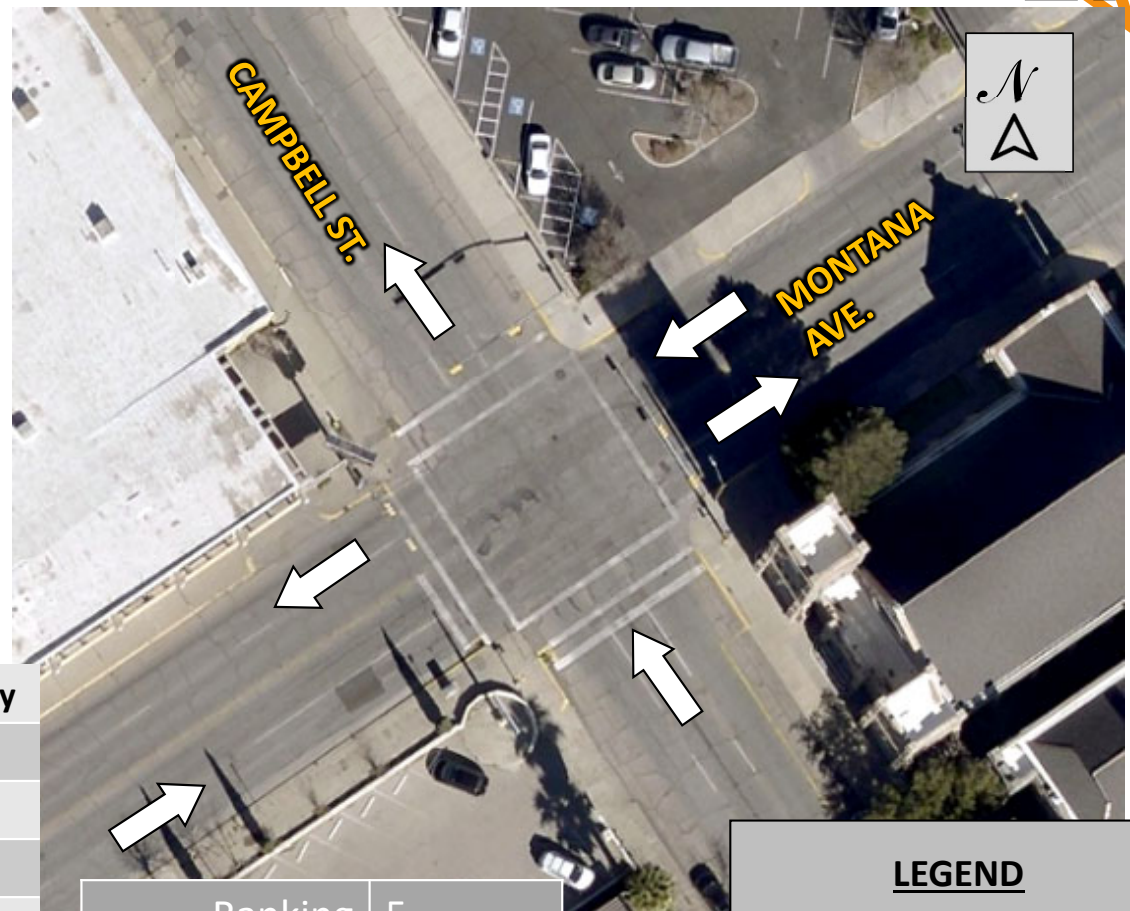


17



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

18

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

19

Montana Ave (eastbound)
EXISTING



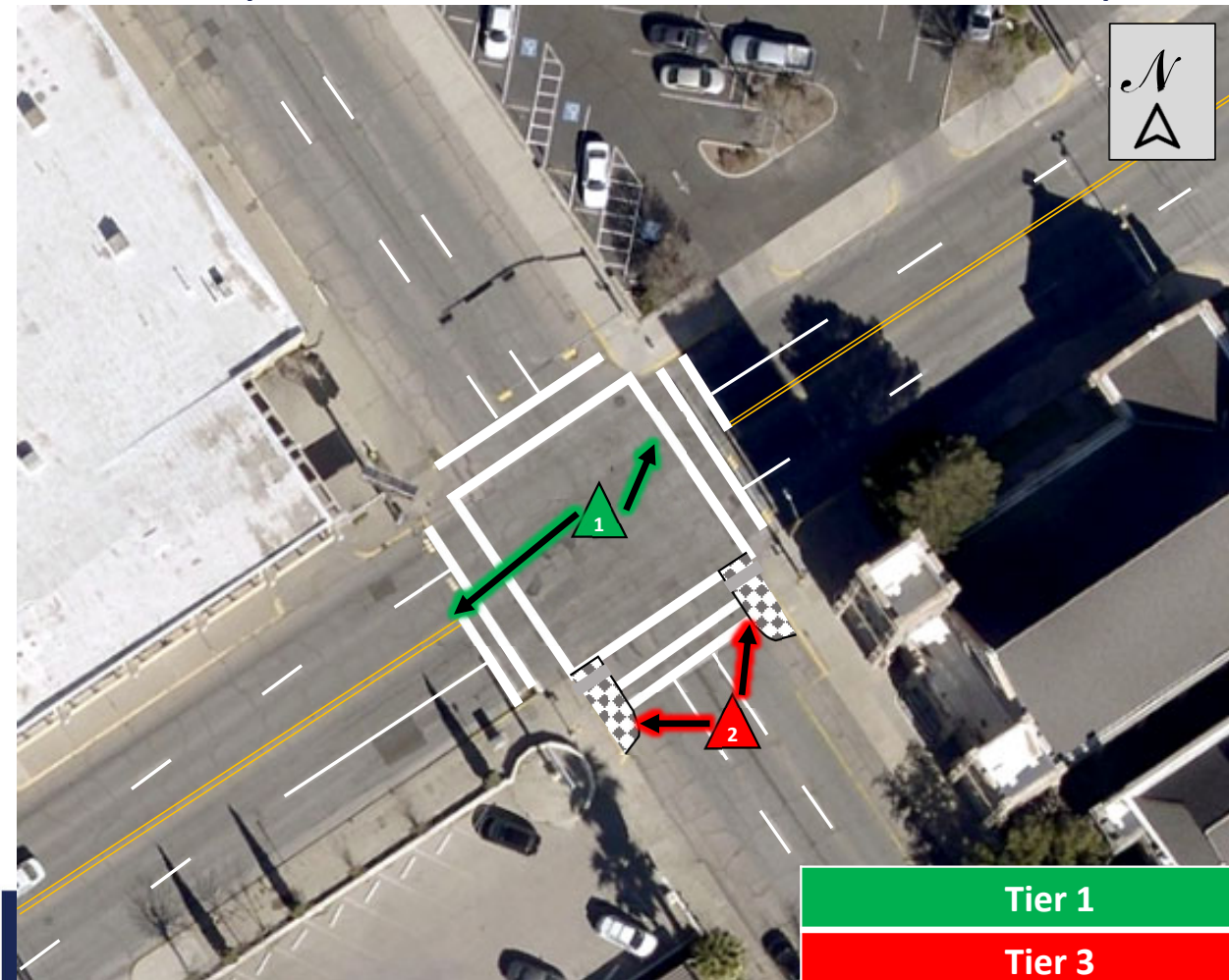
Montana Ave (eastbound)
PROPOSED



Install Speed Feedback Sign

Joint Proposed Improvements

5. Campbell St and Montana Ave – Proposed Improvements



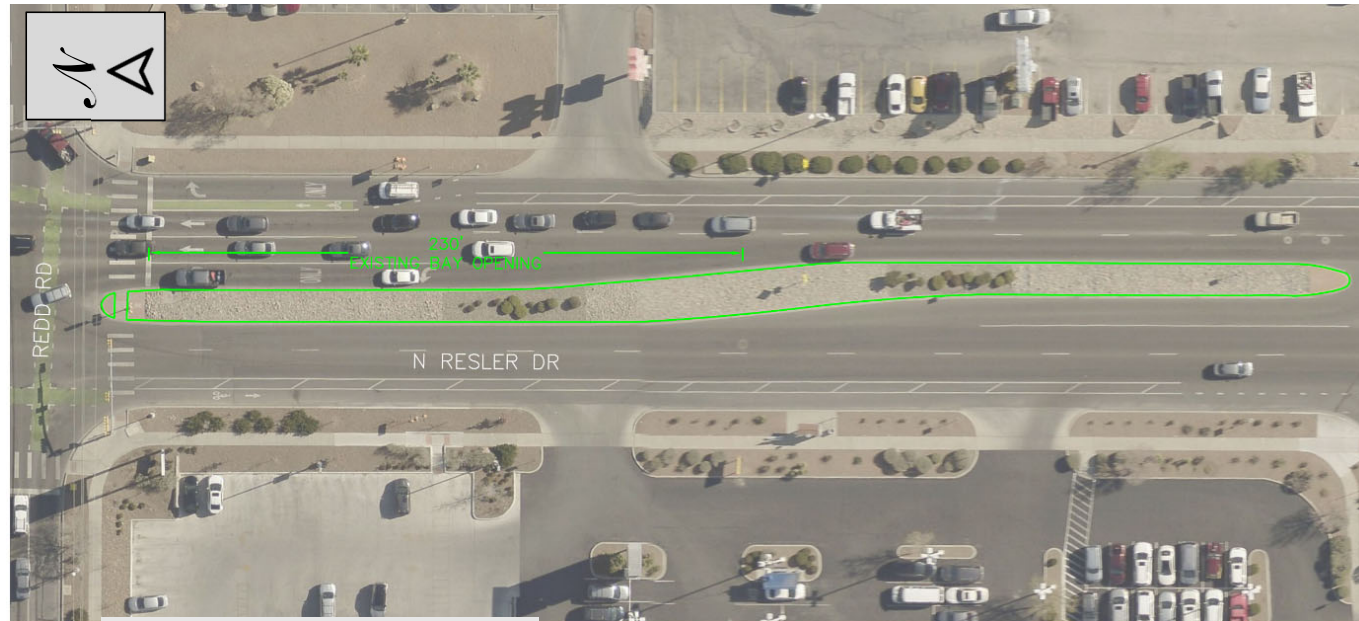
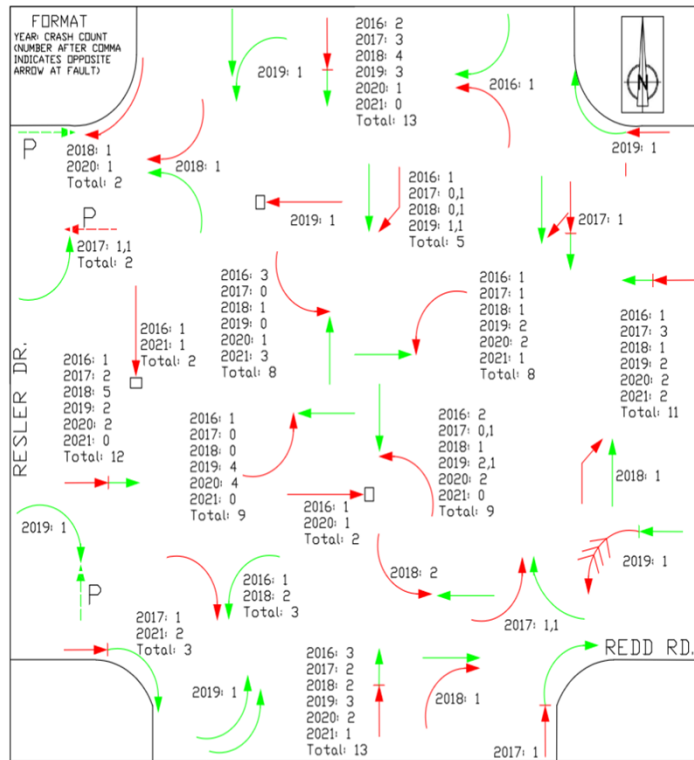
1. Repaint all pavement markings
2. Install curb extensions

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

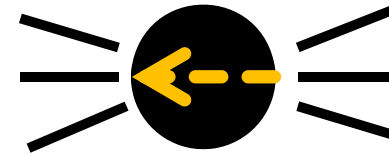
Ranking 3
District 1

Joint Proposed Improvements

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

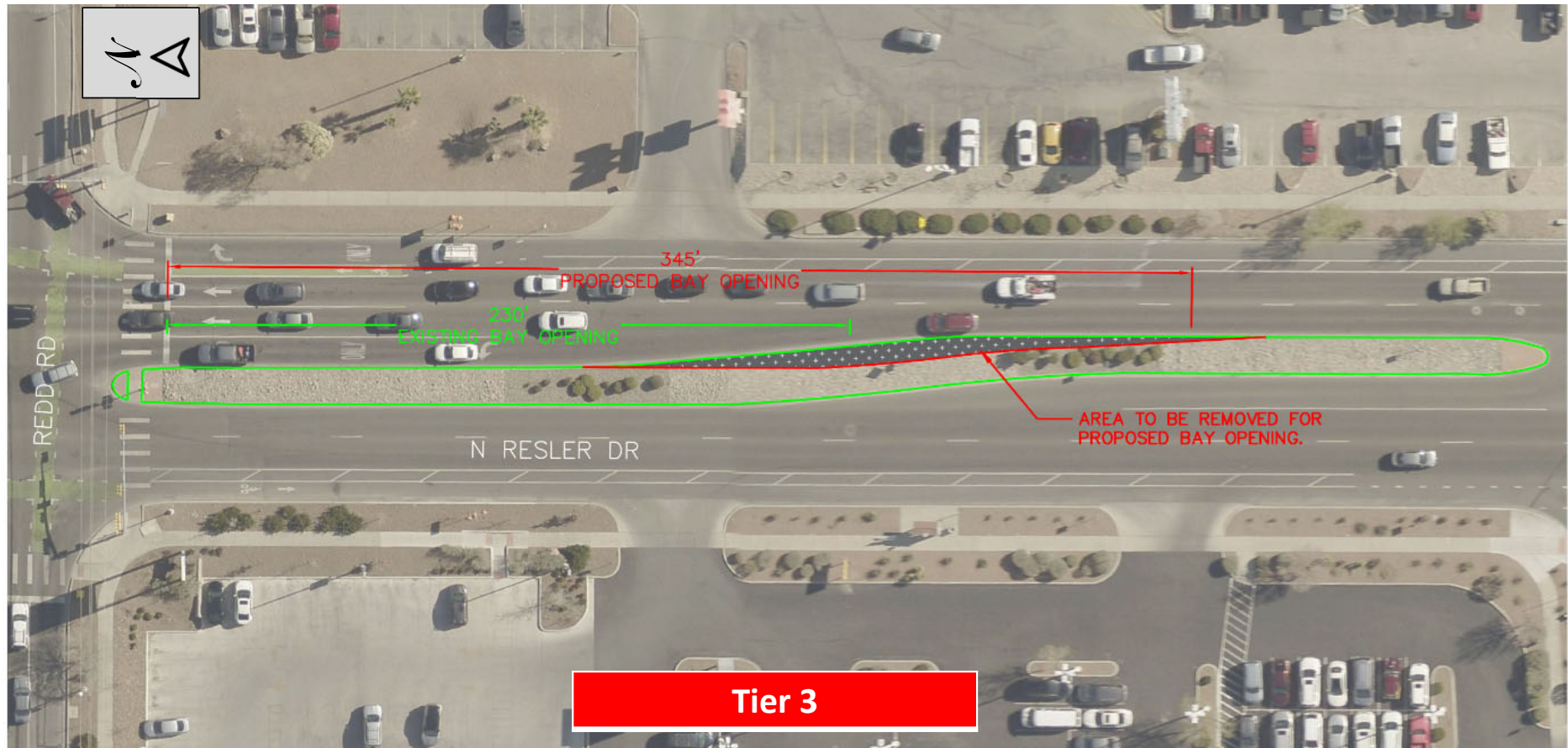


2019 Resurfacing Project at Redd & Resler



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
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 GUAYNITA PI	LEE TREVINO DR	54	0	2	24	28	7

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
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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	CORLA ST	MONTANA AVE	\$13,060,000	2