APPENDIX A

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SH 20 / Mesa Street
Diagrammatic of Final Recommendations

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Master Plan Diagrammatic > Recommended Improvements to the Mesa St. – SH 20 C

Diagrama del plan maestro > Mejoras Recomendadas al Corredor Mesa St. - SH 20

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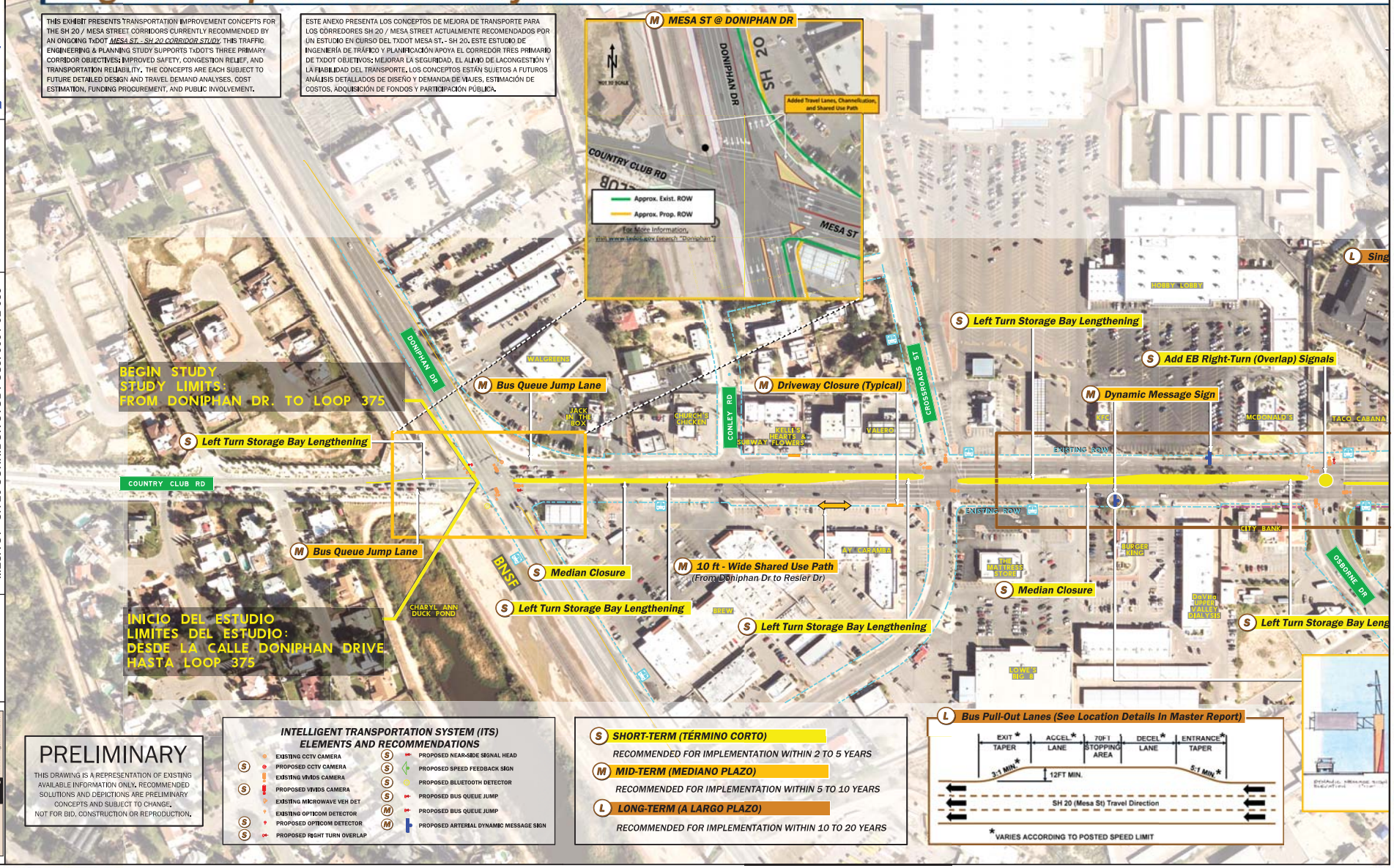

MATCH LINE SHEET 1

INTELLIGENT TRANSPORTATION SYSTEM (ITS) ELEMENTS AND RECOMMENDATIONS

- EXISTING CCTV CAMERA
- (S) PROPOSED CCTV CAMERA
- EXISTING VIVIDS CAMERA
- (S) PROPOSED VIVIDS CAMERA
- EXISTING MICROWAVE VEH DET
- EXISTING OPTICOM DETECTOR
- (S) PROPOSED OPTICOM DETECTOR
- (S) PROPOSED RIGHT TURN OVERLAP
- (S) PROPOSED NEAR-SIDE SIGNAL HEAD
- (S) PROPOSED SPEED FEEDBACK SIGN
- (S) PROPOSED BLUETOOTH DETECTOR
- (S) PROPOSED BUS QUEUE JUMP
- (M) PROPOSED BUS QUEUE JUMP
- (M) PROPOSED ARTERIAL DYNAMIC MESSAGE SIGN

(S) SHORT-TERM (TÉRMINO CORTO)
RECOMMENDED FOR IMPLEMENTATION WITHIN 2 TO 5 YEARS

(M) MID-TERM (MEDIANO PLAZO)
RECOMMENDED FOR IMPLEMENTATION WITHIN 5 TO 10 YEARS

(L) LONG-TERM (A LARGO PLAZO)
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PRELIMINARY

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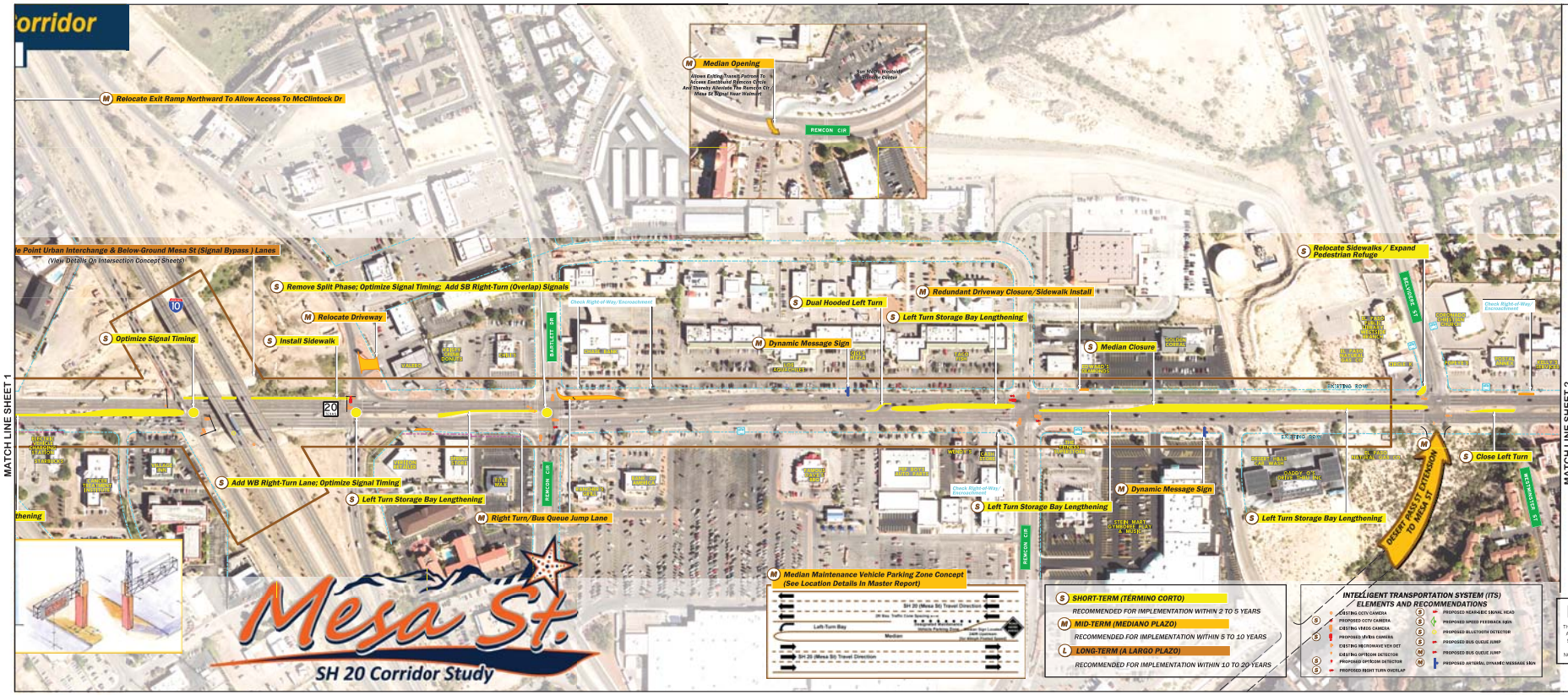
ROLL 1 OF 6

MASTER PLAN DIAGRAMMATIC
MESA ST - SH 20 CORRIDOR STUDY CSJ: 0001-02-059

COUNTY: EL PASO
DATE: APRIL 2018

Texas Department of Transportation



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MASTER PLAN DIAGRAMMATIC
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ROLL 1 OF 6

STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION
ROUTINE MAINTENANCE
MAINTENANCE DIVISION
TRANSPORTATION PLANNING & PROGRAMMING DIVISION
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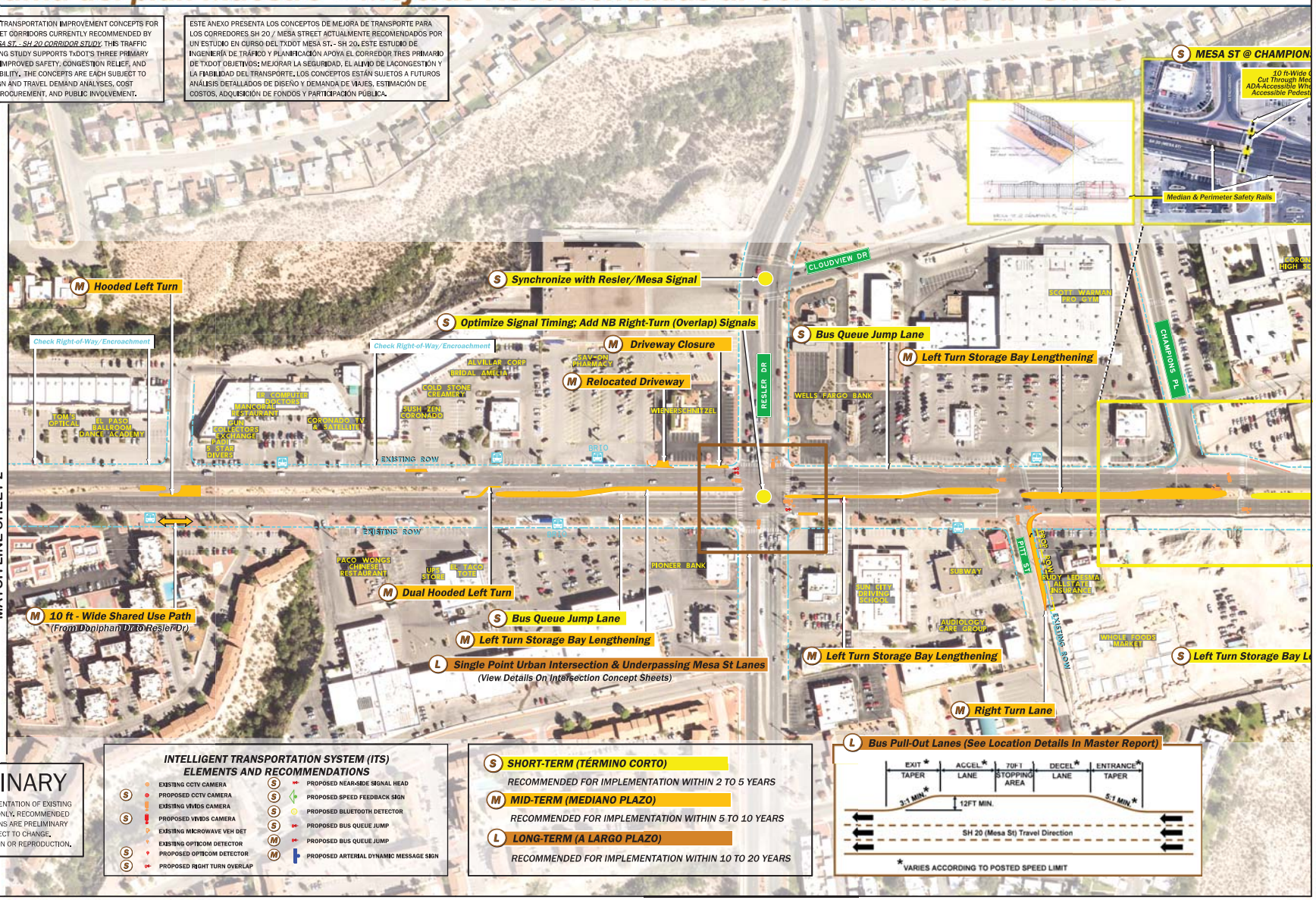

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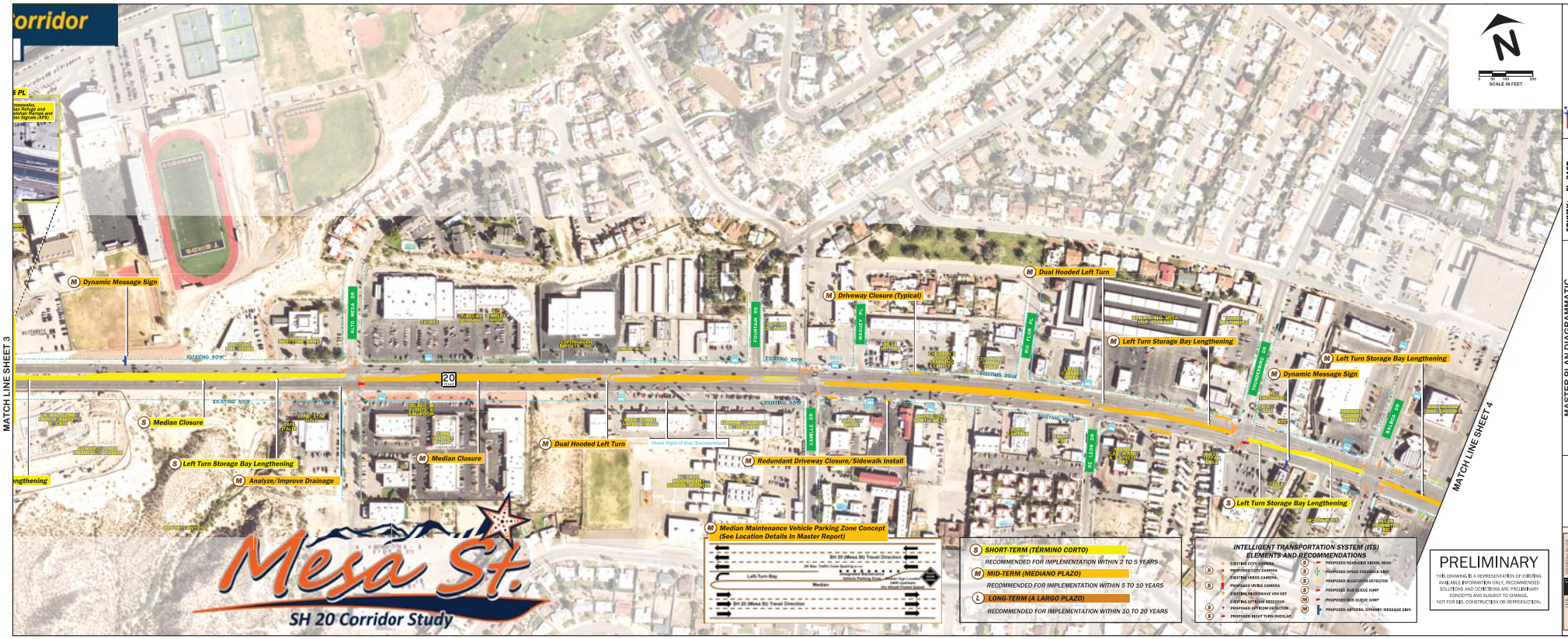
MATCH LINE SHEET 3
MATCH LINE SHEET 4
Mesa St.
SH 20 Corridor Study
M Dynamic Message Sign
S Median Closure
S Left Turn Storage Bay Lengthening
M Analyze/Improve Drainage
M Median Closure
M Dual Hooded Left Turn
M Redundant Driveway Closure/Sidewalk Install
M Driveway Closure (Typical)
M Median Maintenance Vehicle Parking Zone Concept (See Location Details In Master Report)
M Dual Hooded Left Turn
M Left Turn Storage Bay Lengthening
M Left Turn Storage Bay Lengthening
M Dynamic Message Sign
S Left Turn Storage Bay Lengthening
ALTO MESA DR
FOUNTAIN RD
MAGGIE PL
RIO FLOR PL
THUNDERBIRD DR
CAMILLE DR
DE LEON DR
BALBOA DR
EXISTING ROW
20 SPEED
SCALE IN FEET
0 50 100 150 300
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PROPOSED VIDEO CAMERA
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ROLL 2 OF 6

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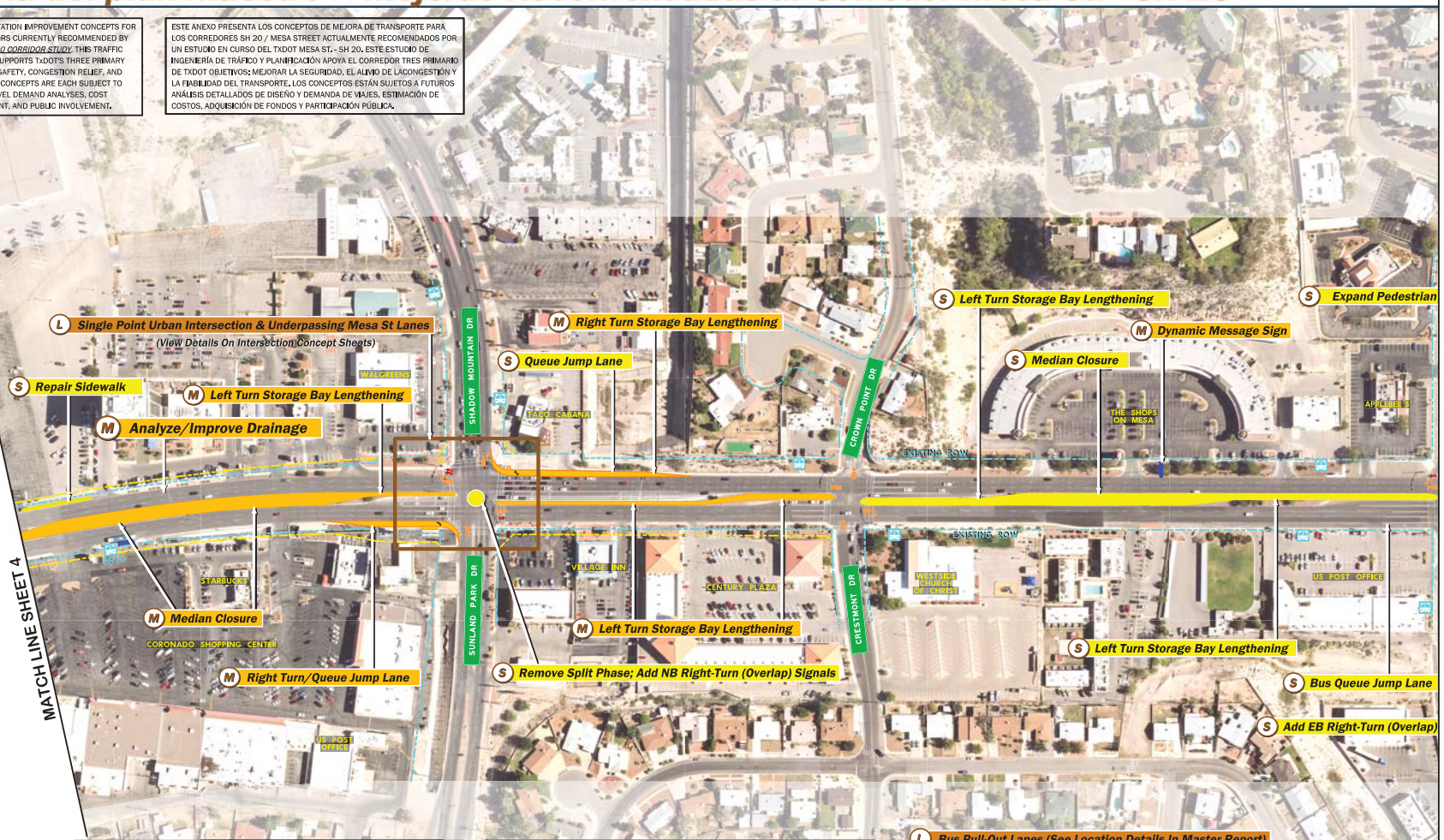

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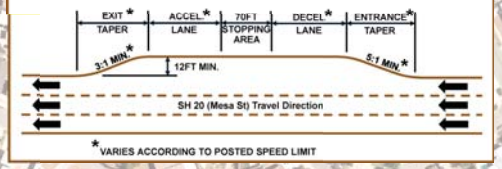

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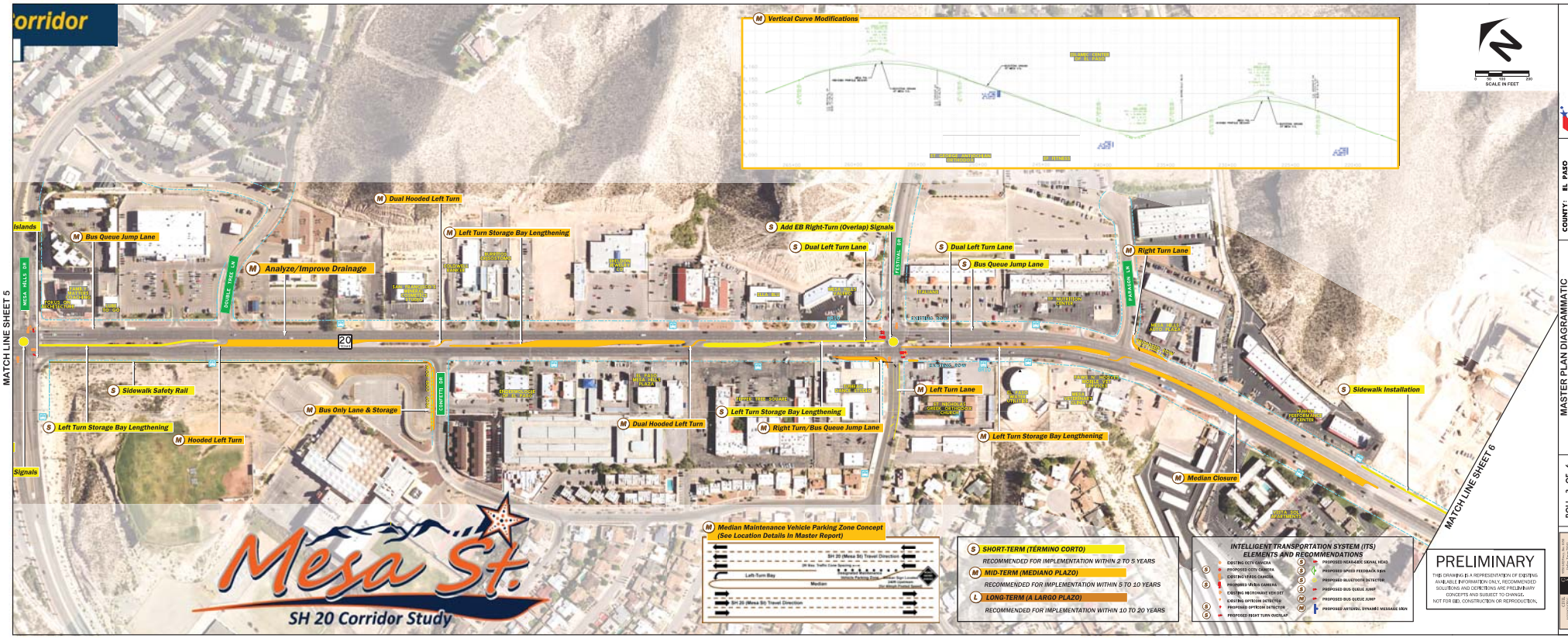
Corridor
MATCH LINE SHEET 5
MATCH LINE SHEET 6
Vertical Curve Modifications
Bus Queue Jump Lane
Analyze/Improve Drainage
Dual Hooded Left Turn
Left Turn Storage Bay Lengthening
Add EB Right-Turn (Overlap) Signals
Dual Left Turn Lane
Bus Queue Jump Lane
Right Turn Lane
Sidewalk Safety Rail
Left Turn Storage Bay Lengthening
Hooded Left Turn
Bus Only Lane & Storage
Dual Hooded Left Turn
Left Turn Storage Bay Lengthening
Right Turn/Bus Queue Jump Lane
Left Turn Lane
Left Turn Storage Bay Lengthening
Median Closure
Sidewalk Installation
Median Maintenance Vehicle Parking Zone Concept (See Location Details In Master Report)
Mesa St.
SH 20 Corridor Study
SHORT-TERM (TERMINO CORTO)
RECOMMENDED FOR IMPLEMENTATION WITHIN 2 TO 5 YEARS
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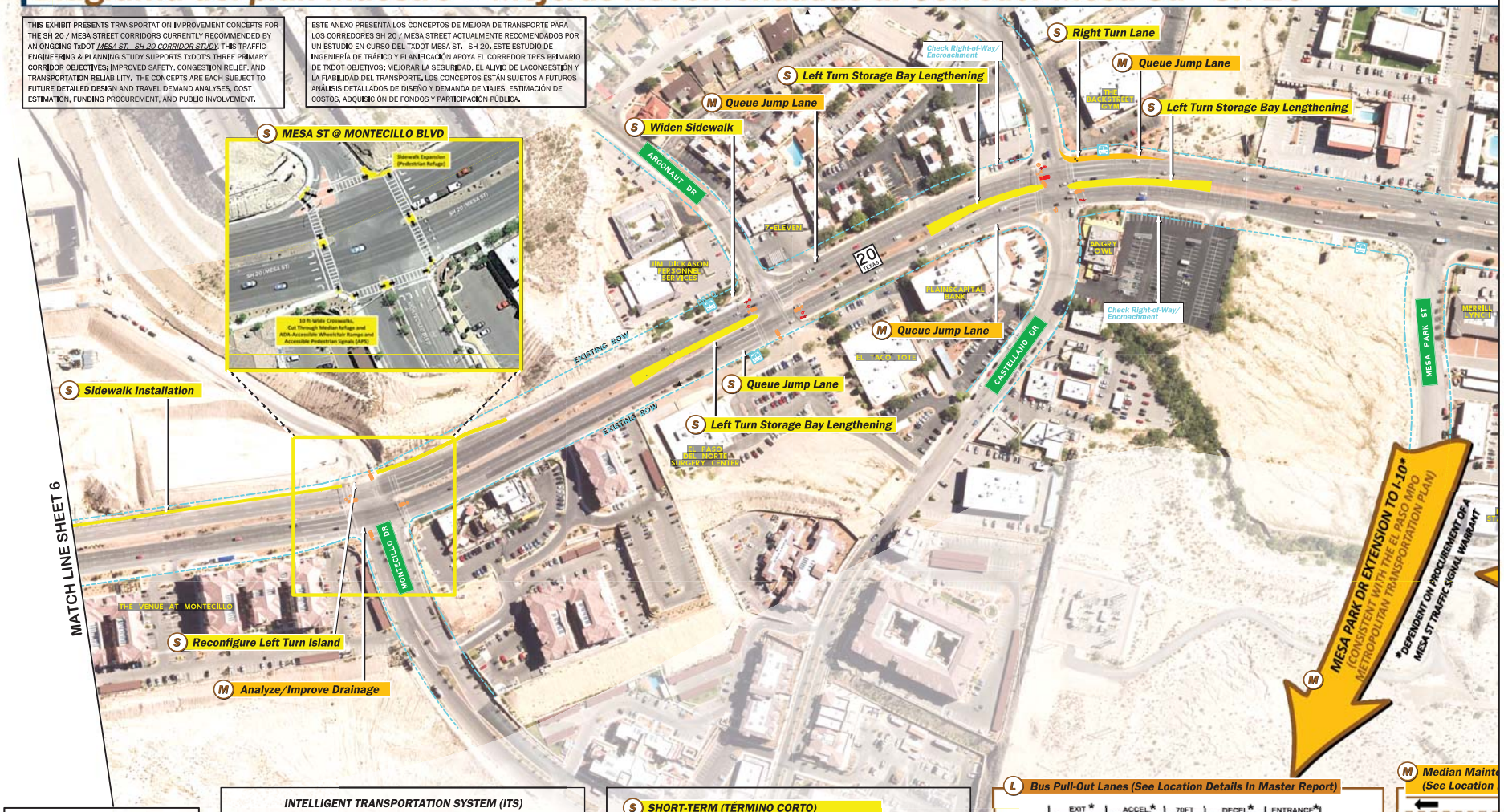

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orridor
MATCH LINE SHEET 7
MATCH LINE SHEET 8
M Continue Auxiliary Lane
M Dual Hooded Left Turn
M Driveway Closure (Typical)
M Dual Hooded Left Turn
M Dynamic Message Sign
M Dual Hooded Left Turn
S Speed Feedback Sign
S Queue Jump Lane
S Left Turn Storage Bay Lengthening
S Queue Jump Lane
S Remove Split Phase Signal Timing
L Green T Intersection With Horizontal Curve Modification
(View Details On Intersection Concept Sheets)
L 10 ft Wide Shared Use Path
(From Executive Center Blvd To Sun Bowl Dr)
S Dual Hooded Left Turn
S Left Turn Storage Bay Lengthening
M Right Turn/Queue Jump Lane
M (Close Drive) Install Sidewalk
M Partial Driveway Closure
M Left Turn Storage Bay Lengthening
S Speed Feedback Sign
S Sidewalk Repair
S Expand Pedestrian Refuge
S Sidewalk Repair
M Dual Hooded Left Turn
M Raised Median
S Sidewalk Repair
M Analyze/Improve Drainage
S Convert SB Left-Turn To Dual Left; Add WB Right-Turn (Overlap) Signals
Check Right-of-Way Encroachment
MESA PARK DR LINK TO EXECUTIVE CENTER BLVD
(CONSISTENT WITH CITY OF EL PASO THOROUGHFARE PLAN)
Mesa St.
SH 20 Corridor Study
SHORT-TERM (TERMINO CORTO)
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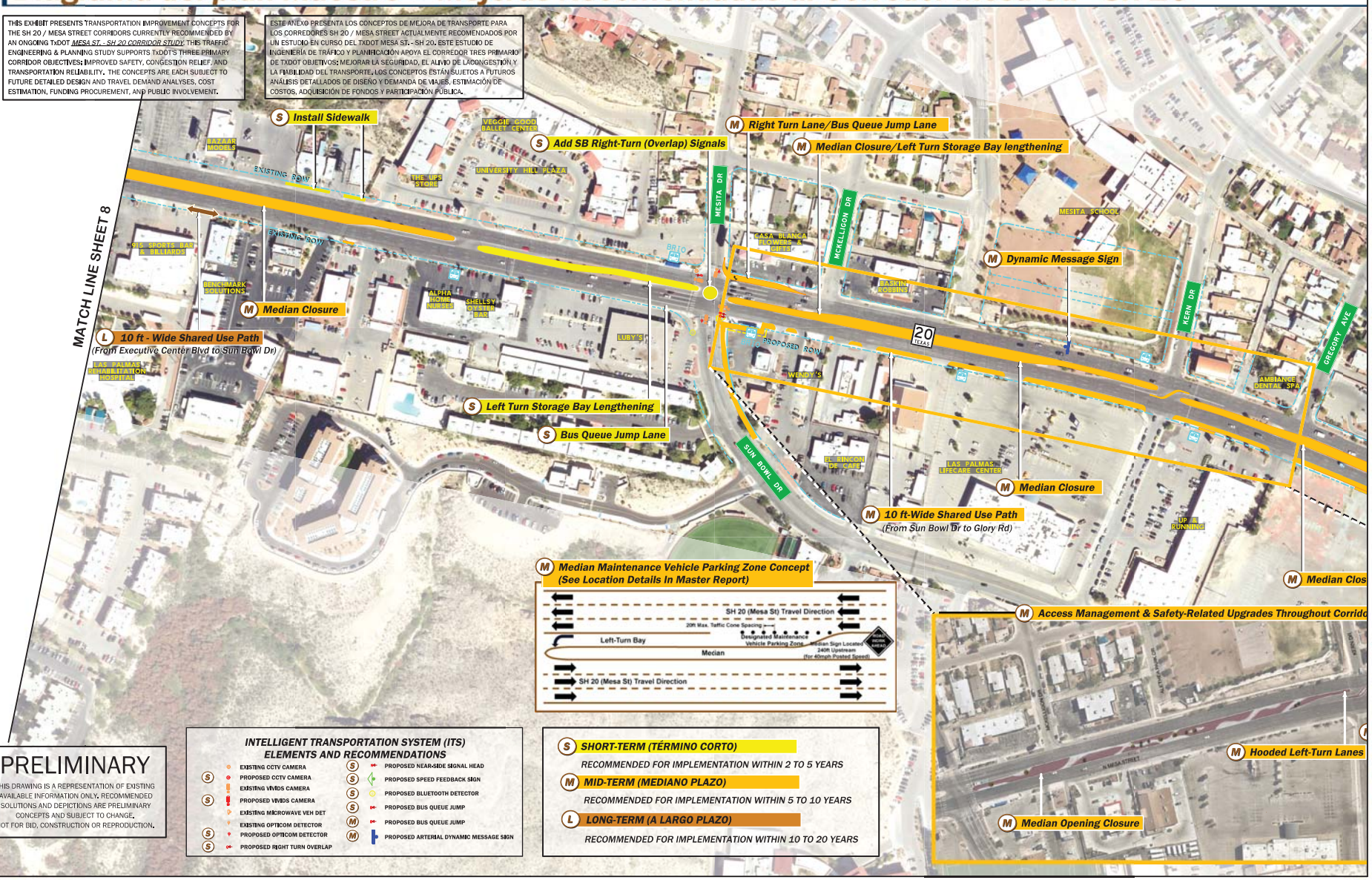

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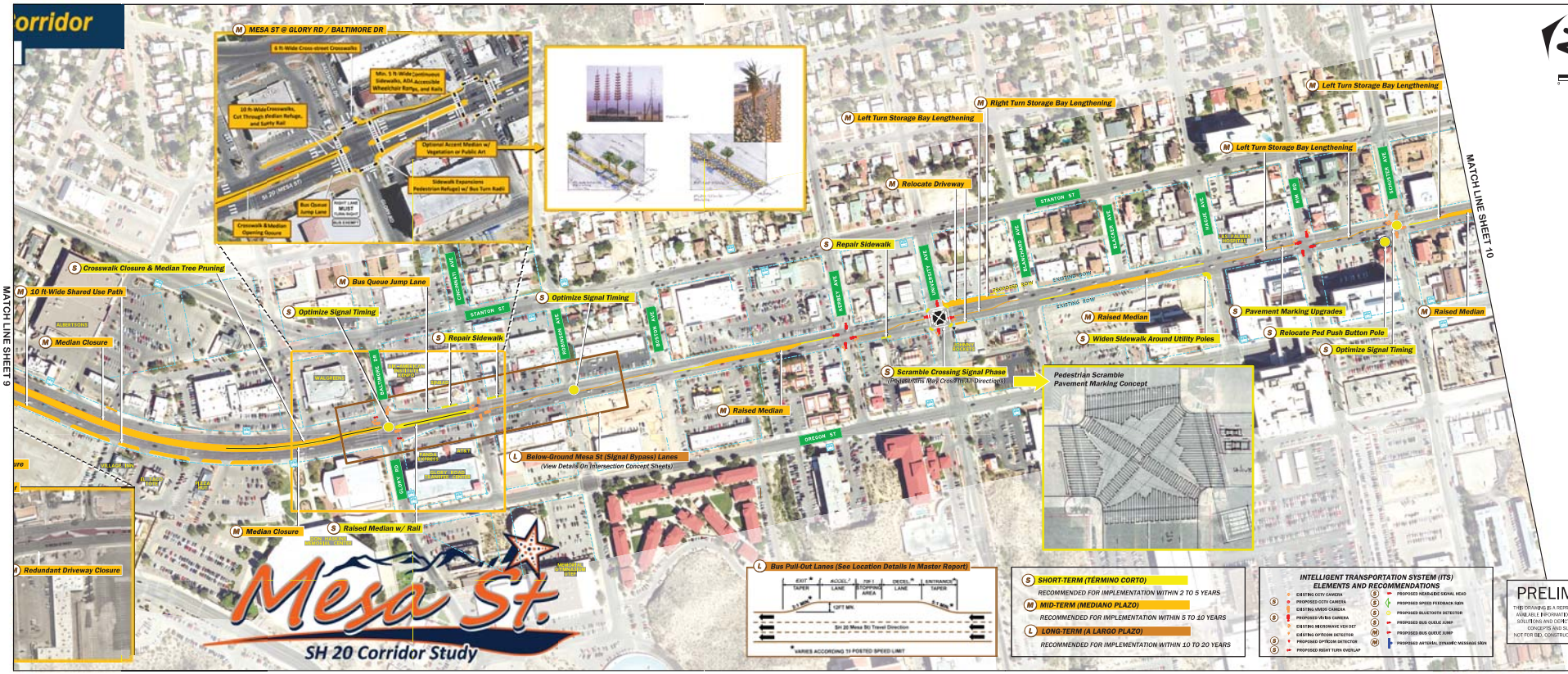
COUNTY: EL PASO
DATE: APRIL 2018

MASTER PLAN DIAGRAMMATIC
MESA ST - SH 20 CORRIDOR STUDY CSJ: 0001-02-059

ROLL 5 OF 6

CIUDAD ASSOCIATES, INC.
9330 LBJ Freeway, Ste. 1100
Dallas, Texas 75243
www.ciudadassociates.com



Texas Department of Transportation

COUNTY: EL PASO
DATE: MARCH 2018

MASTER PLAN DIAGRAMMATIC
MESA ST - SH 20 CORRIDOR STUDY CSJ: 0001-02-059

ROLL 5 OF 6

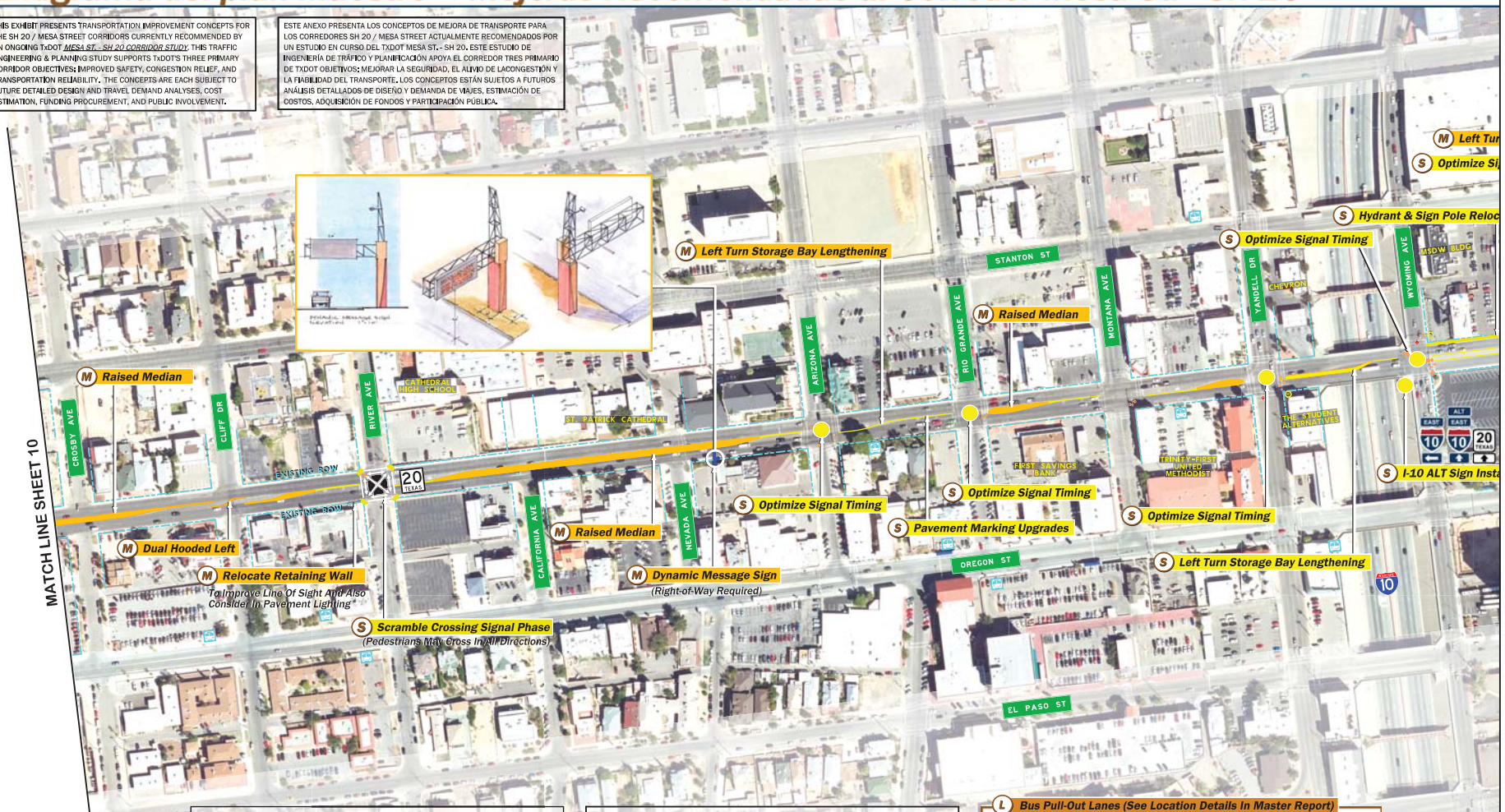
STATE OF TEXAS
DEPARTMENT OF TRANSPORTATION

Master Plan Diagrammatic > Recommended Improvements to the Mesa St. – SH 20 C

Diagrama del plan maestro > Mejoras Recomendadas al Corredor Mesa St. - SH 20

THIS EXHIBIT PRESENTS TRANSPORTATION IMPROVEMENT CONCEPTS FOR THE SH 20 / MESA STREET CORRIDORS CURRENTLY RECOMMENDED BY AN ONGOING TxDOT *MESA ST. - SH 20 CORRIDOR STUDY*. THIS TRAFFIC ENGINEERING & PLANNING STUDY SUPPORTS TxDOT'S THREE PRIMARY CORRIDOR OBJECTIVES: IMPROVED SAFETY, CONGESTION RELIEF, AND TRANSPORTATION RELIABILITY. THE CONCEPTS ARE EACH SUBJECT TO FUTURE DETAILED DESIGN AND TRAVEL DEMAND ANALYSES, COST ESTIMATION, FUNDING PROCUREMENT, AND PUBLIC INVOLVEMENT.

ESTE ANEXO PRESENTA LOS CONCEPTOS DE MEJORA DE TRANSPORTE PARA LOS CORREDORES SH 20 / MESA STREET ACTUALMENTE RECOMENDADOS POR UN ESTUDIO EN CURSO DEL TXDOT MESA ST.- SH 20. ESTE ESTUDIO DE INGENIERÍA DE TRÁFICO Y PLANIFICACIÓN APOYA EL CORREDOR TRES PRIMARIO DE TXDOT OBJETIVOS: MEJORAR LA SEGURIDAD, EL ALIVIO DE LACONGESTIÓN Y LA FIABILIDAD DEL TRANSPORTE. LOS CONCEPTOS ESTÁN SUJETOS A FUTUROS ANÁLISIS DETALLADOS DE DISEÑO Y DEMANDA DE VIAJES, ESTIMACIÓN DE COSTOS, ADQUISICIÓN DE FONDOS Y PARTICIPACIÓN PÚBLICA.



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INTELLIGENT TRANSPORTATION SYSTEM (ITS) ELEMENTS AND RECOMMENDATIONS

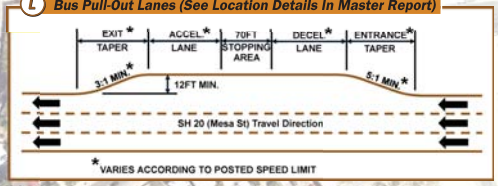
- EXISTING CCTV CAMERA
- (S) PROPOSED CCTV CAMERA
- EXISTING VIVIDS CAMERA
- (S) PROPOSED VIVIDS CAMERA
- EXISTING MICROWAVE VEH DET
- EXISTING OPTICOM DETECTOR
- (S) PROPOSED OPTICOM DETECTOR
- (S) PROPOSED RIGHT TURN OVERLAP
- (S) PROPOSED NEAR-SIDE SIGNAL HEAD
- (S) PROPOSED SPEED FEEDBACK SIGN
- (S) PROPOSED BLUETOOTH DETECTOR
- (S) PROPOSED BUS QUEUE JUMP
- (M) PROPOSED BUS QUEUE JUMP
- (M) PROPOSED ARTERIAL DYNAMIC MESSAGE SIGN

(S) SHORT-TERM (TÉRMINO CORTO)
RECOMMENDED FOR IMPLEMENTATION WITHIN 2 TO 5 YEARS

(M) MID-TERM (MEDIANO PLAZO)
RECOMMENDED FOR IMPLEMENTATION WITHIN 5 TO 10 YEARS

(L) LONG-TERM (A LARGO PLAZO)
RECOMMENDED FOR IMPLEMENTATION WITHIN 10 TO 20 YEARS

(L) Bus Pull-Out Lanes (See Location Details In Master Report)



Texas Department of Transportation

COUNTY: EL PASO
DATE: APRIL 2018

MASTER PLAN DIAGRAMMATIC
MESA ST - SH 20 CORRIDOR STUDY CSJ: 0001-02-059

ROLL 6 OF 6

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MATCH LINE SHEET 11

Mesa St.

SH 20 Corridor Study

orridor

n Storage Bay Lengthening
gnal Timing
ations

(M) Dynamic Message Sign

(S) Signal Controller Relocation

(S) I-10 Sign Install

(S) Typical Intersection Upgrades

6 ft-Wide Crosswalks w/ ADA-Accessible Wheelchair Ramps and Accessible Pedestrian Signals (APS)

Pavement Markings

(S) Optimize Signal Timing; Typical Pedestrian Phasing

(M) Storage Turn Bay Lengthening

(M) Relocate Driveway From Intersection

(S) Replace Sidewalk

(S) Pavement Marking Upgrades

(M) Relocate Driveway From Intersection

(M) Border West Expwy

Future Travel Lane Configuration & Access Pursuant To TxDOT's 2013 Border West Expressway Design Schematic

(M) Mini-Roundabout

FINAL DEL ESTUDIO
LIMITES DEL ESTUDIO:
DESDE LA CALLE DONIPHAN DRIVE
HASTA LOOP 375

END STUDY
STUDY LIMITS:
FROM DONIPHAN DR. TO LOOP 375

KANSAS ST
TEXAS AVE
FRANKLIN AVE
MAIN ST
MILLS AVE
SAN ANTONIO AVE
CUTLAND AVE
THIRD AVE
FOURTH AVE
RAYNOR RUNN AVE
SIXTH AVE
SEVENTH AVE
EIGHTH AVE
NINTH AVE
STANTON AVE
MESA ST
OREGON ST
SANTA FE ST
PARADIS DR
EXISTING RAMP
EXISTING ROAD
EXISTING MAY
WESTAR
PORTLAND CEMENT
ST. ANTHONY'S CATHOLIC CHURCH
ST. ANTHONY'S CATHOLIC SCHOOL
SAINT MICHAEL OFFICE LLC
20 TEXAS
10
85
67
375

Campbell St
Kansas St
Stanton St
Mesa St
Oregon St
Cut Back Border Highway

0 50 100 200 300
SCALE IN FEET

(S) SHORT-TERM (TÉRMINO CORTO)
RECOMMENDED FOR IMPLEMENTATION WITHIN 2 TO 5 YEARS

(M) MID-TERM (MEDIANO PLAZO)
RECOMMENDED FOR IMPLEMENTATION WITHIN 5 TO 10 YEARS

(L) LONG-TERM (A LARGO PLAZO)
RECOMMENDED FOR IMPLEMENTATION WITHIN 10 TO 20 YEARS

INTELLIGENT TRANSPORTATION SYSTEM (ITS) ELEMENTS AND RECOMMENDATIONS

- EXISTING CCTV CAMERA
- (S) PROPOSED CCTV CAMERA
- EXISTING STRAIGHT CAMERA
- (S) PROPOSED VERSA CAMERA
- EXISTING MICROWAVE VEH DET
- EXISTING OPTICOM DETECTOR
- (S) PROPOSED OPTICOM DETECTOR
- (S) PROPOSED RIGHT TURN OVERLAP
- (S) PROPOSED NEMA/ABC SIGNAL HEAD
- (S) PROPOSED SPEED FEEDBACK SIGN
- (S) PROPOSED BLUETOOTH DETECTOR
- (S) PROPOSED BUS QUEUE JUMP
- (M) PROPOSED BUS QUEUE JUMP
- (M) PROPOSED ANTICIPATORY DYNAMIC MESSAGE SIGN

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COUNTY: EL PASO
DATE: MARCH 2018

MASTER PLAN DIAGRAMMATIC
MESA ST - SH 20 CORRIDOR STUDY CSJ: 0001-02-059

ROLL 6 OF 6

SHEET 11 OF 11 SHEETS

SH 20 / Mesa Street
Diagrammatic of Final Major Intersection Recommendations:

I-10

Resler Drive

Sunland Park Drive

Executive Center Boulevard

Glory Road / Baltimore Avenue

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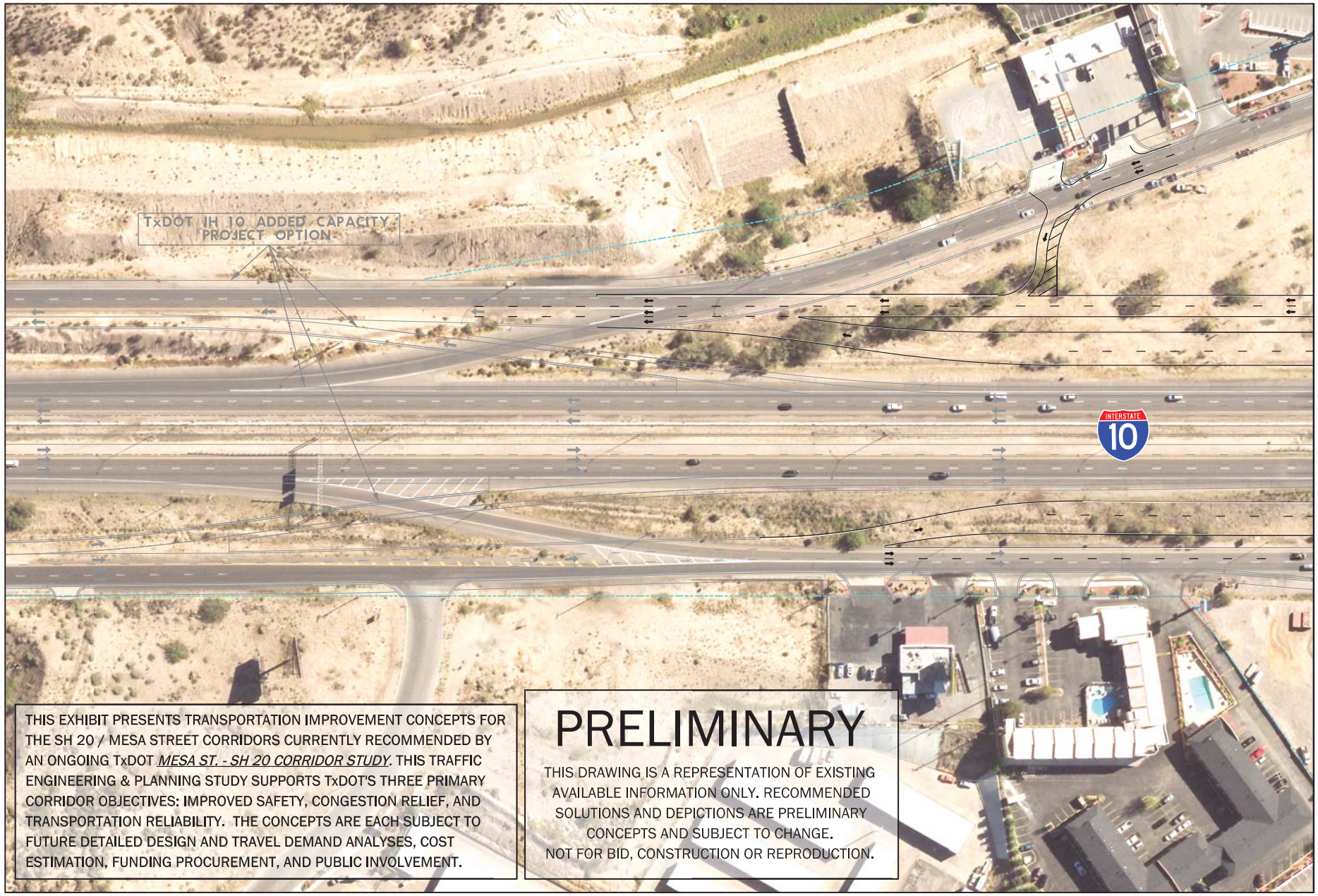

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MASTER PLAN DIAGRAMMATIC

I-10 AT MESA ST INTERSECTION CONCEPT CSJ: 0001-02-059

COUNTY: EL PASO
DATE: APRIL 2018

Texas Department of Transportation

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MATCH LINE SHEET 1

MATCH LINE SHEET 1

CIVIL ASSOCIATES, INC. CAI 9330 LBJ Frwy, Ste. 1150 Dallas, Texas 75243 TBPE Firm Registration No. 6981	**MASTER PLAN DIAGRAMMATIC** **RESLER DR AT MESA ST INTERSECTION CONCEPT CSJ: 0001-02-059**	COUNTY: EL PASO DATE: APRIL 2018

Texas Department of Transportation

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MASTER PLAN DIAGRAMMATIC

SUNLAND PARK DR AT MESA ST INTERSECTION CONCEPT CSJ: 0001-02-059

COUNTY: EL PASO
DATE: APRIL 2018

Texas Department of Transportation

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MASTER PLAN DIAGRAMMATIC

EXECUTIVE CENTER BLVD AT MESA ST INTERSECTION CONCEPT CSJ: 0001-02-059

COUNTY: EL PASO
DATE: APRIL 2018

Texas Department of Transportation

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Exhibit_FullSize_Aerial_PDF_24x96_HighQuality.pltcfg
txdot.tbl
P:\2597.01_TxDOT ELP SH 20 Mesa ST\CADD\DGN\EXHIBITS\DIAGRAMMATIC\BINDER\SH20_INTERSECTION_GLORYRD_BINDER_1-1.dgn
5/3/2018
7:11:12 AM

CIVIL ASSOCIATES, INC.
CAI
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
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MASTER PLAN DIAGRAMMATIC

GLORY RD AT MESA ST DECK PARK CONCEPT CSJ: 0001-02-059

COUNTY: EL PASO
DATE: APRIL 2018

Texas Department of Transportation

SH 20 / Mesa Street

Conceptual Renderings of Final Recommendations

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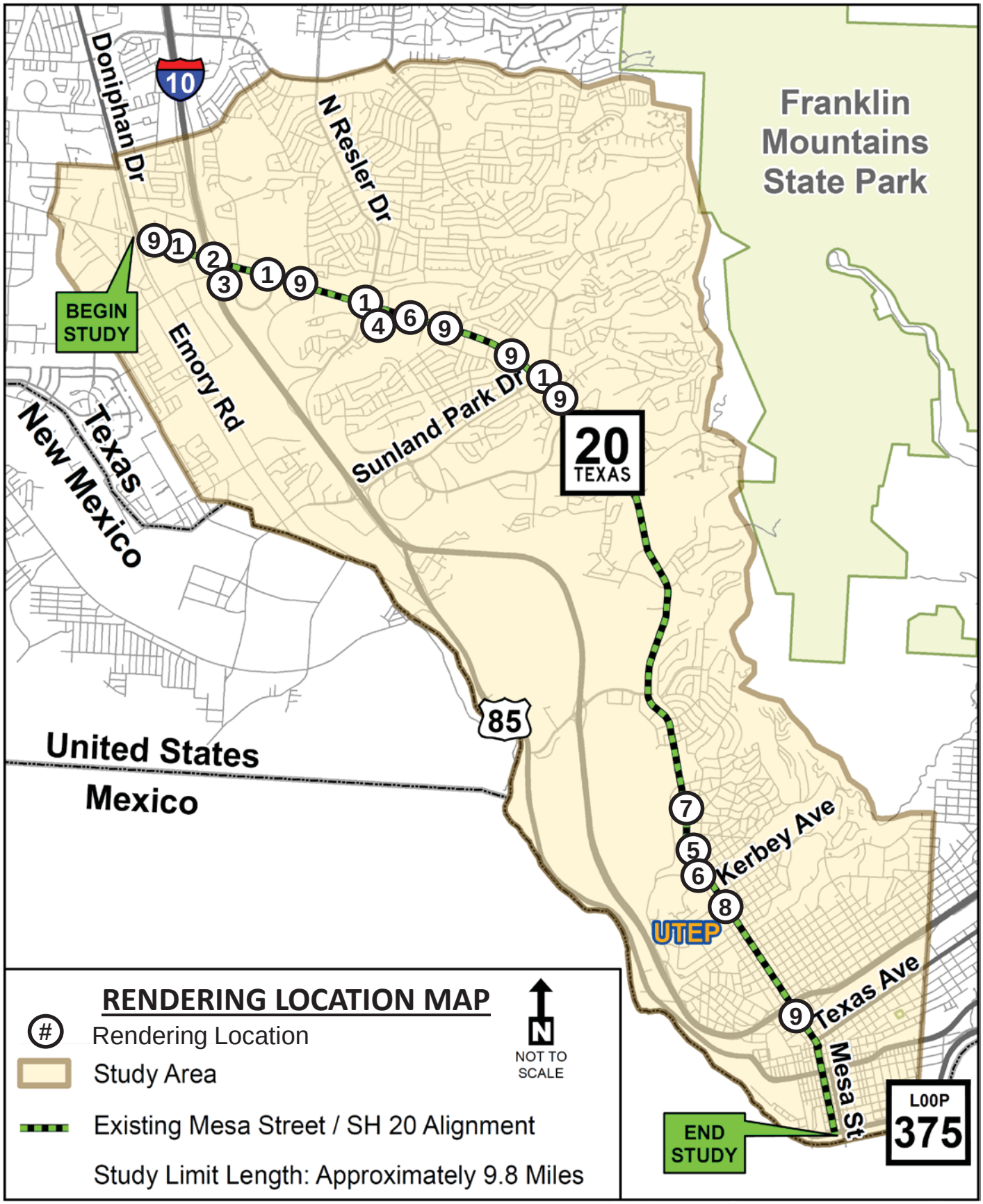
Franklin Mountains State Park
Doniphan Dr
10
N Resler Dr
BEGIN STUDY
Emory Rd
Texas
New Mexico
Sunland Park Dr
20
TEXAS
85
United States
Mexico
Kerbey Ave
UTEP
Texas Ave
Mesa St
END STUDY
LOOP
375
RENDERING LOCATION MAP
Rendering Location
Study Area
Existing Mesa Street / SH 20 Alignment
Study Limit Length: Approximately 9.8 Miles
N
NOT TO SCALE

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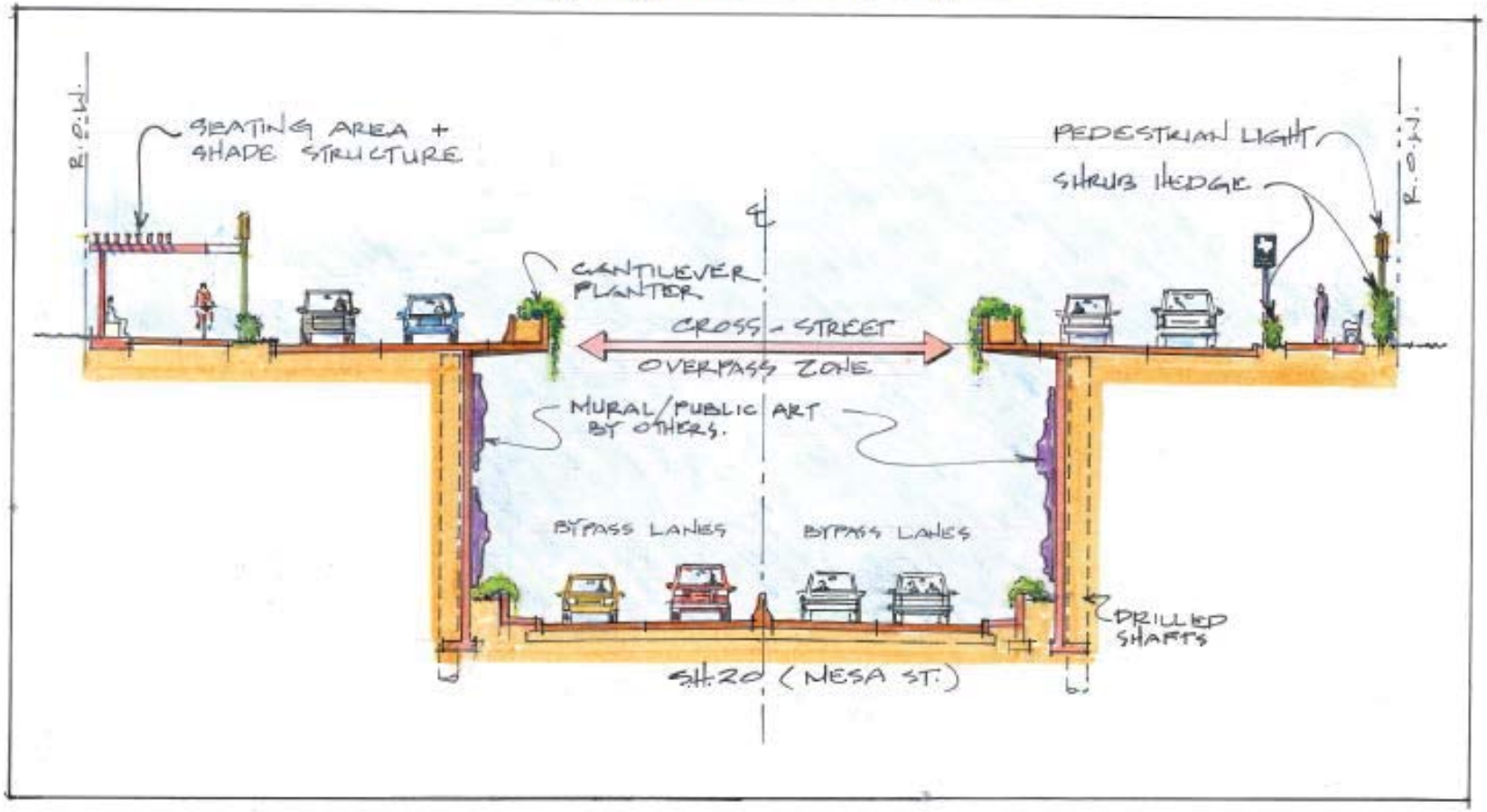
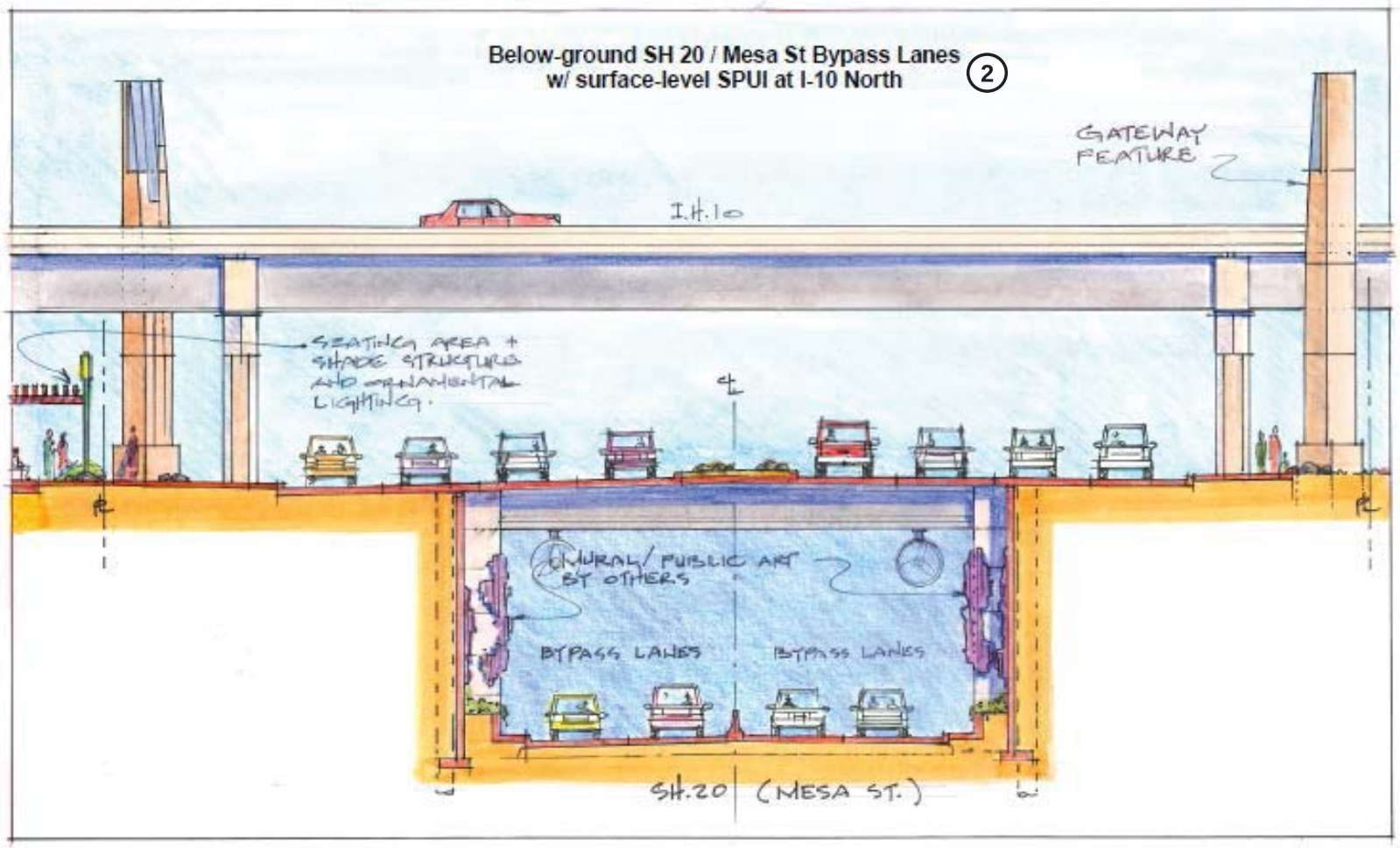
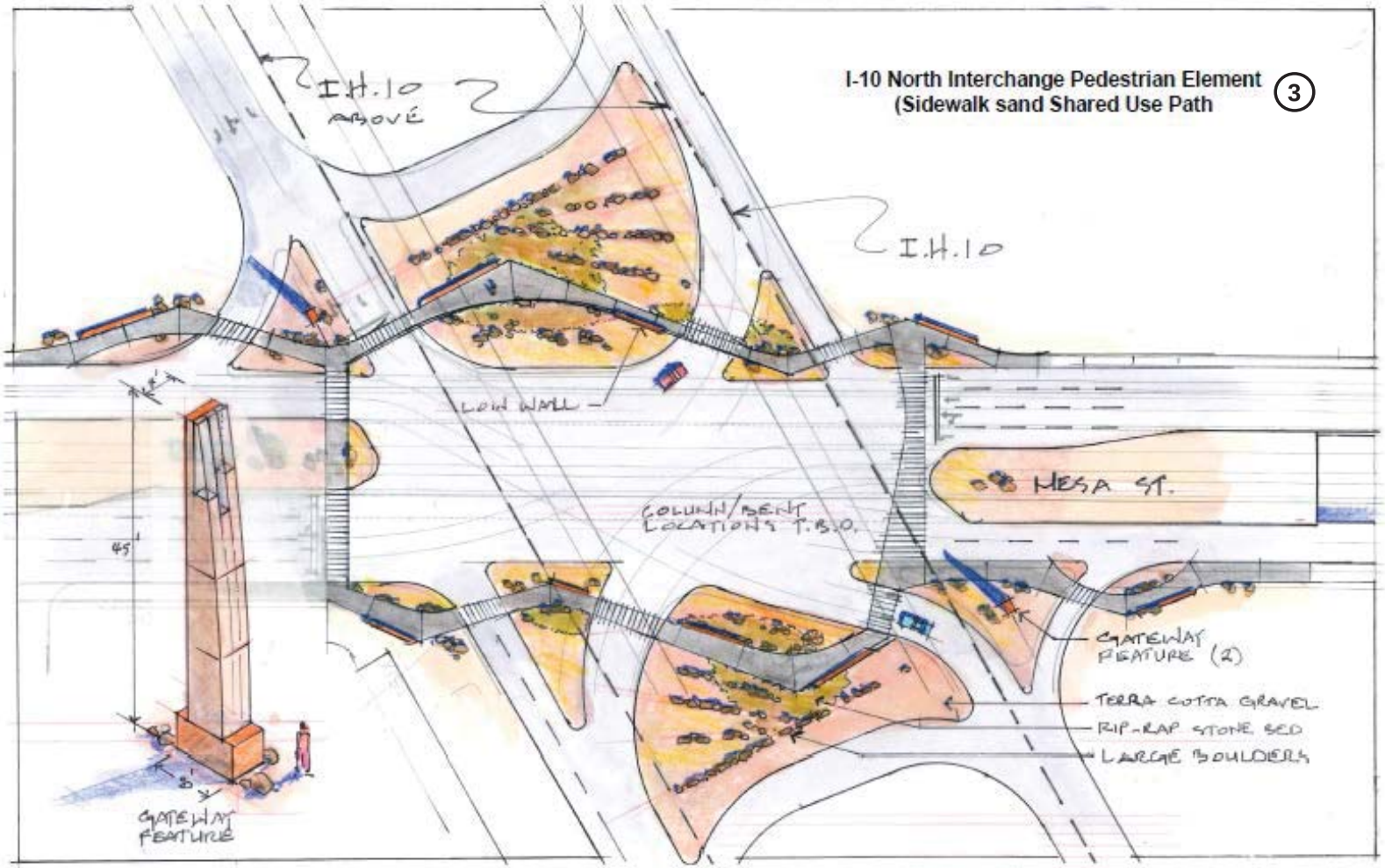
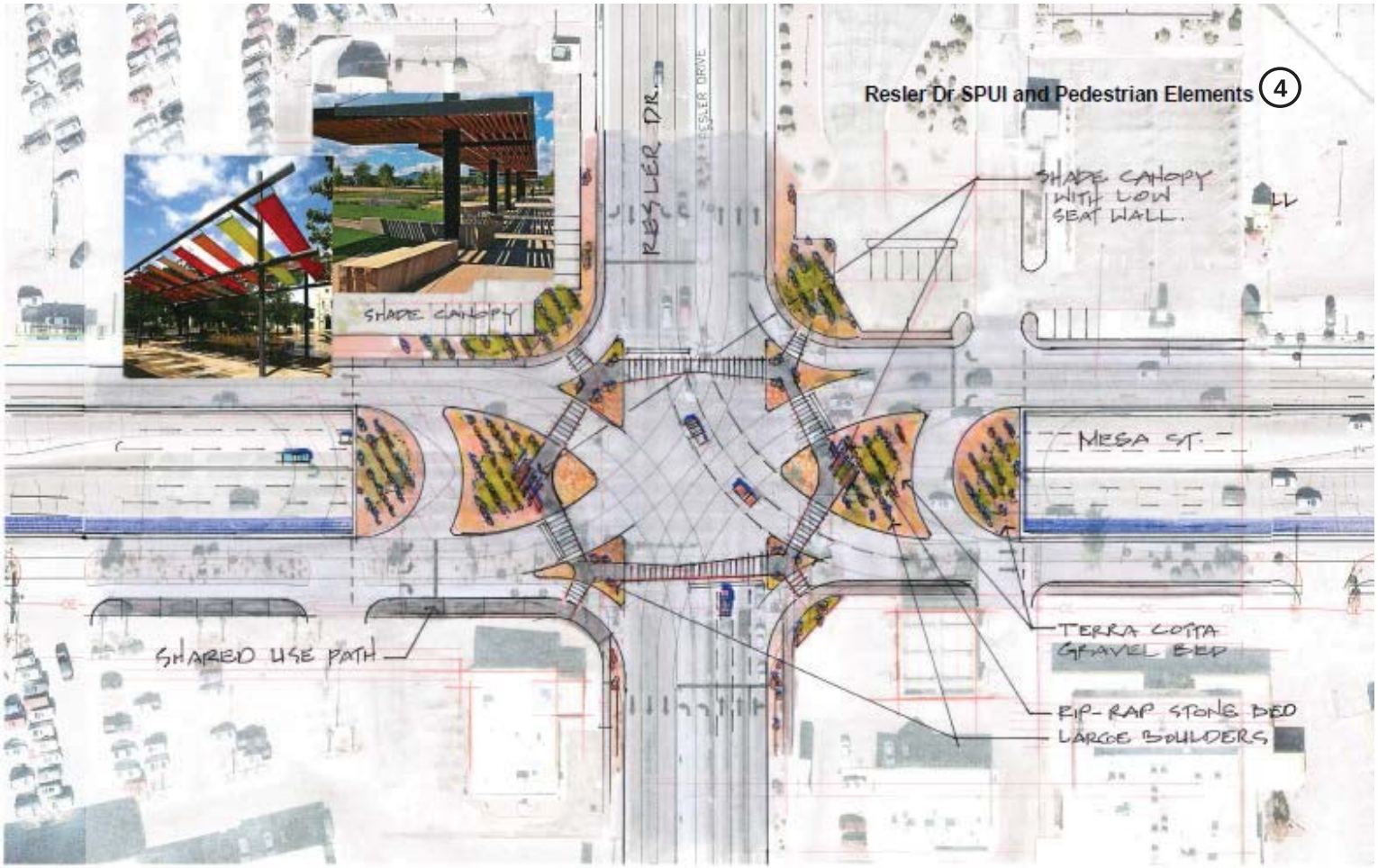
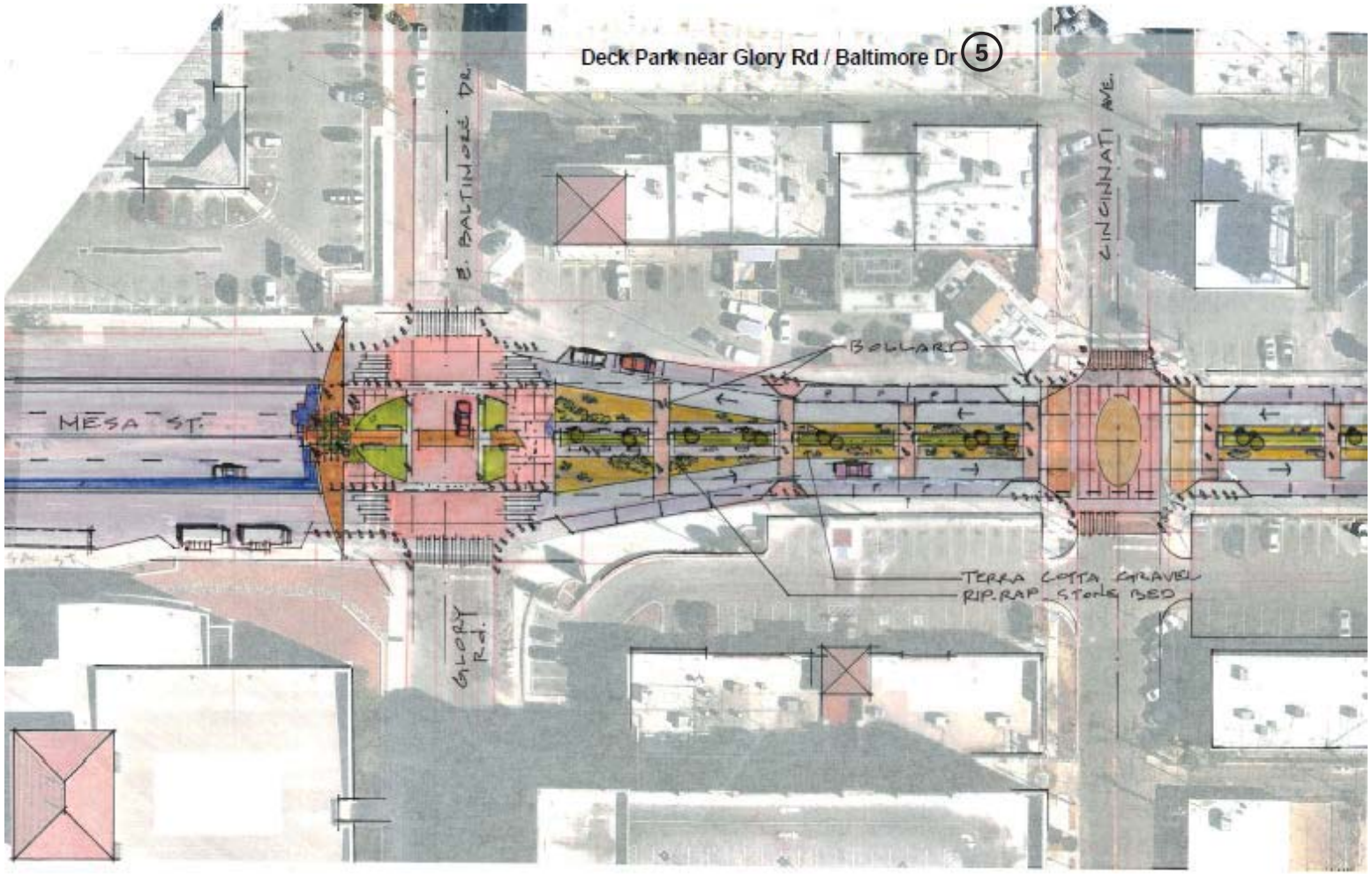
Below-ground SH 20 / Mesa St
Signal Bypass Lanes / Underpassing Lanes ①

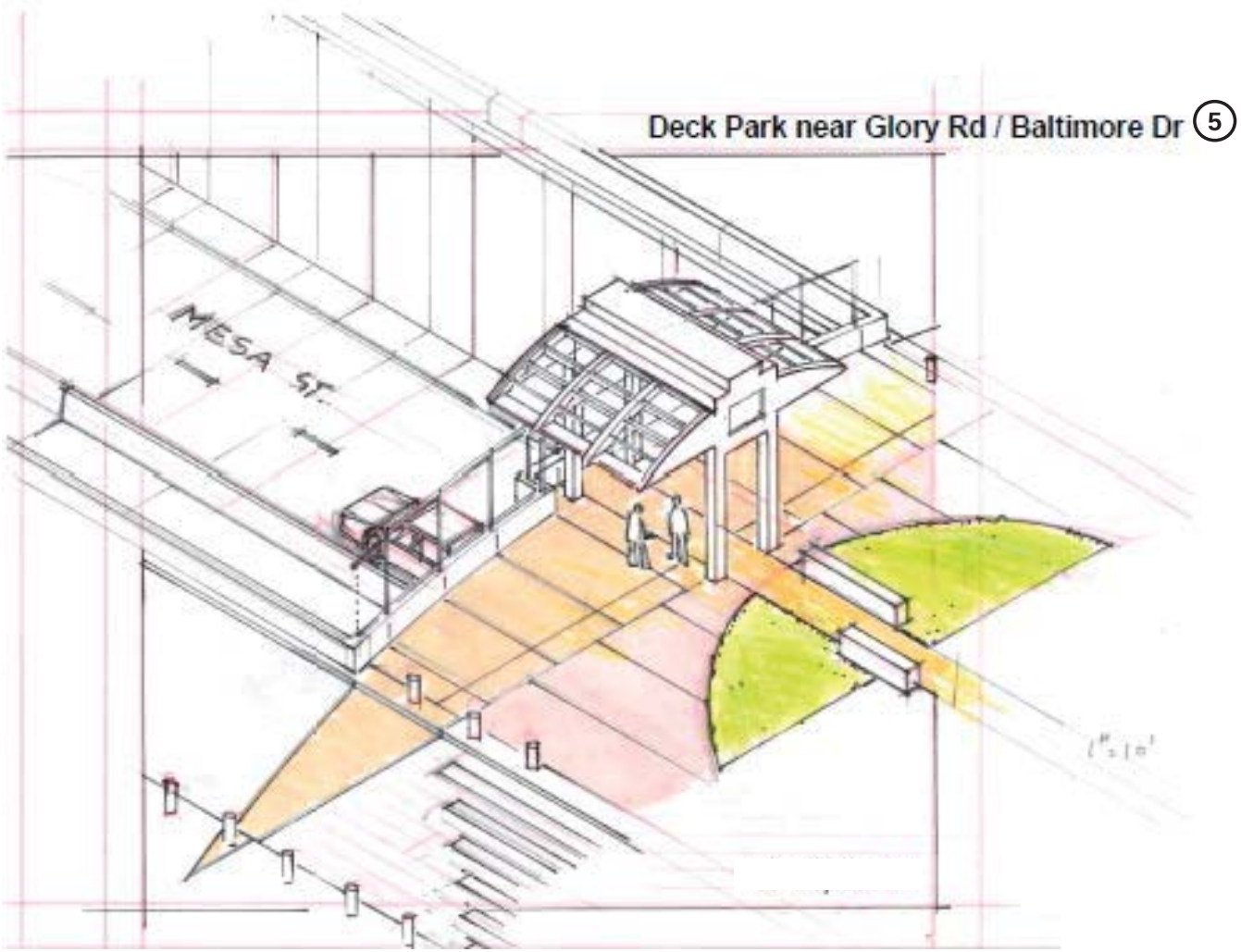



Below-ground SH 20 / Mesa St Bypass Lanes
w/ surface-level SPUI at I-10 North
2
GATEWAY FEATURE
I.H. 10
SEATING AREA + SHADE STRUCTURE AND ORNAMENTAL LIGHTING.
MURAL/ PUBLIC ART BY OTHERS
BYPASS LANES
BYPASS LANES
SH. 20 (MESA ST.)

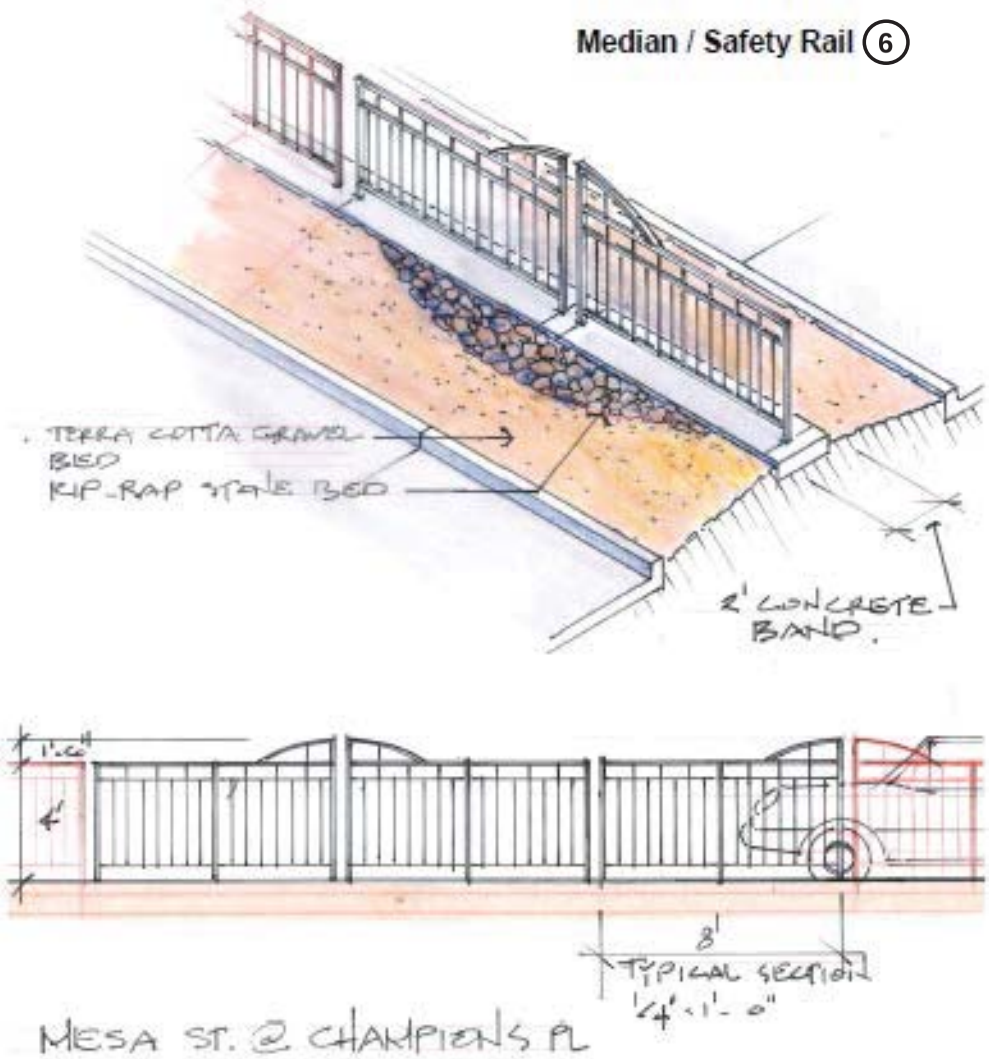

I-10 North Interchange Pedestrian Element
(Sidewalk sand Shared Use Path
3
I.H.10
ABOVE
I.H.10
LOW WALL
MESA ST.
COLUMN/BENT
LOCATIONS T.B.D.
45'
GATEWAY
FEATURE (2)
TERRA COTTA GRAVEL
RIP-RAP STONE BED
LARGE BOULDERS
GATEWAY
FEATURE


Resler Dr SPUI and Pedestrian Elements
4
RESLER DR.
RESLER DRIVE
SHADE CANOPY
SHADE CANOPY WITH LOW SEAT WALL.
MESA ST.
SHARED USE PATH
TERRA COTTA GRAVEL BED
RIP-RAP STONE BED
LARGE BOULDERS


Deck Park near Glory Rd / Baltimore Dr
5
MESA ST.
E. BALTIMORE DR.
GLORY Rd.
CINCINNATI AVE.
BOLLARD
TERRA COTTA GRAVEL
RIP.RAP STONE BED

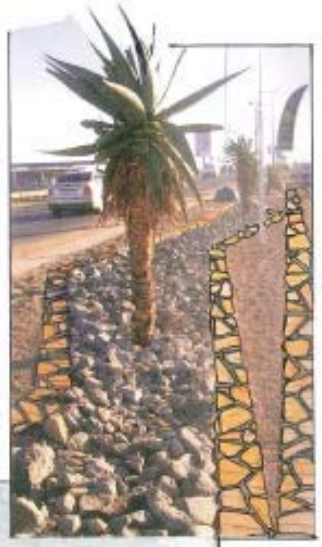

Deck Park near Glory Rd / Baltimore Dr
5
MESA ST.

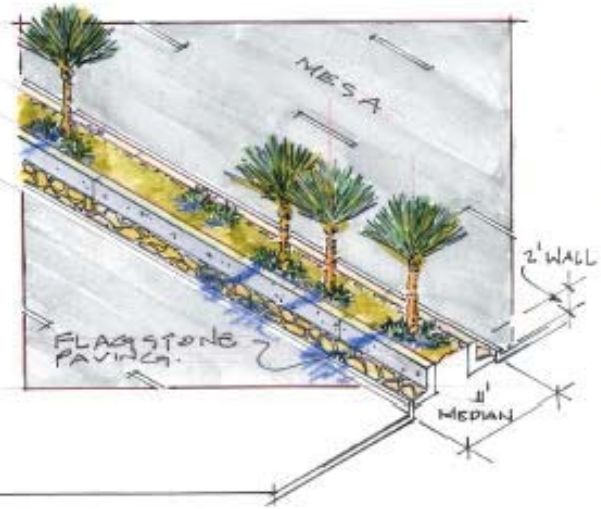
Median / Safety Rail 6

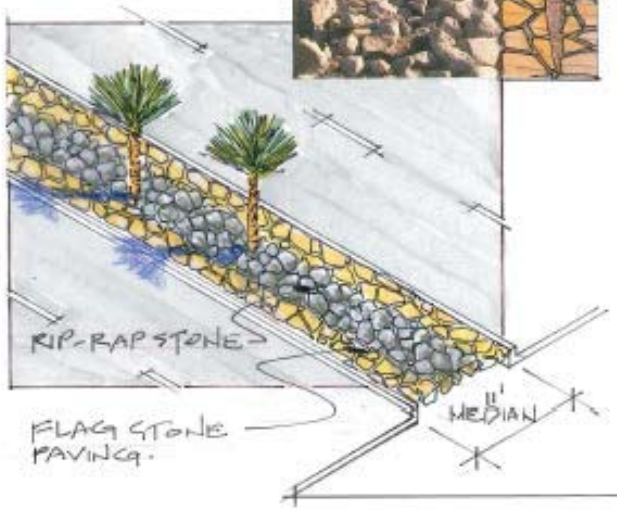


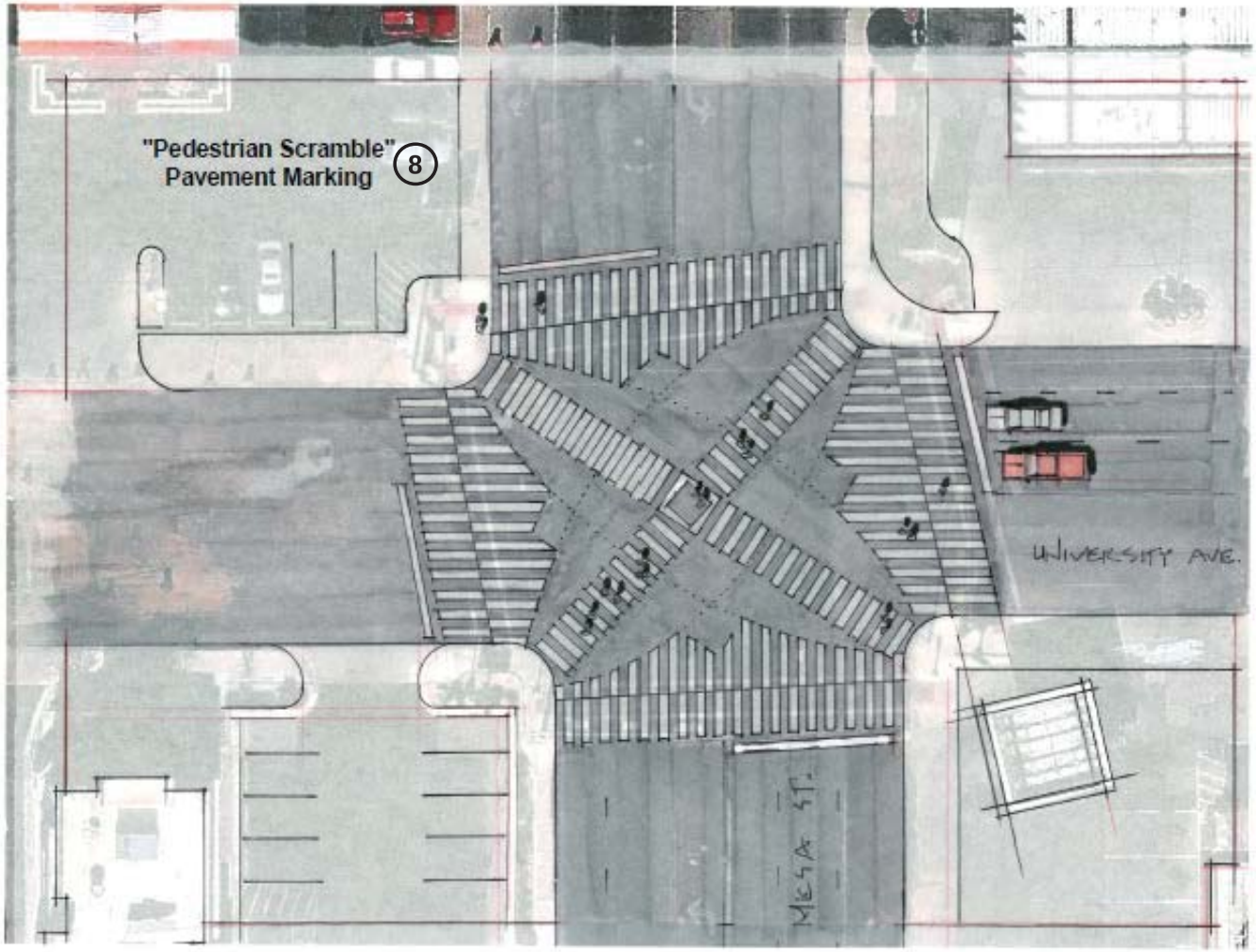
Median Accents / Features 7

PUBLIC ART

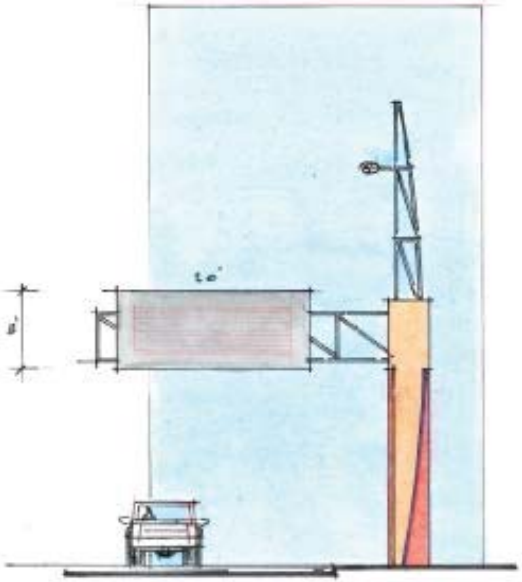




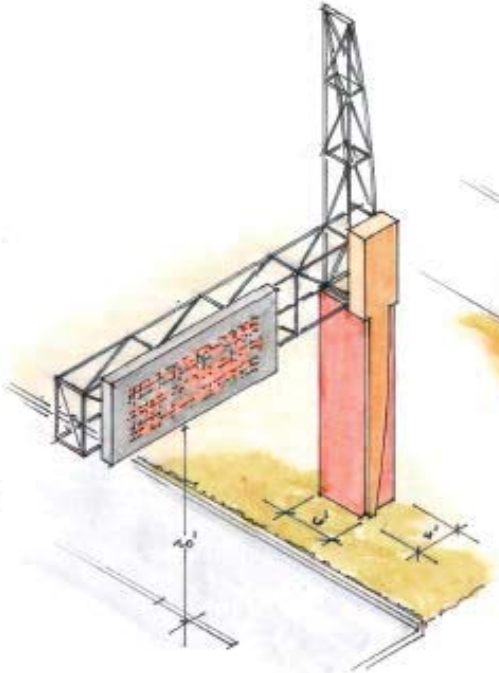


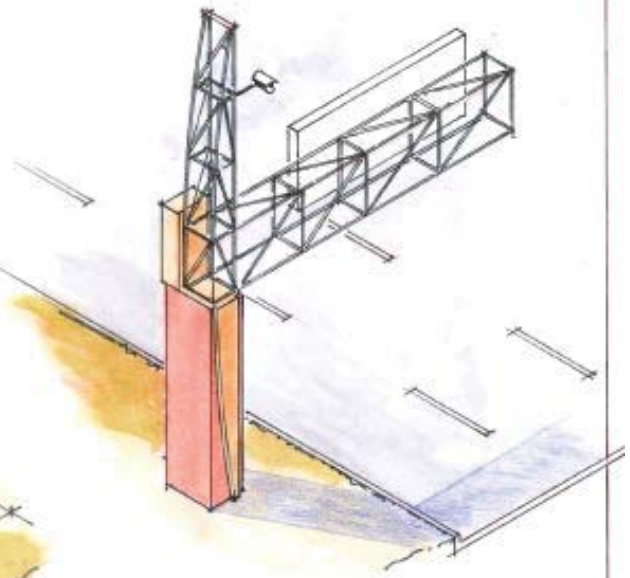

"Pedestrian Scramble"
Pavement Marking
8
UNIVERSITY AVE.
MESA ST.

Dynamic Message Sign 9



DYNAMIC MESSAGE SIGN
ELEVATION 1"=10'





VISSIM (Video Simulation) Screen Captures

These screen captures convey the Long-term improvements recommended for the SH 20 / Mesa Street corridor and include several grade separations, a deck park near UTEP, and innovative intersections. Access the SH 20 / Mesa Street Study files at the TxDOT El Paso District to view the entire VISSIM videos, as well as architectural rendering details that convey the Long-term recommendation concepts.

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IH 10 / MESA STREET SPUI
with Below-Ground Bypass Lanes and
overpassing Frontage Roads

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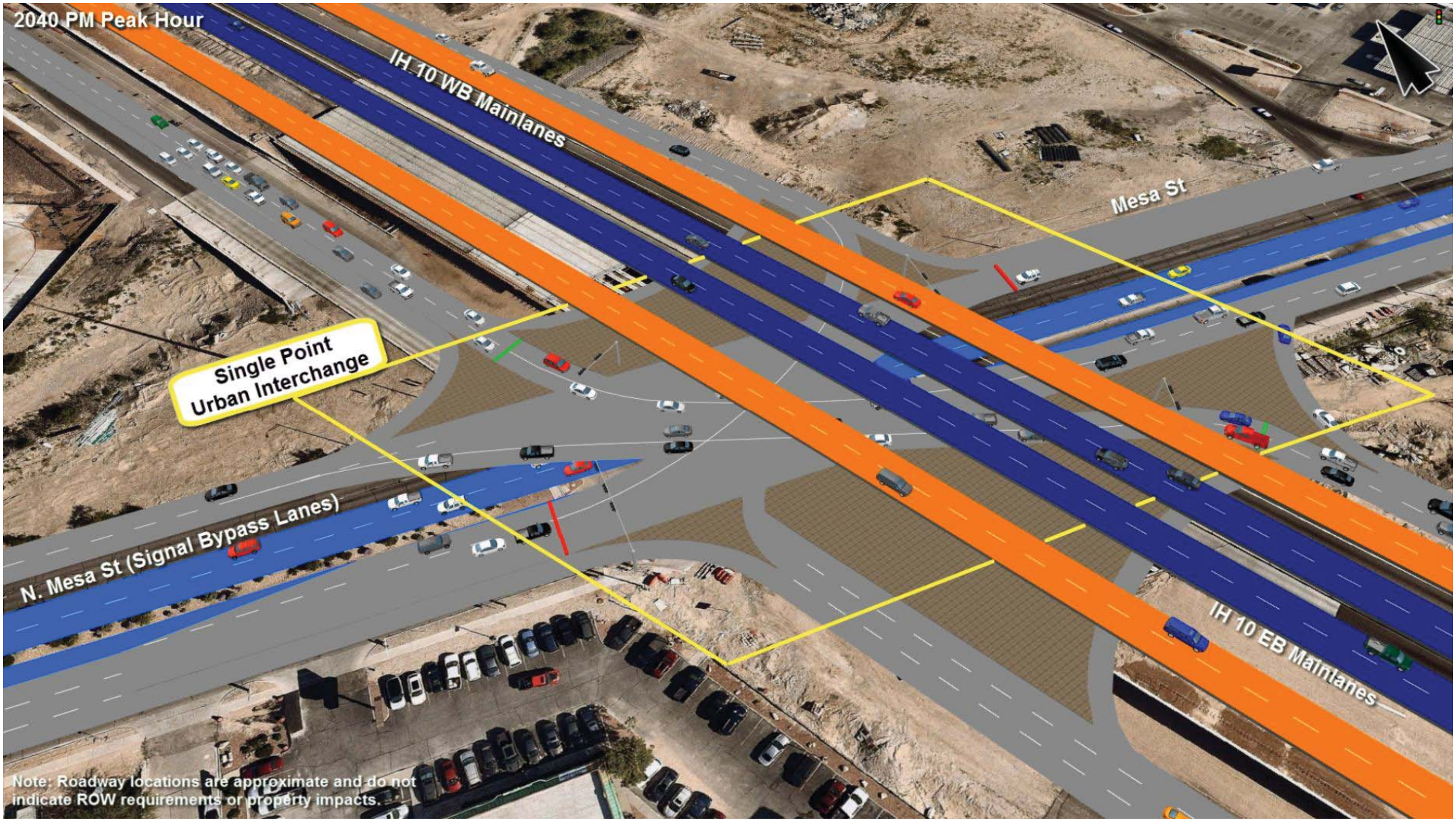
2040 PM Peak Hour
Walgreens
Doniphan Dr
Mesa St
Country Club Dr
Note: Roadway locations are approximate and do not indicate ROW requirements or property impacts.

2040 PM Peak Hour
Pizza Hut
Crossroads Dr
Mesa St
Valero
The Mattress Store
Note: Roadway locations are approximate and do not indicate ROW requirements or property impacts.

2040 PM Peak Hour
Taco Cabana
McDonald's
Osborne Dr
Mesa St
City Bank
Osborne Dr
Note: Roadway locations are approximate and do not indicate ROW requirements or property impacts.


2040 PM Peak Hour
IH 10 WB Mainlanes
Mesa St
Single Point
Urban Interchange
N. Mesa St (Signal Bypass Lanes)
IH 10 EB Mainlanes
Note: Roadway locations are approximate and do not
indicate ROW requirements or property impacts.

2040 PM Peak Hour
Chase Bank
Bartlett Dr
Mesa St
Chili's Grill & Bar
Chick-fil-A
Remcon Cr
Note: Roadway locations are approximate and do not indicate ROW requirements or property impacts.

2040 PM Peak Hour
Remcon Cr
Tire Connection
Tire Pros
Mesa St
Taco Bell
Note: Roadway locations are approximate and do not indicate ROW requirements or property impacts.

2040 PM Peak Hour
Belvidere St
Popeye's
Lousiana Kitchen
Mesa St
Circle K
Note: Roadway locations are approximate and do not
indicate ROW requirements or property impacts.

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SUNLAND PARK DRIVE (SPUI)

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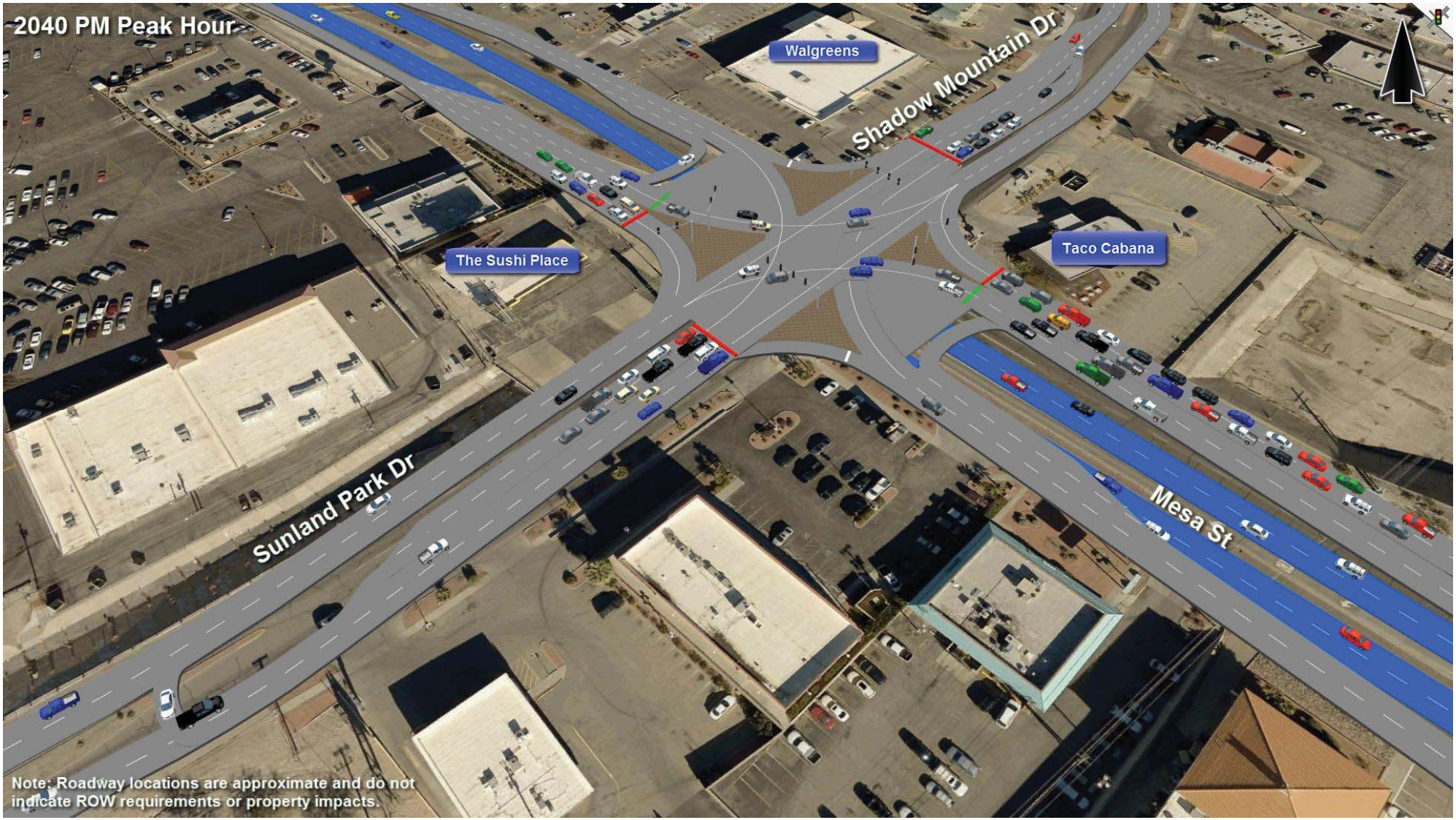
2040 PM Peak Hour
Walgreens
Shadow Mountain Dr
The Sushi Place
Taco Cabana
Sunland Park Dr
Mesa St
Note: Roadway locations are approximate and do not indicate ROW requirements or property impacts.

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EXECUTIVE CENTER BOULEVARD
CONTINUOUS GREEN T INTERSECTION

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2040 PM Peak Hour
Mesa St
Mesita Dr
Luby's
Sun Bowl Dr
Note: Roadway locations are approximate and do
not indicate ROW requirements or property impacts.

2040 PM Peak Hour
Jack in the Box
Brentwood Ave
Mesa Inn
Mesa St
Note: Roadway locations are approximate and do not indicate ROW requirements or property impacts.

2040 PM Peak Hour
Mesa St
Family Dollar
Valero
Corner Store
Executive Center Blvd
Note: Roadway locations are approximate and do
not indicate ROW requirements or property impacts.

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GLORY RD near UTEP

Deck Park with Below-ground Signal Bypass Lanes

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2040 PM Peak Hour
UTEP Haskins Center
Glory Rd
Baltimore Dr
Cincinnati Ave
Sun Metro Glory Road
Transfer Center
Mesa St
Miner Gateway
(Deck Plaza)
Robinson Ave
Note: Roadway locations are approximate and do
not indicate ROW requirements or property impacts.

2040 PM Peak Hour
Mesa St
Las Palmas
Life Care Center
Kern Dr
Note: Roadway locations are approximate and do
not indicate ROW requirements or property impacts.

APPENDIX B

SH 20 / Mesa Street

Bus Stop Pull-out Lane Matrix

(Locations & Preliminary Cost Estimate)

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BUS PULL-OUT MATRIX

MESA STREET LOCATION	Bus Stop Type		Posted Speed Limit (mph)	Total Required Length per AASHTO (ft)	Total Recommended Length due to site constraints (ft)*	Site Constraints / Impact Quantities							2nd Adjacent Bus Stop exists within the same	Estimated Pull-out Lane Installation Cost (includes ROW)
	Regular	BRIO				Bus Pavilion	Driveways	Parking Spaces	Business Displacement(s) due to driveway/ Parking Impacts?	Sidewalk (ft)	Other constraints or impacts	Constraining Cross-street/ Intersection		
Southbound Mesa Street														
Doniphan Dr (SH 20) to Crossroads St	✓		45	1560	320	1	1	19	Y(9)	320	3 Light Poles		N	$156,400.01
Crossroads St to Osborne Dr	✓		45	1560	250	0	0	0	N(0)	250	2 Light Poles	Crossroads Dr	N	$103,833.54
Osborne Dr to I-10	✓		45	1560	250	0	1	4	Y(2)	250	2 Light Poles	Osborne Dr	N	$103,833.54
I-10 to Remcon Cir (2nd location)	✓		45	1560	200	1	0	0	N(0)	200	1 Light Poles		N	$55,059.60
Remcon Cir to Desert Pass Ext.	✓		45	1560	320	0	0	0	N(0)	320	1 Light Poles	Remcon Cir	N	$62,065.92
Desert Pass Ext. to Resler Dr	✓		45	1560	270	1	0	0	N(0)	180	NA		Y	$30,966.28
Desert Pass Ext. to Resler Dr	✓		45	1560	340	1	0	0	N(0)	0	NA		Y	$39,990.96
Desert Pass Ext. to Resler Dr		✓	45	1660	410	1	1	0	Y(1)	410	1 Light Pole		Y	$455,888.65
Resler Dr to Pitt St	✓		45	1560	200	1	1	0	Y(1)	0	NA	Pitt St	N	$40,284.94
Alto Mesa Dr to Camille Dr	✓		45	1560	200	1	0	0	N(0)	200	NA		N	$37,010.53
Camille Dr. to De Leon Dr		✓	45	1660	200	1	2	0	Y(3)	200	1 Light Pole		N	$407,204.99
Camille Dr. to De Leon Dr	✓		45	1560	230	0	1	8	Y(1)	230	U-Haul		N	$888,242.25
De Leon Dr. to Balboa Dr	✓		45	1560	200	0	0	0	Y(1)	200	Mister Car wash and Express Lube	De Leon Dr	N	$1,312,418.24
Balboa Dr to Sunland Park Dr	✓		45	1560	270	0	1	8	Y(1)	270	6 Light Poles	Balboa Dr	N	$77,122.27
Balboa Dr to Sunland Park Dr		✓	45	1660	200	1	0	18	Y(2)	200	1 Light Pole		N	$381,506.83
Crestmont Dr to Mesa Hills Dr	✓		45	1560	360	1	0	0	N(0)	360	1 Light Pole	Crestmont Dr	N	$216,436.98
Crestmont Dr to S. Mesa Hills Dr	✓		45	1560	320	0	1	26	Y(8)	320	1 Light Pole and a Retail Sign	S. Mesa Hills Dr	N	$116,131.47
S. Mesa Hills Dr to Confetti Dr	✓		45	1560	0	0	0	0	N(0)	0	NA		N	$0.00
Confetti Dr to Festival Dr	✓		45	1560	250	0	2	0	Y(3)	250	NA		N	$30,819.82
Confetti Dr to Festival Dr	✓		45	1560	0	0	0	0	N(0)	0	NA		N	$0.00
Festival Dr to Monticello Dr		✓	45	1660	250	1	1.5		Y(1)	250	1 Light Pole & First Cash Pawn	Festival Dr	Y	$872,366.37
Festival Dr to Monticello Dr	✓		45	1560	300	0	1	0	Y(2)	250	5 Light poles and 4 trees		Y	$41,503.79
Festival Dr to Monticello Dr	✓		45	1560	260	0	0	0	N(0)	0	1 Light Pole and 7 Trees		N	$28,716.62
Festival Dr to Monticello Dr		✓	45	1660	400	1	0	0	N(0)	0	1 Light Pole and 7 Trees	Monticello Dr	N	$338,671.72
Monticello Dr to Castellano Dr	✓		45	1560	0	0	0	0	N(0)	0	NA		N	$0.00
Castellano Dr to Mesa Park St	✓		45	1560	0	0	0	0	N(0)	1	NA		N	$0.00
Mesa Park St to Executive Center Blvd	✓		45	1560	450	0	1	0	Y(1)	0	1 Light Pole and 7 Trees		Y	$42,955.68
Mesa Park St to Executive Center Blvd	✓		45	1560	Redundant	0	0	0	N(0)	0	NA		Y	$0.00
Mesa Park St to Executive Center Blvd		✓	45	1660	320	1	0	21	Y(2)	320	2 Light Poles		Y	$441,829.62
Executive Dr to Wallington Dr	✓		45	1560	220	0	1	0	Y(0)	220	1 Light Pole and 7 Trees	Executive Dr	N	$89,397.52
Wallington Dr to Eubank Ct	✓		45	1560	200	1	1	0	Y(1)	0	1 Light pole and Signal Light Pole	Eubank Ct	N	$46,018.27
Waymore Dr to Sun Bowl Dr	✓		45	1560	320	1	1	18	Y(3)	320	1 Light Pole and a Retail Sign	Waymore Dr	N	$153,800.01
Waymore Dr to Sun Bowl Dr	✓		45	1560	280	0	1	14	Y(9)	280	1 Light Pole and a Retail Sign		N	$115,669.57
Sun Bowl Dr to Kern Dr		✓	45	1660	260	1	3	0	Y(2)	260	3 Light Pole	Sun Bowl Dr	N	$1,200,168.83
Sun Bowl Dr to Kern Dr	✓		45	1560	320	1	1	25	Y(1)	320	1 Light Pole		y	$151,200.01
Kern Dr to Glory Rd	✓		45	1560	Redundant									$0.00
Kern Dr to Glory Rd	✓		45	1560	0	0	0	0	N(0)	0	NA		N	$0.00
Arizona Ave to Rio Grande Ave	✓		35	1560	200	0	0	0	Y(2)	200	Fence, gate, tree/brush	Arizona Ave	N	$217,656.83
Montana Ave to Yandell Dr	✓		35	1560	260	0	2	8	Y(2)	150	1 Retail Sign	Montana Ave & Yandell Dr	N	$99,912.82
													SB Subtotal	**$8,355,084.48**
Northbound Mesa Street														
Crossroads Dr to I-10	✓		45	1560	280	0	1	12	Y(2)	280	An Electric Box	Crossroads Dr	N	$113,069.57
Crossroads Dr to I-10	✓		45	1560	200	1	1.5	0	Y(1)	0	1 Light Pole	Osborne Dr	N	$27,435.86
Belvidere St to N. Resler Dr	✓		45	1560	250	0	1	0	Y(5)	250	1 Light Pole	Belvidere St	N	$101,233.54
Belvidere St to N. Resler Dr	✓		45	1560	300	0	1	25	Y(10)	300	1 Light Pole		Y	$120,960.25
Belvidere St to N. Resler Dr	✓		45	1560	Redundant									$0.00
Belvidere St to N. Resler Dr		✓	45	1660	220	1	1	0	Y(1)	220			Y	$412,495.67
N. Resler St to Champions Pl	✓		45	1560	300	0	1	0	Y(7)	300	1 Light Pole & Fence	Champions Pl	N	$45,245.79
N. Alto Mesa Dr to Fountain Rd	✓		45	1560	200	0	0	0	N(0)	200			N	$27,510.53
N. Alto Mesa Dr to Fountain Rd	✓		45	1560	200	0	1	0	Y(4)	200	Trees	Fountain Rd	N	$29,110.53
Fountain Rd to Thunderbird Dr		✓	45	1660	200	1	1.5	18	Y(3)	140	1 Light Pole, 1 Retail & Signal Light Pole	Thunderbird Rd	N	$410,065.92
Fountain Rd to Thunderbird Dr	✓		45	1560	300	0	1	1	Y(3)	300	1 Light Pole, 3 Retail, trees and Ret. Wall		N	$157,660.25
Thunderbird Rd to Balboa Rd		✓	45	1660	240	1	1	15	Y(3)	180		Thunderbird Rd and Maguey Pl	N	$417,513.96
Shadow Mountain Dr to Crown Pt Dr	✓		40	1560	360	1	1	0	Y(2)	360	1 Light Pole & Trees		N	$67,338.95
Crown Pt Dr to N. Mesa Hills Dr	✓		45	1560	250	1	1	0	Y(1)	250	3 Trees		N	$45,088.16
Double Tree Ln to N. Festival Dr	✓		45	1560	250	1	1	0	Y(1)	250			N	$43,888.16
Double Tree Ln to N. Festival Dr	✓		45	1560	350	0	1	0	Y(4)	0	1 Light Pole & 3 Trees		N	$35,187.75
Double Tree Ln to N. Festival Dr		✓	45	1660	220	1	1	0	Y(10)	160			N	$319,729.44
N. Festival Dr to Paragon Ln	✓		45	1560	260	1	1	0	Y(15)	0	1 Light Pole & Trees		N	$36,616.62
Paragon Ln to Argonaut Dr		✓	45	1660	200	1	1	0	Y(2)	200	6 Trees	Argonaut Dr	N	$381,306.83
E Castellano Dr to Camelot Heights Dr	✓		45	1560	250	1	0	0	N(0)	250	1 Light Pole		N	$25,019.82
E Castellano Dr to Camelot Heights Dr	✓		45	1560	200	0	0	0	N(0)	200	1 Light Pole		N	$21,749.33
E Castellano Dr to Camelot Heights Dr	✓		45	1560	450	0	1	0	Y(1)	0			N	$22,419.82
Camelot Height. Dr to Exec. Cen. Blvd	✓		45	1560	350	0	1	0	Y(10)	0	1 Light Pole & 7 Trees		N	$36,787.75
Camelot Heigh. Dr to Exec. Cen. Blvd		✓	45	1660	220	1	0	6	Y(4)	0			N	$335,148.34
Exec. Center Blvd To Brentwood Dr	✓		45	1560	200	1	2	0	Y(2)	0			N	$27,435.86
Brentwood Dr to Waymore Dr	✓		45	1560	200	0	1	15	Y(3)	200		Waymore Dr & Greenwich Dr	N	$78,906.83
Waymore Dr to Mesita Dr	✓		45	1560	200	0	0	0	N(0)	200	1 Light Pole		Y	$65,210.53
Waymore Dr to Mesita Dr		✓	45	1660	300	1	0	12	Y(1)	300	6 Trees		Y	$359,084.68
Mesita Dr to Kern Dr	✓		45	1560	320	0	0	0	N(0)	320	6 Trees		N	$184,810.93
Gregory Ave to Baltimore Dr	✓		35	1550	330	1	0	0	N(0)	0	1 Light Pole		N	$41,694.17
Gregory Ave to Baltimore Dr	✓		35	1550	260	0	0	0	N(0)	260	6 Trees		N	$35,763.68
Missouri Ave to E. Franklin Ave	✓		35	1550	240	0	0	8	Y(1)	240	6 Trees	E. Franklin Ave & Missouri Ave	N	$99,688.20
Seventh Ave to Eighth Ave	✓		35	1550	260	0	1	14	Y(2)	260	1 Light Pole & Electric Box	Seventh Ave & Eighth Ave	N	$107,778.88
													NB Subtotal	**$4,232,956.61**
													SB + NB Subtotal	**$12,588,041.09**
													20% Contingency (Utilities, H&H, etc.)	$2,517,608.22
													GRAND TOTAL	**$15,105,649.31**

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APPENDIX C

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SH 20 / Mesa Street

White Papers for

Short-Term Final Recommendations

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Executive Ctr Blvd Near-side Traffic Signal Heads

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

The Mesa St / SH 20 **Short-term Recommendations** are:

- Recommended to be implemented within the next five years;
- Based on addressing year 2020 vehicular travel demand along the Mesa Street corridor;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized safety and congestion relief solutions; and
- Cost-feasible, timely solutions requiring no right-of-way acquisition.

The preliminary cost estimate for all the Study's Short-term recommendations totals approximately **$5.6M**.

Near-side Traffic Signal Heads at Executive Center Boulevard
Total Preliminary Estimated Construction Cost (2018 Dollars): $0.5K

Recommended Signal Head / Intersection Location

Example: Near-side Signal Head

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Right-turn Bay Insertion

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

The Mesa St / SH 20 **Short-term Recommendations** are:

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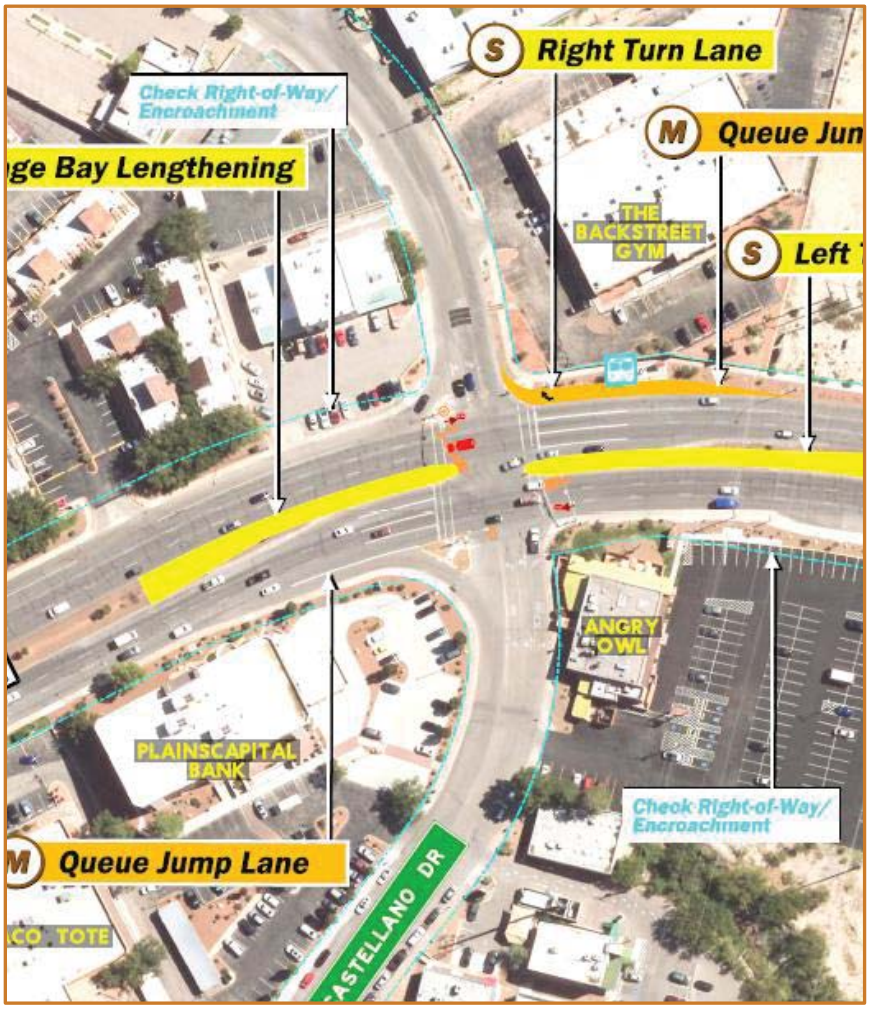
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized safety and congestion relief solutions; and
- Cost-feasible, timely solutions requiring no right-of-way acquisition.

The preliminary cost estimate for all the Study's Short-term recommendations totals approximately **$5.6M**.

Right-turn bay insertion at Mesa Street / Castellano Drive intersection (southeast quadrant)
Total Preliminary Estimated Construction Cost (2018 Dollars): $84K



Recommended Right-turn / Intersection Location

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Optimize Traffic Signal Timing, etc.

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

The Mesa St / SH 20 **Short-term Recommendations** are:

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- Cost-feasible, timely solutions requiring no right-of-way acquisition.

The preliminary cost estimate for all the Study's Short-term recommendations totals approximately **$5.6M**.

Optimize signal timing and phasing, etc. at the following Mesa Street intersection locations	
Desert South Blvd (I-10 EB FR)	Add Eastbound (EB) Right-turn lane; Optimize signal timing
Desert North Blvd (I-10 WB FR)	Add Westbound (WB) Right-turn lane; Optimize signal timing
Osborne Dr	Add EB right-turn (overlap) signals
Remcon Cir / Bartlett Dr	Remove split phase; Optimize signal timing; Add SB right-turn (overlap) signals
Resler Dr	Optimize signal timing; Add NB right-turn (overlap) signals
Sunland Pk Dr / Shadow Mtn. Dr	Remove split phase; Add NB right-turn (overlap) signals
Mesa Hills Dr	Add EB right-turn (overlap) signals
Festival Dr	Remove split phase; Add NB right-turn (overlap) signals
Executive Center Blvd	Remove split phase
Brentwood Ave	Convert SB Left-turn to Dual Left; Add WB right-turn (overlap) signals
Sun Bowl Dr	Add SB right-turn (overlap) signals
Glory Rd / Baltimore Dr	Optimize signal timing
Schuster Ave	Optimize signal timing
Arizona Ave	Optimize signal timing
Rio Grande Ave	Optimize signal timing
Yandell Dr	Optimize signal timing
Wyoming Ave	Optimize signal timing
Missouri Ave	Optimize signal timing
San Antonio Ave	Optimize signal timing; Typical Pedestrian Phasing
Total Preliminary Estimated Construction Cost (2018 Dollars): $200K	

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Turn Bay Storage Lengthening

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

The Mesa St / SH 20 **Short-term Recommendations** are:

- Recommended to be implemented within the next five years;
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- Dependent on the availability of transportation funds in order to be constructed;
- Proritized safety and congestion relief solutions; and
- Cost-feasible, timely solutions requiring no right-of-way acquisition.

The preliminary cost estimate for all the Study's Short-term recommendations totals approximately **$5.6M**.

Turn Bay Storage Lengthening at the following Mesa Street intersection locations	
Doniphan Dr (SH 20)	130ft Eastbound (EB) left-turn bay
Crossroads Dr	205ft EB left-turn bay
Osborne Dr	130ft EB left-turn bay; 560ft Westbound (WB) left-turn bay
Bartlett Dr	420ft EB left-turn bay
Remcon Circle	215ft EB left-turn bay; 290ft WB left-turn bay
Belvidere St	470ft EB left-turn bay
Champion Pl	390ft EB left-turn bay
Alto Mesa Dr	200ft Southbound (SB) left-turn bay
Thunderbird Dr	150ft Northbound (NB) left-turn bay; 260ft SB left-turn bay
Balboa Rd	140ft NB left-turn bay; 190ft SB left-turn bay
Sunland Pk Dr / Shadow Mtn. Dr	170ft SB left-turn bay
Crestmont Dr	255ft Northbound (NB) left-turn bay; 180ft SB left-turn bay
Mesa Hills Dr	455ft NB left-turn bay; 380ft SB left-turn bay
Festival Dr	460ft NB dual left-turn bays; 385ft SB left-turn bay
Argonaut Dr	210ft SB left-turn bay
Castellano Dr	215ft NB left-turn bay; 170ft SB left-turn bay
Executive Center Blvd	500ft NB left-turn bay
Brentwood Ave	290ft SB left-turn bay
Sun Bowl Dr / Mesita Dr	210ft SB left-turn bay
Yandell Dr	155ft NB left-turn bay
Total Preliminary Estimated Construction Cost (2018 Dollars): $2.2M	

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Access Management: Hooded Left-turn Lanes & Median Opening Closure

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

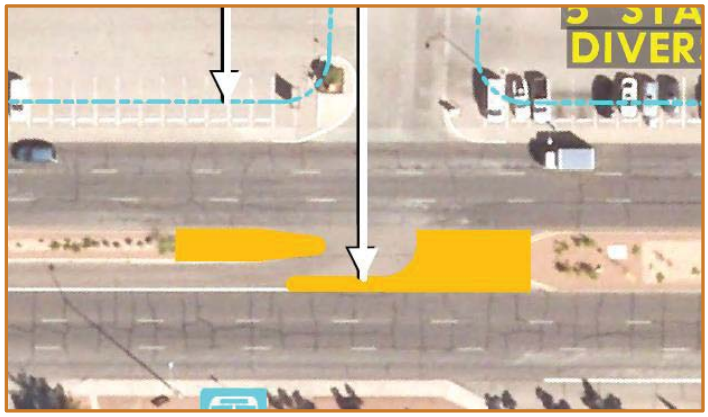
The Mesa St / SH 20 **Short-term Recommendations** are:

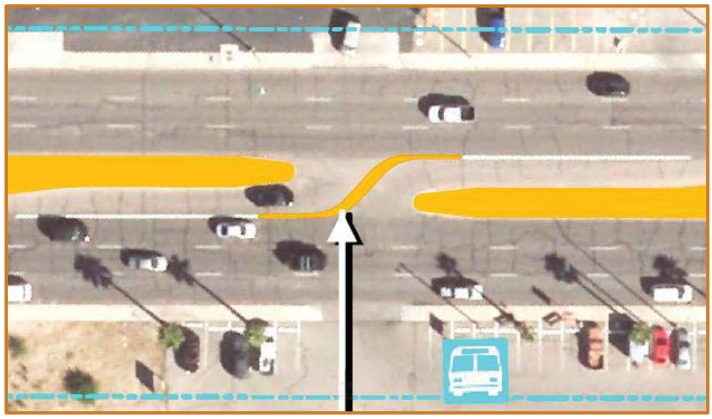
- Recommended to be implemented within the next five years;
- Based on addressing year 2020 vehicular travel demand along the Mesa Street corridor;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized safety and congestion relief solutions; and
- Cost-feasible, timely solutions requiring no right-of-way acquisition.

The preliminary cost estimate for all the Study's Short-term recommendations totals approximately **$5.6M**.

Hooded Left-turn (median) Lanes & Median Opening Closure at the following Mesa Street intersection locations	
West of Remcon Circle	Dual Hooded left-turn bays
East of Belvidere St (At Westminster St)	Close eastbound left-turn (bay) to private site
At Wallington Dr	Dual Hooded left-turn bays
West of Mesa Hills Dr	Median Opening Closure
Total Preliminary Estimated Construction Cost (2018 Dollars): $112K	

Hooded Left-turn (median) Lane Concepts





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Travel / Turn Lane pavement marking ugrades & I-10 Signage Insertion

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

The Mesa St / SH 20 **Short-term Recommendations** are:

- Recommended to be implemented within the next five years;
- Based on addressing year 2020 vehicular travel demand along the Mesa Street corridor;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized safety and congestion relief solutions; and
- Cost-feasible, timely solutions requiring no right-of-way acquisition.

The preliminary cost estimate for all the Study's Short-term recommendations totals approximately **$5.6M**.

Mesa Street Location Recommendations	Preliminary Estimated Cost
Travel / Turn Lane pavement marking upgrades from Doniphan Dr (SH 20) to Loop 375	$94K
"ALT" &"EAST" signage for I-10 access ramps near Franklin Avenue in Downtown	$1K
Total Preliminary Estimated Construction Cost (2018 Dollars): $95K	

Example:
Travel / Turn Lane Pavement Markings

I-10 Signage Location

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Median (Landscape) Maintenance Vehicle Parking

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

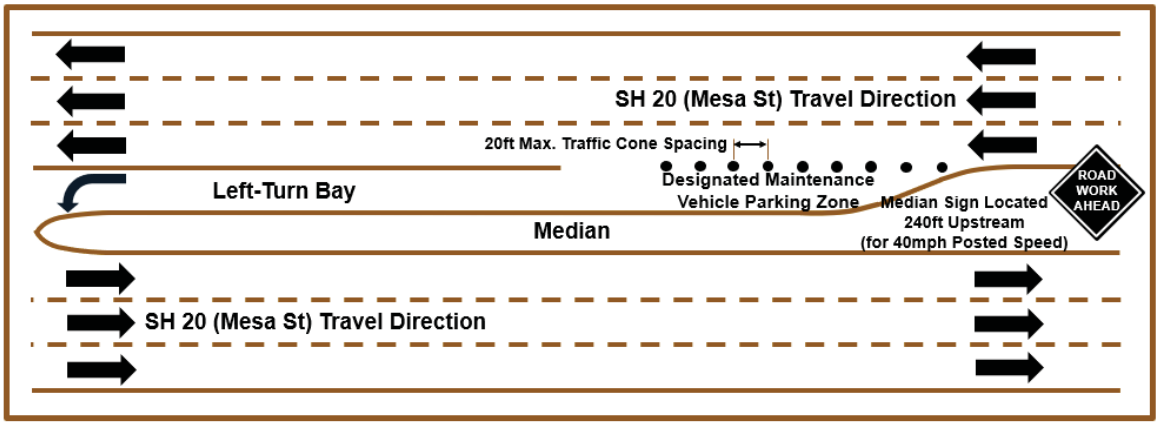
The Mesa St / SH 20 **Short-term Recommendations** are:

- Recommended to be implemented within the next five years;
- Based on addressing year 2020 vehicular travel demand along the Mesa Street corridor;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized safety and congestion relief solutions; and
- Cost-feasible, timely solutions requiring no right-of-way acquisition.

The preliminary cost estimate for all the Study's Short-term recommendations totals approximately **$5.6M**.

Recommended Median Maintenance Vehicle Parking Locations	
Southbound Mesa St left-turn bay (north to south)	Northbound Mesa St left-turn bay (south to north)
Belvidere Street	Kern Drive
Alto Mesa Drive	Brentwood Drive
Thunderbird Drive	Castellano Drive
Mesa Hills Drive	Paragon Lane
Camelot Heights Drive	Confetti Drive
Waymore Drive	Crestmont Drive
Left-Turn Bay north of Sun Bowl Drive	Camille Drive
Kern Drive	Alto Mesa Drive
	Brentwood Drive
	Belvidere Street
	Crossroads Street
Total Preliminary Estimated Construction Cost (2018 Dollars): N/A	

Median Maintenance Vehicle Parking Zone Concept



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Median Rail & Crosswalk improvements at Champions Place

STUDY SUMMARY

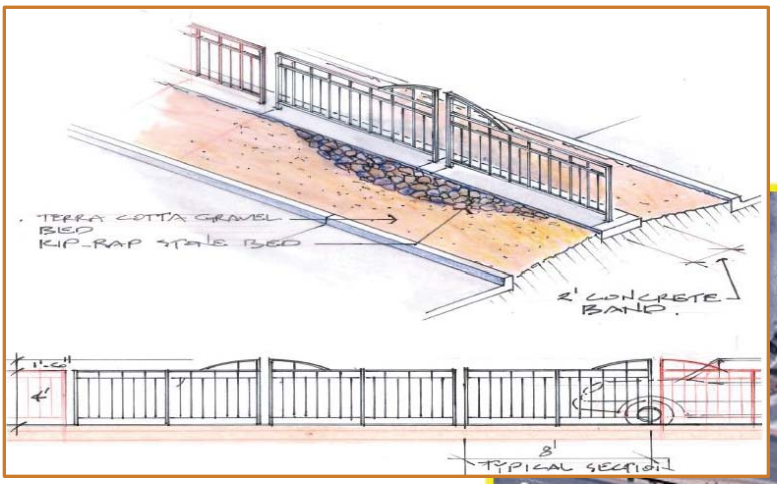
The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

The Mesa St / SH 20 **Short-term Recommendations** are:

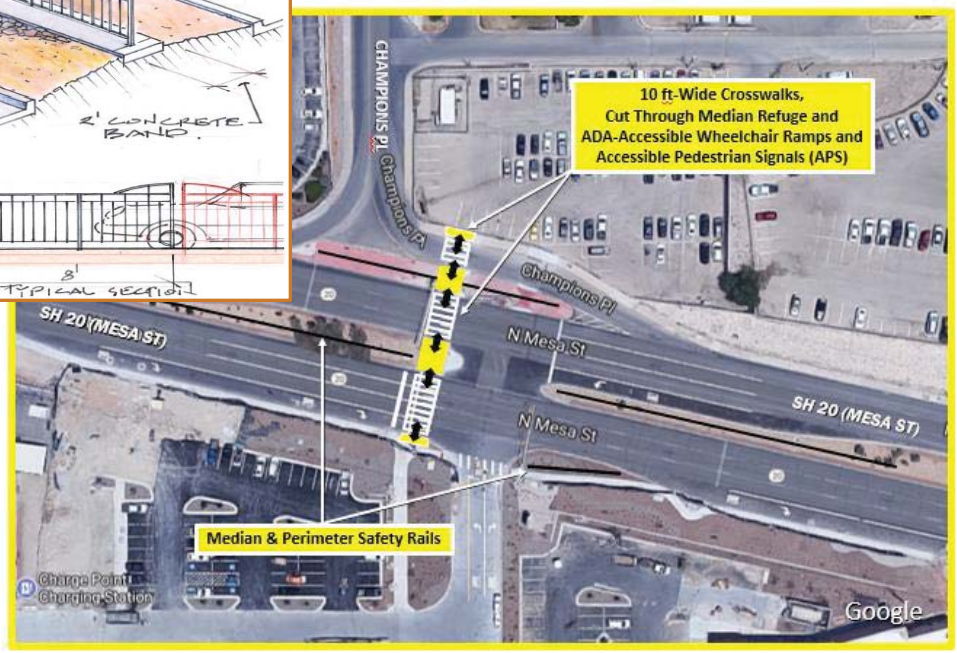
- Recommended to be implemented within the next five years;
- Based on addressing year 2020 vehicular travel demand along the Mesa Street corridor;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized safety and congestion relief solutions; and
- Cost-feasible, timely solutions requiring no right-of-way acquisition.

The preliminary cost estimate for all the Study's Short-term recommendations totals approximately **$5.6M**.

Mesa Street Location Recommendation
Median rail at Champions Place near Coronado High School w/ 10-foot wide crosswalks
Total Preliminary Estimated Construction Cost (2018 Dollars): $87K



Median Rail Concept and Location



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Pedestrian-related upgrades at Montecillo Blvd

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

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- Cost-feasible, timely solutions requiring no right-of-way acquisition.

The preliminary cost estimate for all the Study's Short-term recommendations totals approximately **$5.6M**.

Mesa Street Location Recommendation
Sidewalk install at Montecillo Boulevard w/ 10-foot wide crosswalks, ADA-accessible wheelchair ramps, and cut-through median (pedestrian) refuge
Total Preliminary Estimated Construction Cost (2018 Dollars): $15K

Location & Concept

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Sidewalk Rail near Mesa Hills Dr

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

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- Proritized safety and congestion relief solutions; and
- Cost-feasible, timely solutions requiring no right-of-way acquisition.

The preliminary cost estimate for all the Study's Short-term recommendations totals approximately **$5.6M**.

Mesa Street Location Recommendation
Sidewalk rail along eastbound Mesa Street between Mesa Hills Dr and Confetti Dr (along outside of sidewalk and adjacent to terrain that slopes to Morehead Elementary School)
Total Preliminary Estimated Construction Cost (2018 Dollars): $406K

Rail Location

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Pedestrian-related upgrades near Glory Rd

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

The Mesa St / SH 20 **Short-term Recommendations** are:

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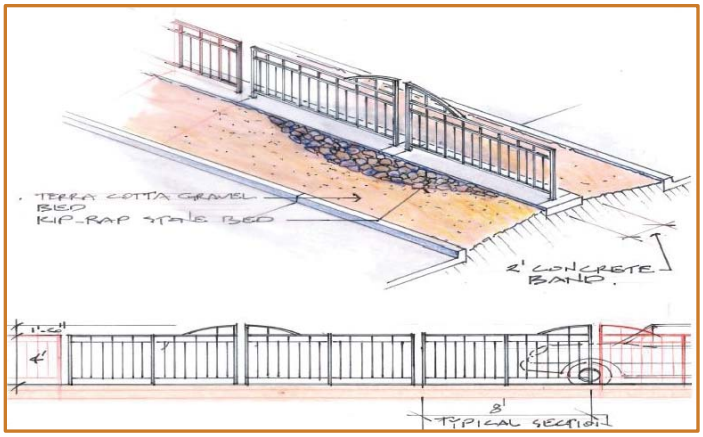
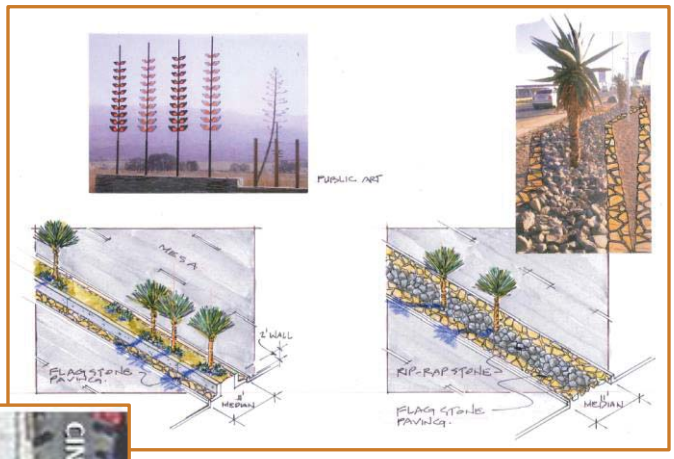
- Cost-feasible, timely solutions requiring no right-of-way acquisition.

The preliminary cost estimate for all the Study's Short-term recommendations totals approximately **$5.6M**.

Mesa Street Location Recommendation
Raised median w/ safety rail between Baltimore Drive and Cincinnati Avenue, and North of Baltimore Drive; 10-foot wide crosswalks; remove existing mid-block crosswalk North of Baltimore Drive
Total Preliminary Estimated Construction Cost (2018 Dollars): $126K





Median Rail Concepts and Location

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"Pedestrian Scramble" Signal Timing and Pavement Marking

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

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- Cost-feasible, timely solutions requiring no right-of-way acquisition.

The preliminary cost estimate for all the Study's Short-term recommendations totals approximately **$5.6M**.

Mesa Street Location Recommendation
"Pedestrian Scramble" signal timing and crosswalk pavement markings at Mesa Street / University Avenue and at Mesa Street / River Avenue intersections
Total Preliminary Estimated Construction Cost (2018 Dollars): $9K

"Pedestrian Scramble" Pavement Marking Concept

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Sidewalk & Crosswalk Updrades & Improvements

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

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- Proritized safety and congestion relief solutions; and
- Cost-feasible, timely solutions requiring no right-of-way acquisition.

The preliminary cost estimate for all the Study's Short-term recommendations totals approximately **$5.6M**.

Mesa Street Location Recommendations	
At each Mesa St signalized intersection from Doniphan Dr to Loop 375	ADA-accessible wheelchair ramps, crosswalk and stop bar upgrades
Westbound Mesa St between Desert Blvd South and Desert Blvd North (beneath I-10 bridge)	Install Sidewalk
Westbound Mesa St at Belvidere St (southeast quadrant)	Relocate sidewalk / expand pedestrian refuge
Westbound Mesa St east of Balboa Dr	Repair Sidewalk
Mesa St at Mesa Hills Dr	Expand pedestrian islands
Northbound Mesa St north and south of Montecillo Blvd	Install Sidewalks / reconfigure left-turn island
Mesa St at Argonaut Dr (southeast quadrant)	Widen Sidewalk
Mesa St at Brentwood Dr (northeast quadrant)	Repair Sidewalk
Mesa St at Eubank Ct (northeast quadrant)	Repair Sidewalk
Mesa St at Fairmont St (northwest quadrant)	Repair Sidewalk
Mesa St at Waymore Dr (northwest quadrant)	Repair Sidewalk
Northbound Mesa St north of Mesita Dr	Install Sidewalk
Northbound Mesa St north and south of Cincinnati Ave	Repair Sidewalk
Southbound Mesa St between Kerbey Ave and University Ave	Repair Sidewalk
Mesa St at Hague Ave (northwest quadrant)	Widen sidewalk around utility pole
Mesa St at Schuster Ave (northwest quadrant)	Relocate pushbutton pole
Northbound Mesa St between Missouri Ave and Wyoming Ave	Relocate fire hydrant and sign poles
Mesa St at Fourth Ave (northeast quadrant)	Repair Sidewalk
Total Preliminary Estimated Construction Cost (2018 Dollars): $1.5M	

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Bus Queue-Jump Lanes at signalized Mesa Street intersections

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

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- Dependent on the availability of transportation funds in order to be constructed;
- Proritized safety and congestion relief solutions; and
- Cost-feasible, timely solutions requiring no right-of-way acquisition.

The preliminary cost estimate for all the Study's Short-term recommendations totals approximately **$5.6M**.

Bus Queue-Jump (right turn) Lanes at Mesa Street signalized intersection locations
Resler Dr (northwest and southeast quadrants)
Sunland Park Dr (southeast quadrant)
Mesa Hills Dr (northwest quadrant)
Festival Dr (southeast quadrant)
Argonaut Dr (northwest quadrant)
Executive Center Blvd (northwest and southeast quadrants)
Sun Bowl Dr (northwest quadrant)
Total Preliminary Estimated Construction Cost (2018 Dollars): $3K

Example Location:
Bus Queue-Jump Lane
(requires signage and signal timing)

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Intelligent Transportation System (ITS) Improvements

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

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- Cost-feasible, timely solutions requiring no right-of-way acquisition.

The preliminary cost estimate for all the Study's Short-term recommendations totals approximately **$5.6M**.

ITS at Mesa Street signalized intersection locations	Preliminary Estimated Cost
Bluetooth camera surveillance at identified locations: ▪ Doniphan Drive (SH 20); ▪ Desert South / North Boulevard (I-10 Frontage Roads); ▪ Sunland Park Drive / Shadow Mountain Drive; ▪ Executive Center Boulevard; ▪ Sun Bowl Drive / Mesita Drive; ▪ Wyoming Avenue; and ▪ Yandell Drive.	$75K
Video Imaging Vehicle Detection System (VIVDS): ▪ Doniphan Drive (SH 20); ▪ Desert South / North Boulevard (I-10 Frontage Roads); ▪ Resler Drive; ▪ Sunland Park Drive / Shadow Mountain Drive; ▪ Executive Center Boulevard; and ▪ Sun Bowl Drive / Mesita Drive.	$600K
Speed Feedback Signs approaching Executive Center Boulevard horzontal curves	$31K
Total Preliminary Estimated Construction Cost (2018 Dollars): $700K	

Example:
Speed Feedback Sign

Example:
Installede Bluetooth Devise

Example:
VIVDS

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SH 20 / Mesa Street

White Papers for

Mid-Term Final Recommendations

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Left-turn & Right-turn Bay Storage Lengthening

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

The Mesa St / SH 20 **Mid-term Recommendations** are:

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- Proritized congestion relief solutions; and
- Solutions that may require right-of-way acquisition.

The preliminary cost estimate for all the Study's Mid-term recommendations totals approximately **$46M**.

Turn Bay Storage Lengthening at the following Mesa Street intersection locations	
Doniphan Dr (SH 20)	300ft Eastbound (EB) left-turn bay; 240ft Westbound (WB) left-turn bay
Crossroads Dr	195ft WB left-turn bay
Osborne Dr	675ft WB left-turn bay
Bartlett Dr	420ft EB left-turn bay
Remcon Circle	410ft EB left-turn bay; 500ft WB left-turn bay 600ft EB right-turn bay; 400ft WB right-turn bay
Barlett Dr	650ft EB left-turn bay
Resler Dr	285ft WB left-turn bay
Pitt Dr	250ft WB left-turn bay; 230ft NB (Pitt Dr) right-turn bay
Thunderbird Dr	305ft Southbound (SB) left-turn bay
Balboa Rd	215ft Northbound (NB) left-turn bay
Sunland Pk Dr / Shadow Mtn. Dr	400ft NB right-turn bay; 405ft SB right-turn bay
Mesa Hills Dr	430ft SB left-turn bay
Festival Dr	350ft WB dual left-turn bays; 555ft NB left-turn bay
Executive Center Blvd	650ft NB left-turn bay; continuous NB auxiliary lane to Camelot Heights Dr
Brentwood Ave	120ft NB left-turn bay; 380ft SB left-turn bay
Sun Bowl Dr / Mesita Dr	180ft NB left-turn bay
University Dr	145ft NB left-turn bay; 100ft SB right-turn bay
Rim Rd	130ft NB left-turn bay; 105ft SB left-turn bay
Schuster Ave	260ft NB left-turn bay; 180ft SB left-turn bay
Rio Grande Ave	300ft SB left-turn bay
Franklin Ave	245ft SB left-turn bay
Total Preliminary Estimated Construction Cost (2018 Dollars): $4M	

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I-10 Eastbound Exit Ramp to North Mesa Street Relocation

STUDY SUMMARY

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- Solutions that may require right-of-way acquisition.

The preliminary cost estimate for all the Study's Mid-term recommendations totals approximately **$46M**.

Recommendation Location
Relocate Eastbound I-10 exit ramp (to North Mesa Street) northward to allow driver access to McClintock Drive and retail sites, and unsignaled access to Doniphan Dr (SH 20)
Total Preliminary Estimated Construction Cost (2018 Dollars): $840K

Ramp Relocation Concept

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Extend Desert Pass Street

STUDY SUMMARY

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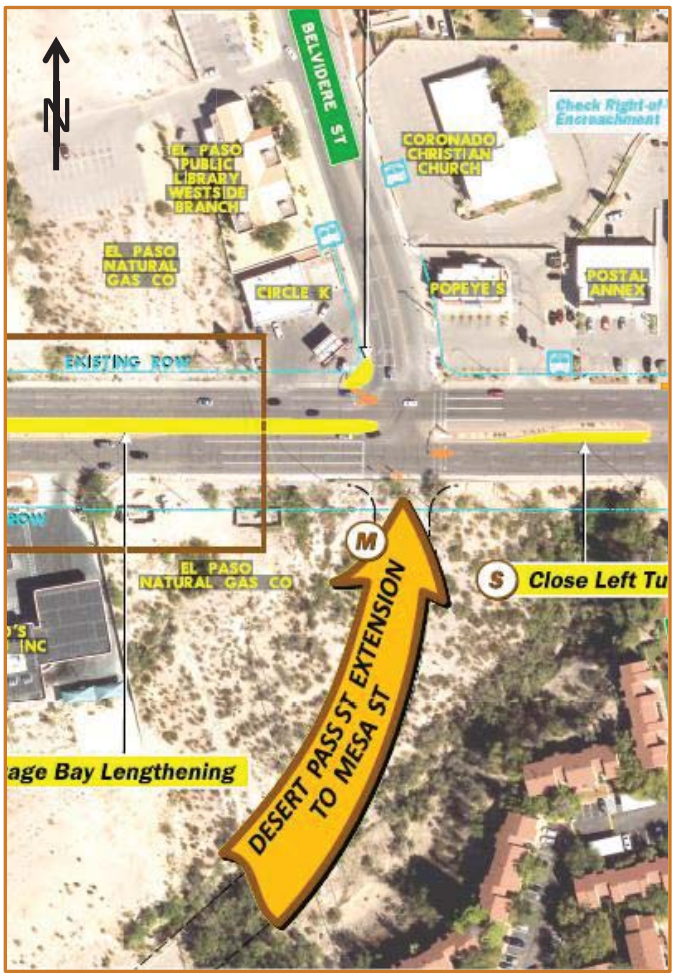
- Solutions that may require right-of-way acquisition.

The preliminary cost estimate for all the Study's Mid-term recommendations totals approximately **$46M**.

Recommendation Location
Extend Desert Pass Street to the Mesa Street / Belvidere Street intersection
Total Preliminary Estimated Construction Cost (2018 Dollars): $3.9M



Extension Concept

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Extend Mesa Park Drive

STUDY SUMMARY

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The Mesa St / SH 20 **Mid-term Recommendations** are:

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- Based on addressing year 2020 vehicular demand;
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- Solutions that may require right-of-way acquisition.

The preliminary cost estimate for all the Study's Mid-term recommendations totals approximately **$46M**.

Recommendation Location
Extend Mesa Park Drive to IH 10 (consistent w/ El Paso MPO)
Total Preliminary Estimated Construction Cost (2018 Dollars): $8.5M

Extension Concept

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Mesa Park Drive & Executive Center Boulevard Link

STUDY SUMMARY

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- Solutions that may require right-of-way acquisition.

The preliminary cost estimate for all the Study's Mid-term recommendations totals approximately **$46M**.

Recommendation Location
Link Mesa Park Drive and Executive Center Boulevard via a new location arterial (consistent w/ City of El Paso Thoroughfare Plan)
Total Preliminary Estimated Construction Cost (2018 Dollars): $10.1M

Extension Concept

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9th Avenue Mini-Roundabout

STUDY SUMMARY

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- Solutions that may require right-of-way acquisition.

The preliminary cost estimate for all the Study's Mid-term recommendations totals approximately **$46M**.

Recommendation Location
Install Mini-roundabout (raised or pavement marking island) at Mesa Street / 9th Avenue intersection
Total Preliminary Estimated Construction Cost (2018 Dollars): $9K

Future condition per

2013 Border West Expressway Schematic:

Recommended Mini-Roundabout that replaces STOP signs

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Hooded Left-turn Lanes

STUDY SUMMARY

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The Mesa St / SH 20 **Mid-term Recommendations** are:

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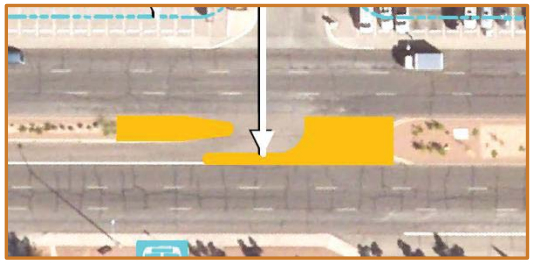
- Solutions that may require right-of-way acquisition.

The preliminary cost estimate for all the Study's Mid-term recommendations totals approximately **$46M**.

Hooded Left-turn (median) Lanes at the following Mesa Street intersection locations	
East of Belvidere St	Hooded Eastbound left-turn bay
East of Resler Dr	Dual Hooded left-turn bays
East of Alto Mesa Dr	Dual Hooded left-turn bays
At De Leon Dr	Dual Hooded left-turn bays
At Double Tree Ln	Hooded Eastbound left-turn bay
At Confetti Dr	Dual Hooded left-turn bays
West of Festival Dr	Dual Hooded left-turn bays
At Paragon Ln	Dual Hooded left-turn bays
West of Montecillo Blvd	Hooded Eastbound left-turn bay
East of Mesa Park St	Dual Hooded left-turn bays
West of Executive Center Blvd (location 1)	Dual Hooded left-turn bays
West of Executive Center Blvd (location 2)	Dual Hooded left-turn bays
At Waymore Dr	Dual Hooded left-turn bays
At Kern Dr	Dual Hooded left-turn bays
At Cliff Dr	Dual Hooded left-turn bays
Total Preliminary Estimated Construction Cost (2018 Dollars): $39K	

Hooded Left-turn (median) Lane Concepts



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Access Management: Hooded Left-turns, Driveways & Medians

STUDY SUMMARY

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The preliminary cost estimate for all the Study's Mid-term recommendations totals approximately **$46M**.

Hooded Left-turns, Combined Driveways, Driveway Closures, Raised Medians & Median Opening Closures at the following Mesa Street locations	
N Desert Blvd / Mesa St (NE quadrant)	Relocate Driveway
East of Belvidere St	Hooded Eastbound left-turn bay
East of Resler Dr	Dual Hooded left-turn bays
Resler Dr / Mesa St (NE quadrant)	Relocate driveway & Driveway Closure
East of Alto Mesa Dr	Dual Hooded left-turn bays & Median Closure
East of Camille Dr	Redundant driveway closure
At De Leon Dr	Dual Hooded left-turn bays
West of Sunland Park Drive	Median Closure (2 locations)
At Double Tree Ln	Hooded Eastbound left-turn bay
At Confetti Dr	Dual Hooded left-turn bays
West of Festival Dr	Dual Hooded left-turn bays
At Paragon Ln & East of Paragon Ln	Dual Hooded left-turn bays & Median Closure
West of Montecillo Blvd	Hooded Eastbound left-turn bay
East of Mesa Park St	Dual Hooded left-turn bays
West of Executive Center Blvd (4 locations)	Dual Hooded lefts, Drwy Closures & continuos aux. In to Camelot Hts
At Waymore Dr & North of Waymore Dr	Dual Hooded left-turn bays, Driveway Closure & Raised Median
North & South of Sun Bowl Dr	Median Closures
At Kern Dr and South of Kern Dr	Dual Hooded left-turn bays & Median Closure (2 locations)
At Cliff Dr	Dual Hooded left-turn bays
Boston Ave to Paisano Dr (US 67)	Median Closures (5 locations) & Driveway Closures (4 locations)
Total Preliminary Estimated Construction Cost (2018 Dollars): $1.1M	

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Mesa Street Vertical Curve Modifications

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

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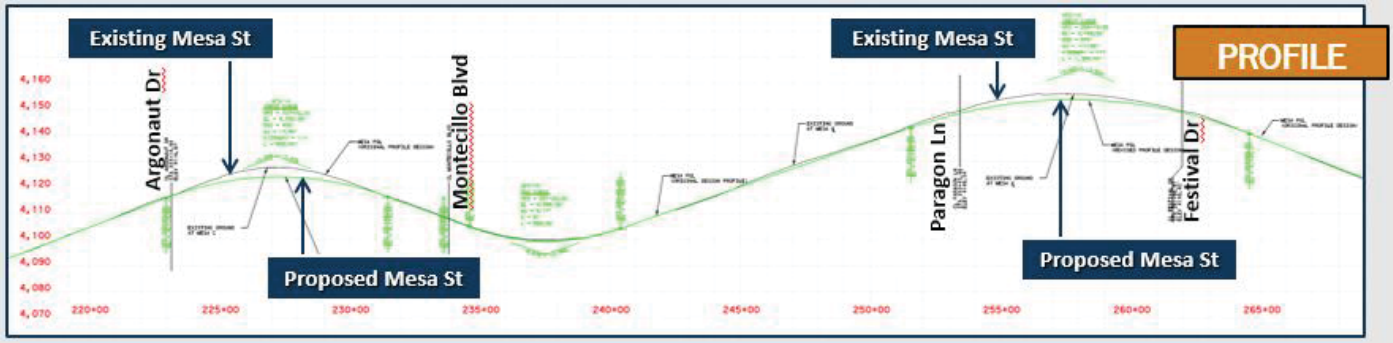
- Solutions that may require right-of-way acquisition.

The preliminary cost estimate for all the Study's Mid-term recommendations totals approximately **$46M**.

Flatten Vertical Curvature
From Festival Dr to Argonaut Dr
Total Preliminary Estimated Construction Cost (2018 Dollars): $6.9M



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Mesa Street Corridor Lighting

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

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- Proritized safety and congestion relief solutions; and
- Solutions that may require right-of-way acquisition.

The preliminary cost estimate for all the Study's Mid-term recommendations totals approximately **$46M**.

Continuous and improved overhead Street Lighting along Mesa Street
From Doniphan Dr (SH 20) to Loop 375 [Does not include I-10, Resler Dr, Sunland Park Dr, Executive Center Blvd and Glory Rd intersections which are currently lighted and identified for major, reconstruction improvements (see Long-term recommendations)]
Total Preliminary Estimated Construction Cost (2018 Dollars): $980K

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Shared Use Path from Doniphan Dr to Resler Dr

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

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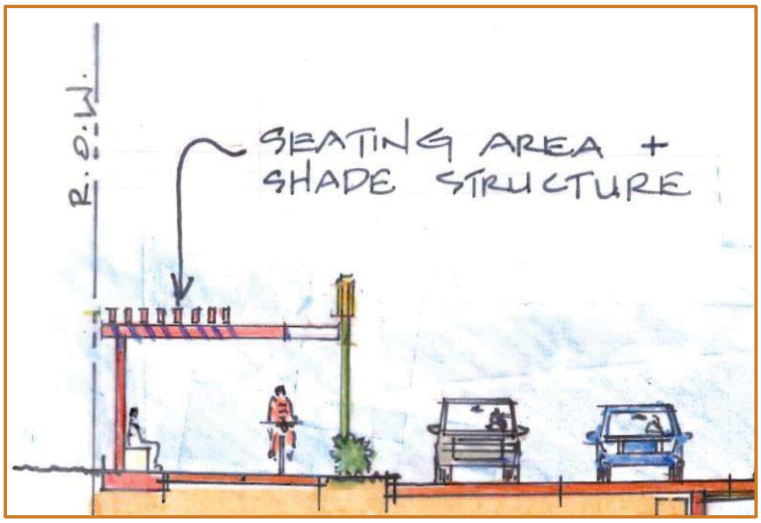
- Based on addressing year 2040 vehicular travel demand along the Mesa Street corridor;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized safety and congestion relief solutions; and
- Solutions that may require right-of-way acquisition.

The preliminary cost estimate for all the Study's Mid-term recommendations totals approximately **$46M**.

10-foot wide Shared Use Path located adjacent to southbound Mesa Street
From Doniphan Dr (SH 20) to Resler Dr. Location recommendation is based on: ▪ Mesa St corridor constraints; ▪ Available right-of-way (ROW); and ▪ Shared Use Path links to the currently planned local (City) Bike Plan routes along Doniphan Dr and Resler Dr.
Total Preliminary Estimated Construction Cost (2018 Dollars): $1.6M



Shared Use Path Concept

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Sidewalk Expansion & Safety Rails near Glory Rd

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

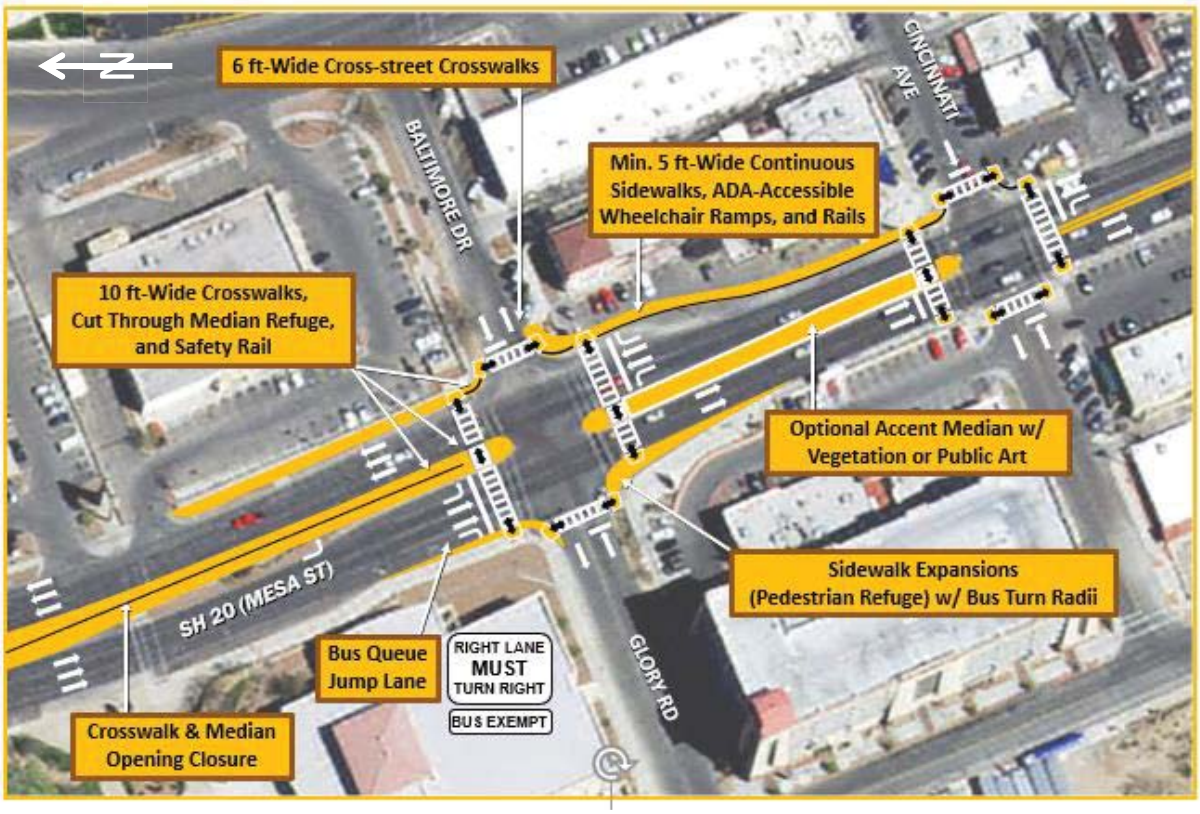
The Mesa St / SH 20 **Mid-term Recommendations** are:

- Recommended to be implemented within the next ten years;
- Based on addressing year 2040 vehicular travel demand along the Mesa Street corridor;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized safety and congestion relief solutions; and
- Solutions that may require right-of-way acquisition.

The preliminary cost estimate for all the Study's Mid-term recommendations totals approximately **$46M**.

Sidewalk expansion and Safety Rails
From north of Glory Rd to south of Robinson Ave
Total Preliminary Estimated Construction Cost (2018 Dollars): $143K

Improvements Concept



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Shared Use Path from Sun Bowl Dr to Glory Rd

STUDY SUMMARY

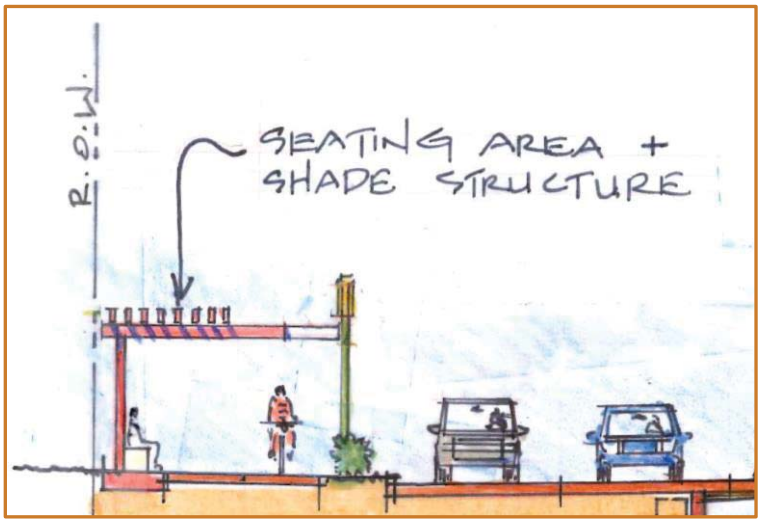
The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

The Mesa St / SH 20 **Mid-term Recommendations** are:

- Recommended to be implemented within the next ten years;
- Based on addressing year 2040 vehicular travel demand along the Mesa Street corridor;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized safety and congestion relief solutions; and
- Solutions that may require right-of-way acquisition.

The preliminary cost estimate for all the Study's Mid-term recommendations totals approximately **$46M**.

10-foot wide Shared Use Path located adjacent to southbound Mesa Street
From Sun Bowl Dr to Glory Rd / Baltimore Dr. Location recommendation is based on: ▪ Mesa St corridor constraints; ▪ Available right-of-way (ROW); and ▪ Shared Use Path links to the currently planned local (City) Bike Plan routes near Sun Bowl Dr / Mesa St intersection and along Stanton St and Oregon St Dr.
Total Preliminary Estimated Construction Cost (2018 Dollars): $1.2M



Shared Use Path Concept

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Crosswalk upgrades at River Ave

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

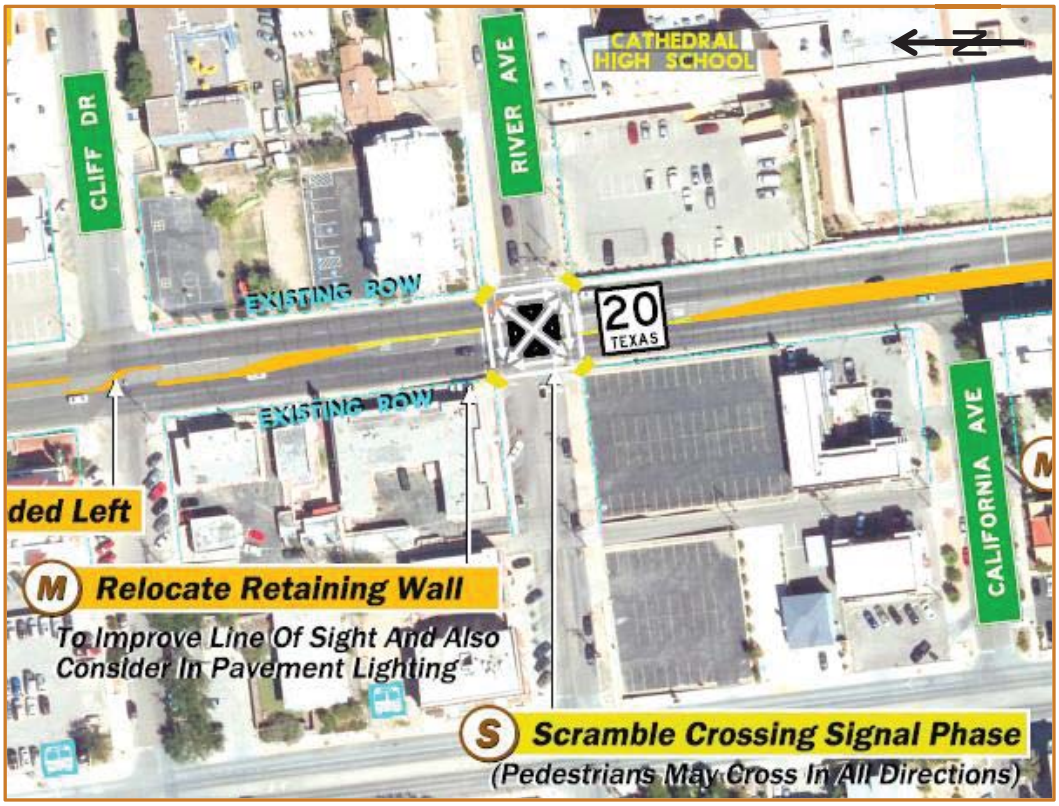
The Mesa St / SH 20 **Mid-term Recommendations** are:

- Recommended to be implemented within the next ten years;
- Based on addressing year 2040 vehicular travel demand along the Mesa Street corridor;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized safety and congestion relief solutions; and
- Solutions that may require right-of-way acquisition.

The preliminary cost estimate for all the Study's Mid-term recommendations totals approximately **$46M**.

Pedestrian-related Crosswalk Upgrades
At Mesa St / River Ave intersection near Cathedral High School
Total Preliminary Estimated Construction Cost (2018 Dollars): $183K

Improvements Concept



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Remcon Circle Median Opening

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

The Mesa St / SH 20 **Mid-term Recommendations** are:

- Recommended to be implemented within the next ten years;
- Based on addressing year 2040 vehicular travel demand along the Mesa Street corridor;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized safety and congestion relief solutions; and
- Solutions that may require right-of-way acquisition.

The preliminary cost estimate for all the Study's Mid-term recommendations totals approximately **$46M**.

Remcon Circle Median Opening
Access to eastbound Remcon Circle by Sun Metro Westside Transfer Center parking patrons
Total Preliminary Estimated Construction Cost (2018 Dollars): $5.5K

Remcon Circle Median Opening

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Confetti Drive School Bus-Only Lane

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

The Mesa St / SH 20 **Mid-term Recommendations** are:

- Recommended to be implemented within the next ten years;
- Based on addressing year 2040 vehicular travel demand along the Mesa Street corridor;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized safety and congestion relief solutions; and
- Solutions that may require right-of-way acquisition.

The preliminary cost estimate for all the Study's Mid-term recommendations totals approximately **$46M**.

Confetti Drive
School Bus-Only Lane & Storage for Morehead Elementary School Buses
Total Preliminary Estimated Construction Cost (2018 Dollars): $134K

Confetti Drive Bus-Only Lane

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Bus Queue-Jump Lanes at signalized Mesa Street intersections

STUDY SUMMARY

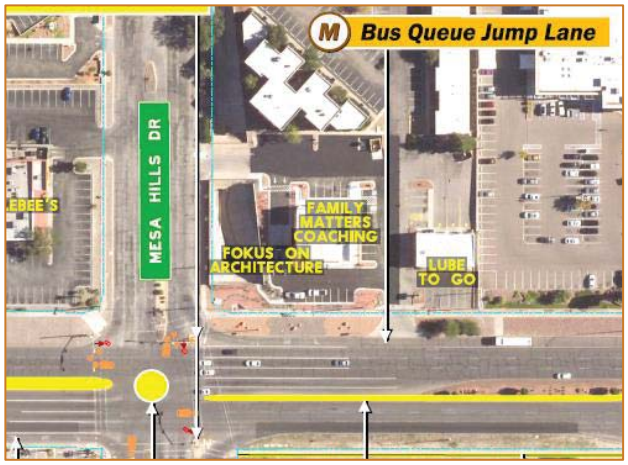
The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

The Mesa St / SH 20 **Mid-term Recommendations** are:

- Recommended to be implemented within the next ten years;
- Based on addressing year 2040 vehicular travel demand along the Mesa Street corridor;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized safety and congestion relief solutions; and
- Solutions that may require right-of-way acquisition.

The preliminary cost estimate for all the Study's Mid-term recommendations totals approximately **$46M**.

Bus Queue-Jump (right turn) Lanes at Mesa Street signalized intersections
Doniphan Dr (SH 20) within dedicated right-turn lanes (northeast and southwest quadrants)
Remcon Cir within a dedicated right-turn lane (northeast quadrant)
Sunland Park Dr within a dedicated right-turn lane (northwest quadrant)
Mesa Hills Dr (southeast quadrant)
Festival Dr within a dedicated right-turn lanes (northwest quadrant)
Argonaut Dr (northeast quadrant)
Castellano Dr (southeast quadrant)
Brentwood Ave within a dedicated right-turn lane (southeast quadrant)
Mesita Dr within a dedicated right-turn lane (southeast quadrant)
Baltimore Dr (southeast quadrant)
Total Preliminary Estimated Construction Cost (2018 Dollars): $157K



Example Location:
Bus Queue-Jump Lane
(requires signage and signal timing)

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Intelligent Transportation System (ITS)

STUDY SUMMARY

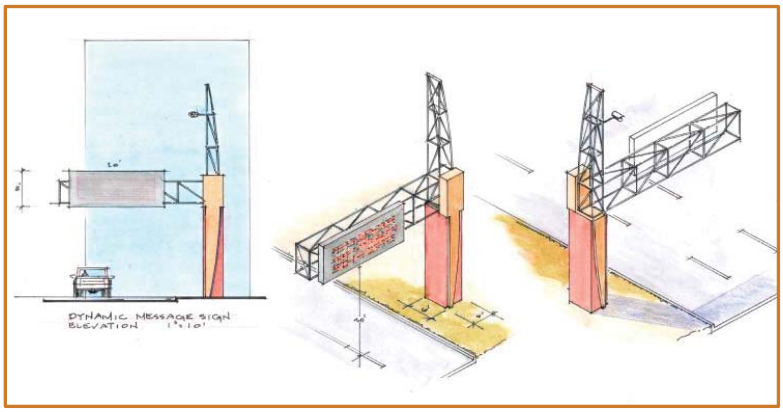
The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

The Mesa St / SH 20 **Mid-term Recommendations** are:

- Recommended to be implemented within the next ten years;
- Based on addressing year 2040 vehicular travel demand along the Mesa Street corridor;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized safety and congestion relief solutions; and
- Solutions that may require right-of-way acquisition.

The preliminary cost estimate for all the Study's Mid-term recommendations totals approximately **$46M**.

ITS - Mesa Street Dynamic Message Sign Locations
▪ Eastbound Mesa St between Crossroads St and Osborne Dr ▪ Westbound Mesa St between Crossroads St and Osborne Dr ▪ Westbound Mesa St between Bartlett Dr and Remcon Circle ▪ Eastbound Mesa St between Remcon Cir and Belvidere St ▪ Westbound Mesa St west of Alto Mesa Dr ▪ Eastbound Mesa St between Thunderbird Dr and Balboa Dr ▪ Westbound Mesa St west of Mesa Hills Dr ▪ Southbound Mesa St south of Executive Center Blvd ▪ Northbound Mesa St north of Kern Dr ▪ Southbound Mesa St north of Arizona Ave ▪ Northbound Mesa St north of Main St
Total Preliminary Estimated Construction Cost (2018 Dollars): $6.2M
Cellular modem / wireless links to TxDOT TransVista from Doniphan Dr to Texas Ave (SH 20)
Total Preliminary Estimated Construction Cost (2018 Dollars): $50K



Dynamic Message Sign Concept

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SH 20 / Mesa Street

White Papers for

Long-Term Final Recommendations

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I-10 / North Mesa Street Interchange

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

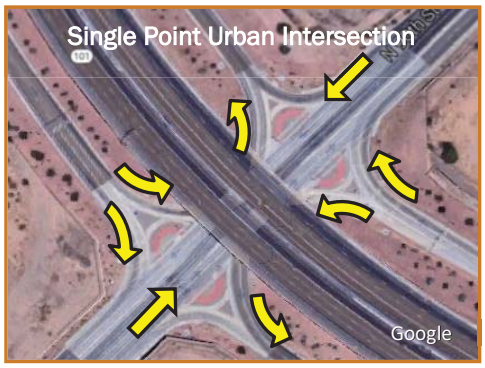
The Mesa St / SH 20 **Long-term Recommendations** are:

- Recommended to be implemented within the next twenty years;
- Based on addressing year 2040 vehicular demand;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized congestion relief solutions; and
- Solutions that require right-of-way acquisition.

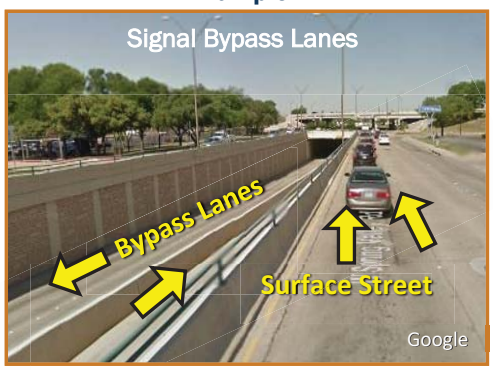
The preliminary cost estimate for all the Study's Long-term recommendations totals approximately **$258M**.

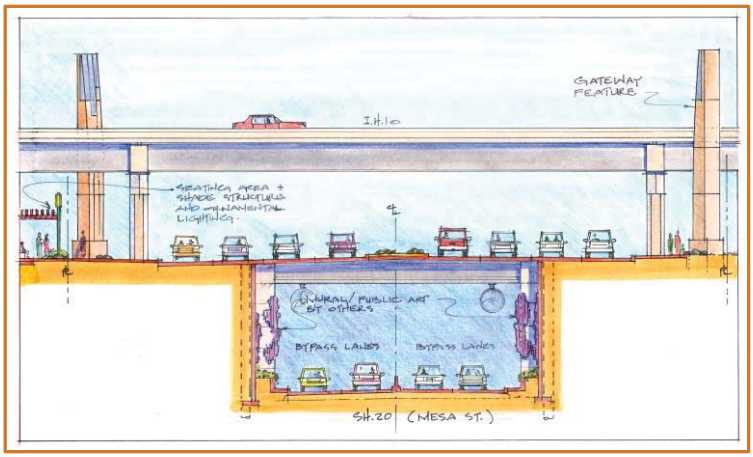
Recommendation / Location
Construction of a three level I-10 / North Mesa Street interchange composed of: 1) Below-ground North Mesa Street (Signal Bypass Lanes); 2) Surface Street (I-10 / North Mesa Street) Single Point Urban Intersection (SPUI); and 3) I-10 elevated Frontage Roads (westbound and eastbound) overpassing North Mesa Street.
Total Preliminary Estimated Construction Cost (2018 Dollars): $97M

Example:



Example:





Concept: North Mesa St. Bypass Lanes beneath I-10

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Resler Drive / Mesa Street Interchange

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

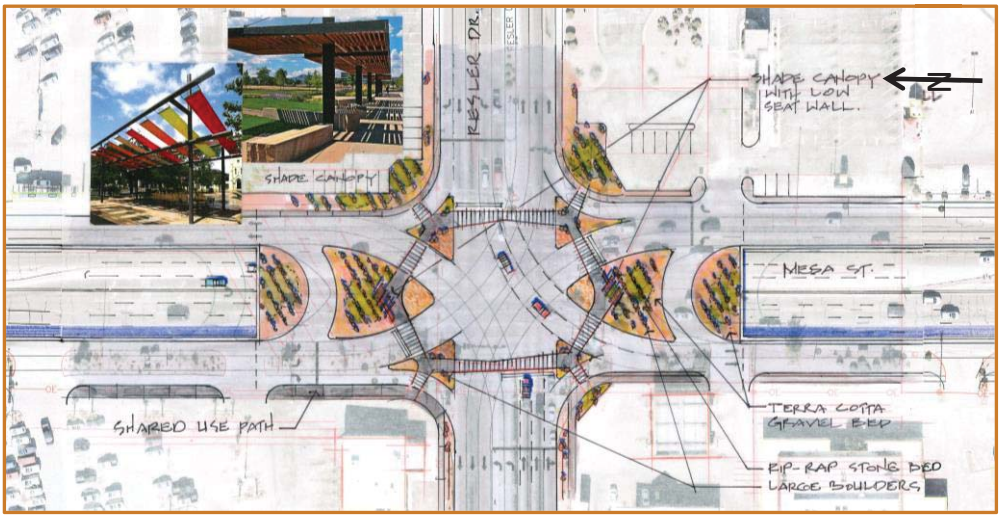
The Mesa St / SH 20 **Long-term Recommendations** are:

- Recommended to be implemented within the next twenty years;
- Based on addressing year 2040 vehicular demand;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized congestion relief solutions; and
- Solutions that require right-of-way acquisition.

The preliminary cost estimate for all the Study's Long-term recommendations totals approximately **$258M**.

Recommendation / Location
Construction of a Single Point Urban Intersection (SPUI) at the Mesa St / Resler Dr intersection composed of unpassing Mesa St (signal bypass) lanes and accommodation of a 10-foot wide Shared Use Path.
Total Preliminary Estimated Construction Cost (2018 Dollars): $25M

Existing Intersection (No Build Condition)



Recommended Concept: SPUI w/ Shared Use Path Link

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Sunland Park Drive / Mesa Street Interchange

STUDY SUMMARY

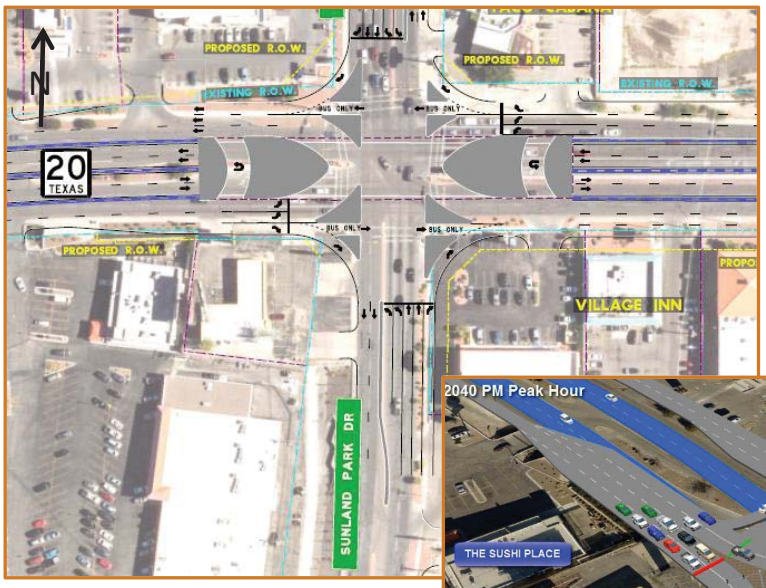
The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

The Mesa St / SH 20 **Long-term Recommendations** are:

- Recommended to be implemented within the next twenty years;
- Based on addressing year 2040 vehicular demand;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized congestion relief solutions; and
- Solutions that require right-of-way acquisition.

The preliminary cost estimate for all the Study's Long-term recommendations totals approximately **$258M**.

Recommendation / Location
Construction of a Single Point Urban Intersection (SPUI) at the Mesa St / Sunland Park Dr intersection composed of unpassing Mesa St (signal bypass) lanes.
Total Preliminary Estimated Construction Cost (2018 Dollars): $32M



Recommended Concept: SPUI Interchange

Recommended Concept: SPUI Video Simulation w/ underpassing Mesa St Lanes

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Executive Center Boulevard / Mesa Street Intersection

STUDY SUMMARY

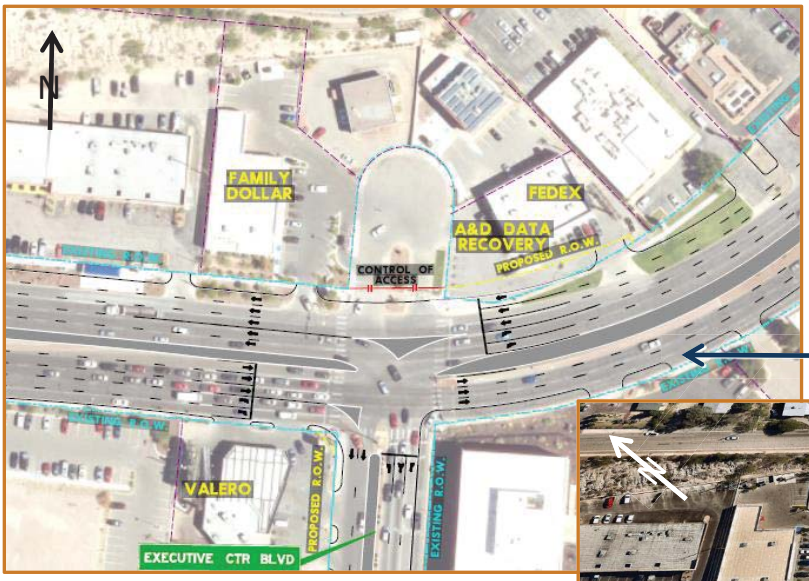
The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

The Mesa St / SH 20 **Long-term Recommendations** are:

- Recommended to be implemented within the next twenty years;
- Based on addressing year 2040 vehicular demand;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized congestion relief solutions; and
- Solutions that require right-of-way acquisition.

The preliminary cost estimate for all the Study's Long-term recommendations totals approximately **$258M**.

Recommendation / Location
Construction of a Continuous Green T intersection with horizontal curve modification and accommodation of a 10-foot wide Shared Use Path adjacent to soutbound Mesa Street (from Executive Ctr Blvd to Sun Bowl Dr)
Total Preliminary Estimated Construction Cost (2018 Dollars): $2.3M



Recommended Concept:
Continuous Green T Intersection

Flatten Horz. Curve to improve safety and accommodate a 10 ft-wide Shared Use Path adjacent to southbound Mesa St

Recommended Concept:
Green T Video Simulation

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Glory Road / Mesa Street Interchange with Deck Park

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

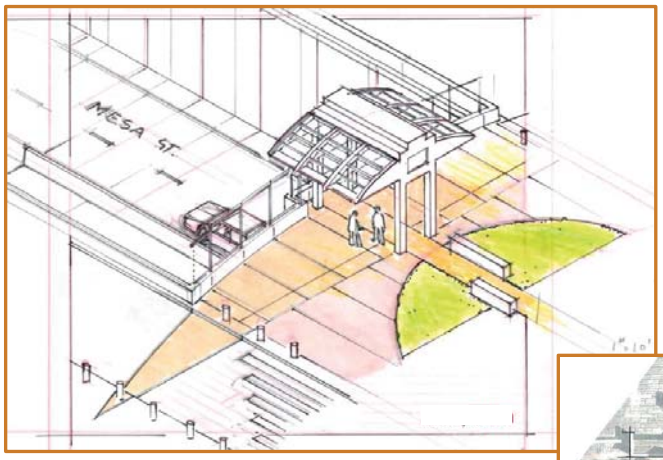
The Mesa St / SH 20 **Long-term Recommendations** are:

- Recommended to be implemented within the next twenty years;
- Based on addressing year 2040 vehicular demand;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized congestion relief solutions; and
- Solutions that require right-of-way acquisition.

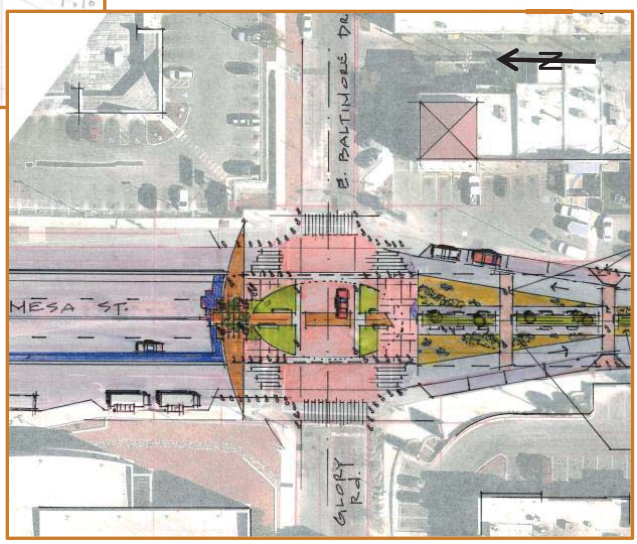
The preliminary cost estimate for all the Study's Long-term recommendations totals approximately **$258M**.

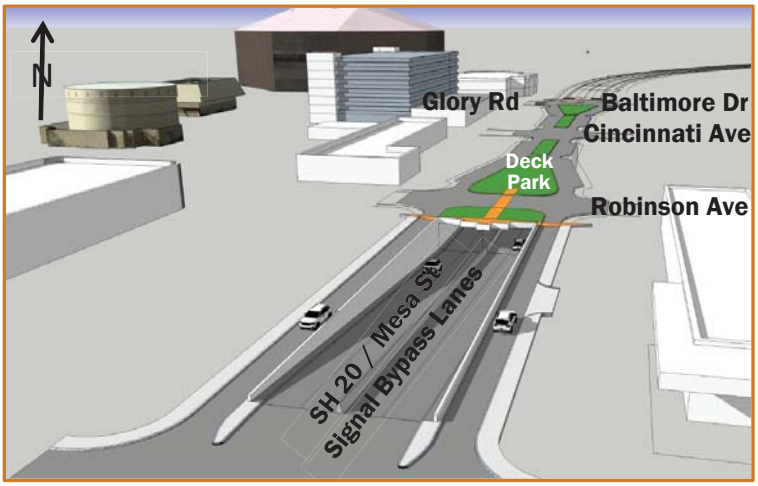
Recommendation / Location
Construction of underpassing Mesa St (signal bypass) lanes beneath Glory Rd / Baltimore Dr, Cincinatti Ave, and Robinson Ave with accommodation of an overhead Deck Park between Glory Rd and Robinson Ave.
Total Preliminary Estimated Construction Cost (2018 Dollars): $75M*

[1] Deck Park break-out cost: $37.3M (2018 Dollars)



Glory Rd Deck Park Concepts (w/ underpassing Mesa St lanes)





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Mesa Street Bus Stop Pull-out Lanes

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

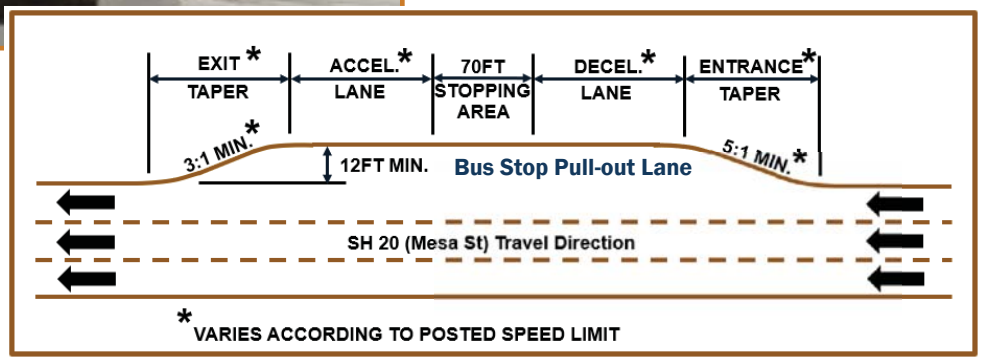
The Mesa St / SH 20 **Long-term Recommendations** are:

- Recommended to be implemented within the next twenty years;
- Based on addressing year 2040 vehicular demand;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized congestion relief solutions; and
- Solutions that require right-of-way acquisition.

The preliminary cost estimate for all the Study's Long-term recommendations totals approximately **$258M**.

Recommendation / Location
Construction of dedicated Bus Stop Pull-out Lanes at identified existing Brio and non-Brio Bus Stop locations Along northbound and southbound Mesa St from Doniphan Dr (SH 20) to Eighth Ave. NOTE: The length and estimated cost associated with each pull-out lane entails site constraints such as impacts to existing bus pavilions, driveways, parking, sidewalks and buildings, and cross-street proximity.
Total Preliminary Estimated Construction Cost (2018 Dollars): $15M

Example: Bus Stop Traffic Queing without a dedicated Pull-out Lane



Concept: Bus Stop Pull-out Lane

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Shared Use Path from Executive Center Boulevard to Sun Bowl Drive

STUDY SUMMARY

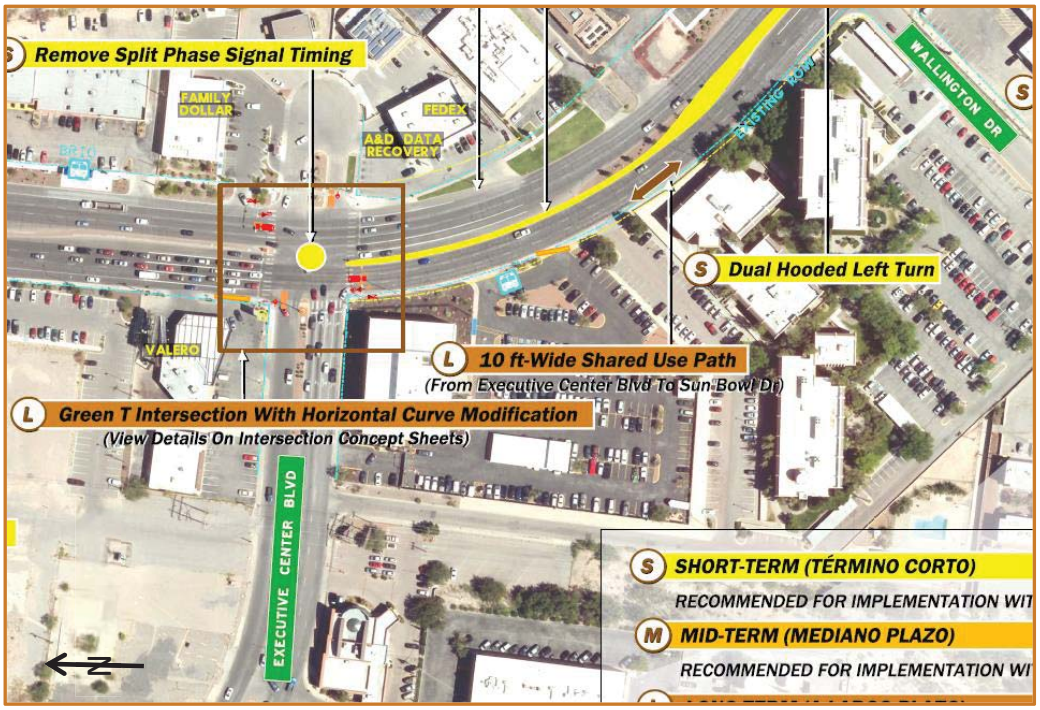
The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

The Mesa St / SH 20 **Long-term Recommendations** are:

- Recommended to be implemented within the next twenty years;
- Based on addressing year 2040 vehicular demand;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized congestion relief solutions; and
- Solutions that require right-of-way acquisition.

The preliminary cost estimate for all the Study's Long-term recommendations totals approximately **$258M**.

Recommendation / Location
Construction of a 10-foot wide Shared Use Path located adjacent to southbound Mesa Street that spans from Executive Center Blvd to to Sun Bowl Dr. Location and recommendation for the Path is based on: ▪ Mesa St corridor constraints; ▪ Available right-of-way (ROW); and ▪ Path linkage to the currently planned local (City) Bike Plan routes near Sun Bowl Dr. and Brentwood Ave. **NOTE:** Path insertion is only possible after the Executive Center Blvd intersection is reconstructed into a Green T intersection and the Mesa St alignment is shifted eastward for safety reasons, thereby allowing the space needed to insert the Path.
Total Preliminary Estimated Construction Cost (2018 Dollars): $607K



Recommended Shared Use Path Location

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Intelligent Transportation System (ITS)

STUDY SUMMARY

The Texas Department of Transportation (TxDOT) El Paso District has identified various short-, mid- and long-term recommendations to improve the capacity, operation, circulation, and safety on State Highway (SH) 20, a.k.a. Mesa Street, from Doniphan Drive (SH 20) to Texas Avenue (SH 20), and Mesa Street from Texas Avenue to Loop 375 (Cesar E. Chavez Border Highway).

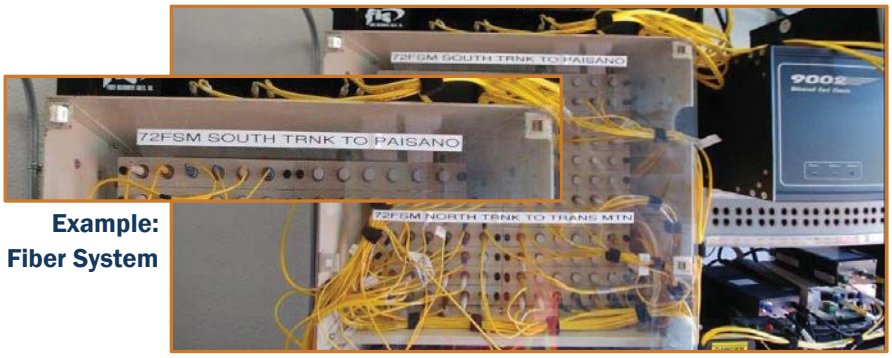
The Mesa St / SH 20 **Long-term Recommendations** are:

- Recommended to be implemented within the next twenty years;
- Based on addressing year 2040 vehicular demand;
- Dependent on the availability of transportation funds in order to be constructed;
- Proritized congestion relief solutions; and
- Solutions that typically require right-of-way acquisition.

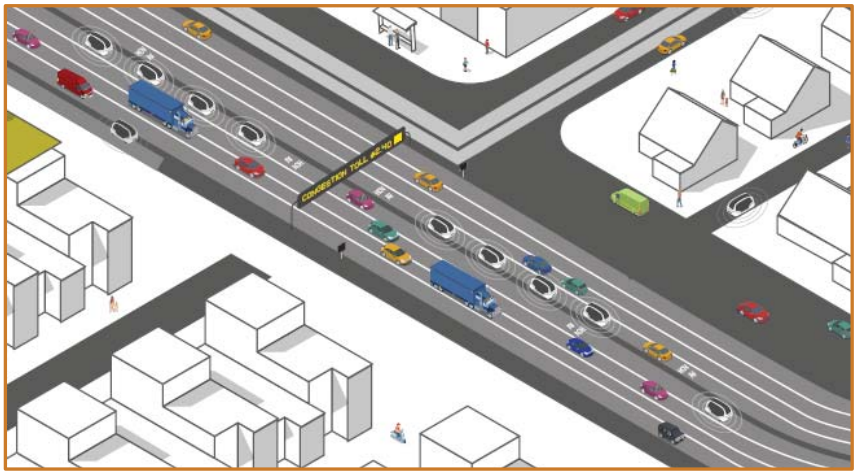
The preliminary cost estimate for all the Study's Long-term recommendations totals approximately **$258M**.

Recommendation / Locations
144-count fiber along SH 20 / Mesa Street from Doniphan Drive (SH 20) to Loop 375
Connect City of El Paso Cameras to TxDOT'S Lonestar system
Transform SH 20 to a Smart Corridor or Connected Vehicle / Automated Vehicle (CV/AV) Corridor
Total Preliminary Estimated Construction Cost (2018 Dollars): $10.1M

Example: ITS Camera Pole



Example: Fiber System



Concept: Smart Corridor or CV/AV Corridor

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SH 20 / Mesa Street

White Paper for Pedestrian Bridge

(not currently recommended)

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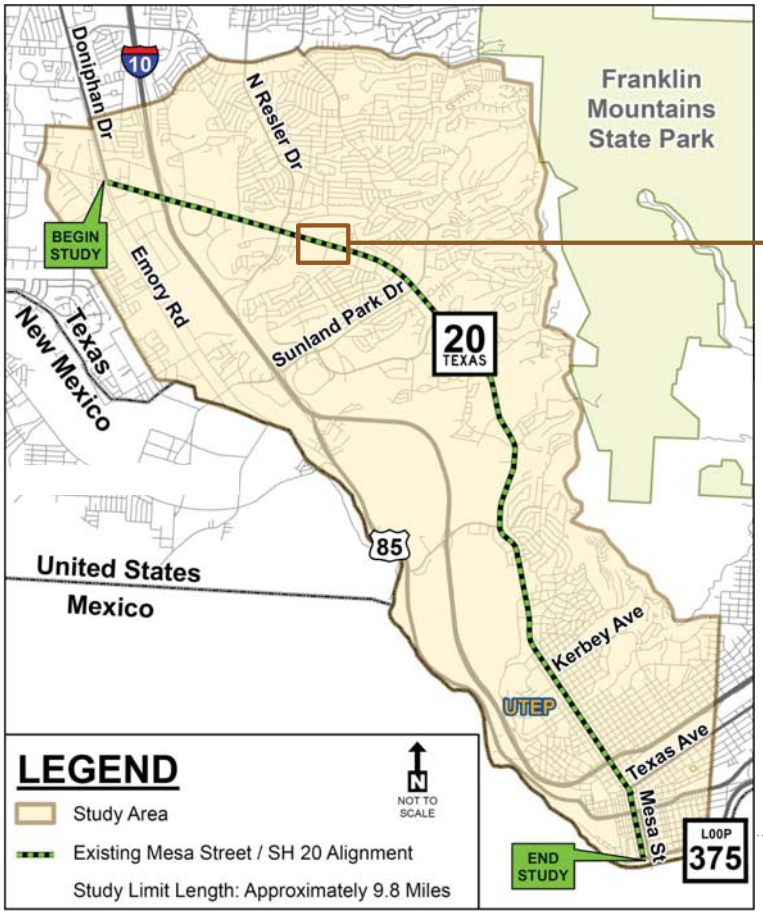
Mesa St. – SH 20 Corridor Study | Pedestrian Bridge Concept



TxDOT Graphic

STUDY SUMMARY & PEDESTRIAN BRIDGE CONCEPT

The Texas Department of Transportation (TxDOT) El Paso District Office is conducting a Traffic Engineering & Planning Study to pursue mobility, capacity, and safety improvements for SH 20 (Mesa Street) from Doniphan Drive (SH 20) to Cesar Chavez Border Highway (Loop 375). The Study will produce a Master Plan of multi-modal Short-, Mid-, and Long-Term upgrades to the corridor. In order to be implemented, several of the currently recommended upgrade concepts would require private and public partnerships. One of these concepts is a Pedestrian Bridge spanning Mesa Street in the vicinity of Coronado High School and the Resler Canyon Nature Preserve.

PEDESTRIAN BRIDGE & BIKE PATH LOCATION

BENEFITS

SAFETY

The Pedestrian Bridge would provide local residents, Lambka Park users, Coronado High School and Putnam Elementary School students, and retail patrons a safe means to cross above Mesa Street on foot or bike. In doing so, the bridge is expected to lessen or avoid future pedestrian-vehical related crashes and fatalities.

CONNECTIVITY

The Bridge, and bike path connecting the bridge, would link the City of El Paso (COEP) planned Bike Plan routes, namely the "I-10 Greenway", Desert Pass Street, and Executive Center Boulevard bike routes west of Mesa Street, and the Cloudview Drive, Northwind Drive, Westwind Drive, and Stanton Street bike routes east of Mesa Street. The Bridge would provide pedestrians and cyclists walkability and bikeability options to travel both west and east of Mesa Street along the approximate 9.8 mile Mesa Street corridor.

ENHANCEMENT

The Bridge would be an aesthetically balanced form-function theme design potentially accented with public art and/or public education inscriptions, canopied overlooks, and shaded seating. This "Signature Bridge" design would convey a sense of arrival and place and capture the panoramic mountain and canyon viewsheds as it instills an appreciation for the Resler Canyon Nature Preserve.

CHALLENGES

IMPACTS

- Minimizing and mitigating potential Nature Preserve and retail site construction impacts.

PARTNERING / COST-SHARING

- Agency (TxDOT, City, EPISD), community, retail owners and Nature Preserve support and cost-sharing.

CONSENSUS

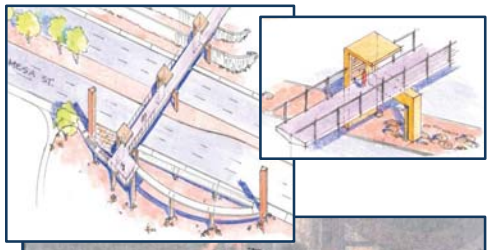
- Potential bike path locations within or near Resler Canyon and Coronado HS that each links the Bridge.
- City concurrence on extending the City Bike Plan routes to link the Bridge.

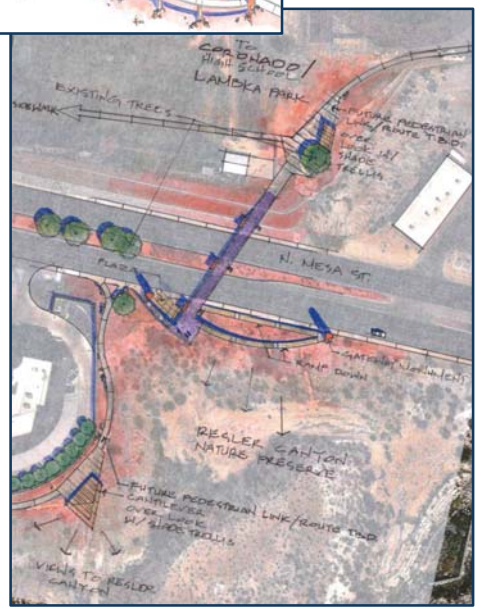
CONSTRUCTABILITY

- To construct a western path, the retail parking lot/retaining wall will likely be impacted in order to avoid the Preserve.
- An eastern path will need to be routed within the HS campus in order to connect the Cloudview Drive bike route.
- The image above presents a stand alone Bridge option that links the Bridge with the Study-recommended 10-ft wide Shared Use Path at Resler Drive by extending the Path eastward to the Bridge and to Camille Drive. The 2018 cost to install the stand Bridge alone option and connect the Resler Drive Shared Use Path is approximately $1.5-2.0M.

EXAMPLE

CONCEPT RENDERINGS





Texas Department of Transportation

El Paso District Office
13301 Gateway Boulevard West
El Paso, TX 79928

Website: www.txdot.gov (search "Mesa Street")

APPENDIX D

SH 20 / Mesa Street

Cost Estimate Spreadsheets for Final Recommendations

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Preliminary Estimated Costs for SH 20 / Mesa St. Corridor		
Build Recommendation[1]	Cost Estimate Year	Total Estimated Cost
Short-Term (implemented in 2-5 yrs)	2018	$5,600,000
	2022 [2]	$6,400,000
Mid-Term (implemented in 5-10 yrs)	2018	$46,000,000
	2030 [2]	$69,500,000
Long-Term (implemented in 10-20yrs)	2018	$258,000,000 [3]
	2040 [2]	$549,900,000 [4]

[1] See Appendix for Build Recommendation itemized costs

[2] w/ assumed 3.5% annual inflation rate

[3] Glory Rd Deck Park Break-Out Cost (2018): $37,255,266
Bus Stop Pull-out Lane Break-Out Cost (2018): $15,105,649

[4] Glory Rd Deck Park Break-Out Cost (2040): $79,410,031
Bus Stop Pull-out Lane Break-Out Cost (2040): $32,197,866

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Preliminary Cost Estimates (2018 Dollars) for Short-Term Recommendations

Recommendation Description	Estimated Cost[1,2]
Mesa Street Intersections	
Optimize signal timing and phasing; install overlap signals at identified intersections	$200,000
Left-turn Bay Storage lengthening at identified intersections	$2,232,556
Right-turn lanes w/right-turn lane signal heads at identified intersections	$83,528
Near-side signals heads for upstream visibility within the horizontal curvature to improve Mesa Street safety approaching Executive Center Boulevard	$274
Mesa Street Corridor	
Travel / Turn Lane pavement marking ugrades along the entire 9.8 mile corridor	$94,096
Access Management: Insertion of hooded left-turns within existing median openings, and median closures at identified intersections	$111,252
"ALT" &"EAST" signage for I-10 access ramps near Franklin Avenue in Downtown	$835
Pedestrian & Bike	
Sidewalk repair and install at identified locations; relocation of ped. Push button, signal controller, hydrant, and utilities out of sidewalk zone; and ADA-accessible wheelchair ramps, crosswalk and stop bar upgrades at each signalized intersection	$1,471,955
Median safety rail at Champions Place near Coronado High School w/ 10-foot wide crosswalks	$87,145
Sidewalk rail along eastbound Mesa Street between Mesa Hills Dr and Confetti Dr	$406,120
Sidewalk at Montecillo Boulevard w/ 10-foot wide crosswalks, ADA-accessible wheelchair ramps, and cut-through median (pedestrian) refuge	$14,835
Raised median w/ safety rail between Baltimore Drive and Cincinnati Avenue, and North of Baltimore Drive; 10-foot wide crosswalks; remove existing mid-block crosswalk North of Baltimore Drive	$125,754
"Pedestrian Scramble" signal timing and crosswalk pavement markings at Mesa Street / University Avenue, and at Mesa Street / River Avenue	$8,588
Mesa Street Transit	
Bus Queue-Jump Lanes at identified intersections	$2,714
Intelligent Transportation System (ITS)	
Bluetooth camera surveillance at identified locations	$75,118
Video Imaging Vehicle Detection System (VIVDS) & Optimcon Detector	$599,660
Speed Feedback Signs approaching Executive Center Boulevard horzontal curves	$31,388
Total (Rounded)	**$5,500,000**

[1] Preliminary Construction Cost (2018 Dollars)

[2] Based on individual item estimated cost listed on Short-Term estimate tab w/ applied 42% total contingencies

Preliminary Cost Estimates (2018 Dollars) for Mid-Term Recommendations	
Recommendation Description	**Estimated Cost[1,2]**
Mesa Street Intersections	
Lengthen right-turn and left-turn lane storage bays at identified locations	$3,687,710
Right-turn lane install at identified intersections	$288,863
Relocate Eastbound I-10 exit ramp (to North Mesa Street) northward to allow driver access to McClintock Drive and retail sites, and unsignaled access to Doniphan Dr (SH 20)	$840,453
Extend Desert Pass Street to Mesa Street / Belvidere Street intersection	$3,911,901
Extend Mesa Park Drive to I-10 (consistent w/ EL Paso MPO)	$8,498,978
Link Mesa Park Drive and Executive Center Boulevard via a new location arterial (consistent w/ City of El Paso thoroughfare plan)	$10,122,746
Mini-roundabout at Mesa Street / 9th Street Intersection	$8,922
Mesa Street Corridor	
Mesa Street Vertical Curve Modifications (Festival Dr to Argonaut Dr)	$6,922,532
Access Management (redundant driveway removal, relocated driveways, raised medians, and median opening closures at identified locations	$1,024,975
Hooded left-turn lane installs within median at identified locations	$39,208
Continuous, improved overhead street lighting throughout corridor (between the five Long-term intersections)	$976,860
Pedestrian & Bike	
10-foot wide Shared Use Path from Doniphan Drive to Resler Drive	$1,643,262
10-foot wide Shared Use Path from Sun Bowl Drive to Glory Road	$1,156,620
Expanded sidewalks and perimeter sidewalk safety rails between Baltimore Drive / Glory Road and Cincinnati Avenue	$143,045
Retaining Wall relocation w/ in-pavement crosswalk lighting at the Mesa Street / River Avenue intersection	$183,350
Mesa Street Transit	
Bus Queue-jump lanes at identified intersections	$688
Dual purpose Right-turn lane install / Bus queue-jump lane at identified intersections	$156,262
Remcon Cir median opening for access to Sun Metro Westside Transfer Center	$5,507
School Bus-Only Lane & Storage along Confetti Dr near Morehead Elementary School	$134,239

Intelligent Transportation System (ITS)	
Dynamic Message Signs	$6,237,000
Cellular modem/wireless links to TxDOT TransVista	$50,000
Total (Rounded)	**$46,000,000**

[1] Preliminary Construction and Right-of-Way Cost (2018 Dollars)

[2] Based on individual item estimate cost listed on Mid-Term estimate tab w/ applied 62% total contingencies

Preliminary Cost Estimates (2018 Dollars) for Long-Term Recommendations		
Mesa Street Location	**Recommendation Description**	**Estimated Cost[1,2]**
Mesa Street Intersections		
I-10	Single Point Urban Intersection (SPUI) w/ below-ground North Mesa Street (Signal Bypass) Lanes	$97,013,179
Resler Drive	SPUI w/ underpassing Mesa Street Lanes	$24,949,578
Sunland Park Drive	SPUI w/ underpassing Mesa Street Lanes	$31,756,757
Executive Center Boulevard	Continuous Green T intersection (includes horizontal curve modification and accommodation of Shared Use Path)	$2,272,074
Glory Road / Baltimore Drive	Underpassing Mesa Street Lanes w/ overhead Deck Park[3]	$75,253,837
Pedestrian & Bike		
Executive Center Boulevard to Sun Bowl Drive	10-foot wide Shared Use Path	$606,918
Transit		
Throughout Corridor	Bus Stop Pull-Out Lanes	$15,105,649
Intelligent Transportation System (ITS)		
Throughout Corridor	144-count fiber along SH 20 / Mesa Street from Doniphan Drive (SH 20) to Loop 375	$1,000,000
	Connect City of El Paso Cameras to TxDOT'S Lonestar system	$25,000
	Transform SH 20 to a Smart Corridor or Connected Vehicle / Automated Vehicle (CV/AV) Corridor	$10,000,000
	Total (Rounded)	**$258,000,000**

[1] Preliminary Construction and Right-of-Way Cost (2018 Dollars)

[2] Based on individual item estimated costs listed on Long-Term estimate tab w/ applied 72% total contingencies

[3] Deck Park Break-out cost: $37.3M (2018 Dollars)

Short-Term Recommended Improvements; Prelim. Cost Estimates for SH 20 / Mesa St Corridor (for each Mesa St segment)

Segment	Recommendation	Number of Jobs	Units	Unit Price	Est. Qty.	Subtotal ($)
Doniphan Dr to Crossroads Dr	Median Closure	1	SY	62.14	712.00	Is overlapped by Lt Tn bay widening
	LT Storage Bay Lengthening	2	EA	84,985.00	2	$169,970.00
Crossroads Dr to Belvidere St	Median Closure	2	SY	62.14	895	Is overlapped by Lt Tn bay widening
	LT Storage Bay Lengthening	7	LF	84985.00	10500	$594,895.00
	Sidewalk	1	SY	55	3077.78	$169,277.78
	Dual Hooded LT	1	SY	58.95	20.99	$1,237.49
	Relocate Sidewalk / Expand Ped. Refuge	1	SY	78.29	31.11	$2,435.69
	Close LT	1	SY	37.43	162.22	$6,071.98
	VIVDS Camera	2	EA+LF	8378.57+2.52	2+2000	$26,837.14
					Subtotal	**$970,725.08**
					TCP (10%)	$97,072.51
					SW3P (2%)	$19,414.50
					CONTINGENCY (10%)	$97,072.51
					MOBILIZATION (10%)	$97,072.51
					UTILITIES (10%)	$97,072.51
					Section Total (Year 2018 Dollars)	**$1,378,429.61**
					Future Cost (Year 2022 Dollars)	**$1,581,779.68**
Resler Dr to Balboa Dr	Bus Queue Jump Lane	2	SF+EA	48.28+67.49	3+2	$424.66
	Mesa St. @ Champions PL (Rails, Curbs, Signs and Pave. Markings)	1	SF+LF+LF+EA	See TXDOT bid tab		$61,369.87
	Median Closure	1	SY	62.14	555.56	$34,522.22
	LT Storage Bay Lengthening	3	EA	84985.00	4500.00	$254,955.00
	VIVDS Camera	2	EA+LF	8378.57+2.52	2+2000	$26,837.14
					Subtotal	**$378,108.89**
					TCP (10%)	$37,810.89
					SW3P (2%)	$7,562.18
					CONTINGENCY (10%)	$37,810.89
					MOBILIZATION (10%)	$37,810.89
					UTILITIES (10%)	$37,810.89
					Section Total (Year 2018 Dollars)	**$536,914.63**
					Future Cost (Year 2022 Dollars)	**$616,121.88**
Balboa Dr to Paragon Ln	Sidewalk (repair)	1	SY	55	81.94	$4,506.70
	Bus Queue Jump Lane	3	SF+EA	48.28+67.49	3+3	$636.99
	Dual LT Lane at Festival Dr	0.5	EA	84985.00	4	$42,492.50
	Median Closure	1	SY	62.14	566.67	$35,212.67
	Sidewalk Installation	1	SY	55	2777.78	$152,777.78
	VIVDS Camera	2	EA+LF	8378.57+2.52	2+2000	$26,837.14
					Subtotal	**$262,463.77**
					TCP (10%)	$26,246.38
					SW3P (2%)	$5,249.28
					CONTINGENCY (10%)	$26,246.38
					MOBILIZATION (10%)	$26,246.38
					UTILITIES (10%)	$26,246.38
					Section Total (Year 2018 Dollars)	**$372,698.56**
					Future Cost (Year 2022 Dollars)	**$427,680.17**
Paragon Ln to Waymore Dr	Mesa St. @ Montecillo Blvd (Sidewalks, Curbs, Signs & Pave Mark)	1	SY+LF+LF+EA	See TXDOT bid tab		$10,447.46
	LT Storage Bay Lengthening	5	EA	84985.00	5	$424,925.00
	RT Lane (at WB Casellano Dr.)	1	AC+SY+SF	See TXDOT bid tab		$58,822.21
	Bus Queue Jump Lane	3	SF+EA	48.28+67.49	3+3	$636.99
	Dual Hooded LT	1	SY	58.59	22.22	$1,302.00
	Sidewalk (repair)	1	SY	55	366.67	$20,166.67
	Expand Ped Refuge	1	SY	55	39.44	$2,169.44
	Speed Feedback Signs	2	EA	11051.97	2.00	$22,103.94
	Opticom Detector	4	EA+LF	7650.58+3.20	10+2000	$56,202.32
	Bluetooth Detector	1	EA	13,225.00	2.00	$26,450.00
	VIVDS Camera	3	EA+LF	8378.57+2.52	3+2000	$40,255.71
	Near-side Signal Head	2	SF	48.28	4	$193.12
					Subtotal	**$663,674.86**
					TCP (10%)	$66,367.49
					SW3P (2%)	$13,273.50
					CONTINGENCY (10%)	$66,367.49
					MOBILIZATION (10%)	$66,367.49
					UTILITIES (10%)	$66,367.49
					Section Total (Year 2018 Dollars)	**$942,418.30**
					Future Cost (Year 2022 Dollars)	**$1,081,446.68**
Waymore Dr to Schuster Ave	Sidewalk Installation	1	SY	55	96.11	$5,286.11
	LT Storage Bay Lengthening	1	EA	84985.00	1	$84,985.00
	Bus Queue Jump Lane	1	SF+EA	48.28+67.49	3+1	$212.33
	Mid-block crosswalk and median Closure & Median Tree Pruning	1	SY+Mi	10.87+62.14+15000	3.33+11.11+0.034	$7,559.34
	Raised Median with Rail (At Glory Rd)	1	LF	600	135	$81,000.00
	Sidewalk (Repair)	1	SY	55	85.56	$4,705.56
	Pedestrian Scramble Crossing, Marking, signal timing (At University Ave)	1	LF	6.3	480	$3,024.00
	Widen Sidewalk	1	SY	55	46.67	$2,566.67
	Relocate Ped Push Button Pole out of sidewalk zone	1	EA	1927.26	1	$1,927.26
	Opticom Detector	2	EA+LF	7650.58+3.20	10+2000	$28,101.16
	VIVDS Camera	12	EA+LF	8378.57+2.52	12+2000	$161,022.84
	Bluetooth Detector	1	EA	13,225.00	2.00	$26,450.00
					Subtotal	**$406,840.26**
					TCP (10%)	$40,684.03
					SW3P (2%)	$8,136.81
					CONTINGENCY (10%)	$40,684.03
					MOBILIZATION (10%)	$40,684.03
					UTILITIES (10%)	$40,684.03
					Section Total (Year 2018 Dollars)	**$577,713.18**
					Future Cost (Year 2022 Dollars)	**$662,939.16**
Schuster Ave to Texas Ave	I-10 ALT Sign Install along Mesa St at Wyoming Ave & Franklin Ave	4	SF	19.6	30	$588.00
	Signal Controller Relocation	1	EA	2636.39	1	$2,636.39
	Pedestrian Scramble Crossing, marking, signal timing (At River Ave)	1	LF	6.3	480	$3,024.00
	Opticom Detector	4	EA+LF	7650.58+3.20	10+2000	$56,202.32
	Hydrant & Sign Pole Relocations out of sidewalk zone	1	EA	1200	1	$1,200.00
					Sub Total	**$63,650.71**
					TCP (10%)	$6,365.07
					SW3P (2%)	$1,273.01
					CONTINGENCY (10%)	$6,365.07
					MOBILIZATION (10%)	$6,365.07
					UTILITIES (10%)	$6,365.07
					Section Total (Year 2018 Dollars)	**$90,384.01**
					Future Cost (Year 2022 Dollars)	**$103,717.73**
Texas Ave to Loop 375	Replace Sidewalk	1	SY	78.29	66.67	$5,219.33
					Subtotal	**$5,219.33**
					TCP (10%)	$521.93
					SW3P (2%)	$104.39
					CONTINGENCY (10%)	$521.93
					MOBILIZATION (10%)	$521.93
					UTILITIES (10%)	$521.93
					Section Total (Year 2018 Dollars)	**$7,411.45**
					Future Cost (Year 2022 Dollars)	**$8,504.81**
Upgrade crosswalks w/ pavement markings, stop bars & ADA ramps at each Signalized Intersection		52	EA	15663.28	52	**$1,156,576.60**
Pavement Marking Upgrades throughout 9.8 mile corridor (striping)		1	LF	51744	0.73	**$53,637.83**
Pavement Marking Upgrades throughout corridor (4 arrows at each signalized intersection)		52	EA	208	136.98	**$40,458.41**
Optimize Signal Timing and Phasing						**$200,000.00**
					GRAND TOTAL (Rounded, Year 2018 Dollars)	**$5,600,000**
					GRAND TOTAL FUTURE COST (Rounded, 2022 Dollars)	**$6,400,000**

NOTE: See "Details" spreadsheet tab Excel cost estimate file for calculation formula details.

Mid-Term Recommended Improvements; Prelim. Cost Estimates for SH 20 / Mesa St Corridor (for each Mesa St segment)

Segment	Recommendation	Number of Jobs	Units	Unit Price	Est. Qty.	Subtotal ($)
Doniphan Dr to Crossroads	Doniphan Dr. & Country Club Rd Left-turn storage bay lengthening	1	LF+LF+EA+EA+SF+AC+SY	See TXDOT bid tab	300+240+5+5+3+0.23+3	$491,244.06
	Bus Queue Jump Lane	2	SF+EA	48.28+67.49	2+2	$424.66
	10 ft- wide Shared Use Path (Doniphan Dr to Resler Dr)	1	AC+SY+SF	1,620,490		$1,014,359.20
Crossroads Dr to Belvidere St	Dynamic Message Sign	4	EA	350000	4	$1,400,000.00
	Relocate Driveway	1	SY+LF	4003.4	125+70	$8,644.72
	Redundant Driveway Closure / Sidewalk Install	1	SY	37.43	100	$3,743.00
	RT / Bus Queue Jump Lane	1	AC+SF+EA	932843+48.28+67.49	1	$53,477.67
	Remcon Cir median opening (access to Sun Metro Westside Trans. Ctr)	1	LF	56.66	60	$3,399.60
	Relocate I-10 North SB Exit Ramp to allow access to McClintock Dr	1	STA+LF+EA+LS	3413.21+611.64+750	10+1000+2+1	$518,798.09
	Desert Pass St Extension to Mesa St / Belvidere St Intersection	1	AC+SF+EA+AC+EA	2165	1.15+26000+50+0.7+1	$2,414,753.86
					Subtotal	**$5,908,844.85**
					DRAINAGE (20%)	$1,181,768.97
					TCP (10%)	$590,884.48
					SW3P (2%)	$118,176.90
					CONTINGENCY (10%)	$590,884.48
					MOBILIZATION (10%)	$590,884.48
					UTILITIES (10%)	$590,884.48
					Section Total (Year 2018 Dollars)	**$9,572,328.65**
					Future Cost (Year 2030 Dollars)	**$14,464,445.81**
Resler Dr to Balboa Rd	Hooded Left Turn	1	SY	58.95	223.89	$13,198.25
	Dual Hooded Left Turn	2	SY	58.95	41.11	$2,423.50
	LT Storage Bay Lengthening	5	LF	84985.00	7500	$424,925.00
	Relocated Driveway	1	SY+LF	4003.4	55+70	$6,024.62
	Driveway closure	1	SY	62.14	37	$2,299.18
	RT Lane	1	AC+SY+SF	1,620,490		$127,782.35
	Dynamic Message Sign	2	EA	350000	2	$700,000.00
	Median Closure	2	SY	62.14	300.00	$18,642.00
	Redundant Driveway Closure / Sidewalk Install	10	SY	37.43	1000	$37,430.00
					Subtotal	**$1,332,724.90**
					DRAINAGE (20%)	$266,544.98
					TCP (10%)	$133,272.49
					SW3P (2%)	$26,654.50
					CONTINGENCY (10%)	$133,272.49
					MOBILIZATION (10%)	$133,272.49
					UTILITIES (10%)	$133,272.49
					Section Total (Year 2018 Dollars)	**$2,159,014.34**
					Future Cost (Year 2030 Dollars)	**$3,262,418.90**
Balboa Dr to Paragon Ln	LT Storage Bay Lengthening	4	LF	84985.00	6000	$339,940.00
	RT Storage Bay Lengthening	1	LF	84985.00	1500	$84,985.00
	Median Closure	2	SY	62.14	2207.78	$137,191.31
	Dynamic Message Sign	1	EA	350000	1	$350,000.00
	RT / Bus Queue Jump Lane	3	SF+EA	48.28+67.49	3+3	$4,089.21
	Hooded Left Turn	1	SY	58.95	44.44	$2,620.00
	Dual Hooded Left Turn	3	SY	58.95	63.33	$3,733.50
	Bus Only Lane & Storage along Confetti Dr near Morehead Elem. School	1	AC+SY+SF	1,773,036	0.069+138.89+250	$82,863.45
	RT Lane with acquired ROW	1	AC+SY+SF	1,773,036	See TXDOT Sheet	$50,528.42
	LT Lane Improvement	1	EA+SF	67.49+100	2+3	$434.98
	Vertical Curve Modifications (Festival Dr to Argonaut Dr)	1	EA	4273168	See TXDOT Sheet	$4,273,168.00
	Driveway Closure / Sidewalk Install	1	SY	37.43	100	$3,743.00
					Subtotal	**$5,333,296.87**
					DRAINAGE (20%)	$1,066,659.37
					TCP (10%)	$533,329.69
					SW3P (2%)	$106,665.94
					CONTINGENCY (10%)	$533,329.69
					MOBILIZATION (10%)	$533,329.69
					UTILITIES (10%)	$533,329.69
					Section Total (Year 2018 Dollars)	**$8,639,940.93**
					Future Cost (Year 2030 Dollars)	**$13,055,543.94**
Paragon Ln to Waymore Dr	RT / Bus Queue Jump Lane	4	SF+EA	48.28+67.49	3+4	$4,156.70
	Dual Hooded Left Turn	4	SY	58.95	84.44	$4,978.00
	Dynamic Message Sign	1	EA	350000	1	$350,000.00
	Redundant Driveway Closure / Sidewalk Install	6	SY	37.43	250	$9,357.50
	Raised Median	1	SY	62.14	300.00	$18,642.00
	LT Storage Bay Lengthening	1	LF	84985.00	1500	$84,985.00
	Mesa Park Dr. Extension to I-10	1	STA+SF+LF+AC		3+3600+2920+3.3	$5,246,282.94
	Mesa Park Dr. link to Executive Center Blvd	1	STA+SF+LF+AC		3+11250+2750+4	$6,248,608.84
					Subtotal	**$11,967,010.99**
					DRAINAGE (20%)	$2,393,402.20
					TCP(10%)	$1,196,701.10
					SW3P (2%)	$239,340.22
					CONTINGENCY (10%)	$1,196,701.10
					MOBILIZATION (10%)	$1,196,701.10
					UTILITIES (10%)	$1,196,701.10
					Section Total (Year 2018 Dollars)	**$19,386,557.80**
					Future Cost (Year 2030 Dollars)	**$29,294,419.87**
Waymore Dr to Schuster Ave	Median Closure	7	SY	62.14	3588.89	$223,013.56
	10 ft- wide Shared Use Path (Sun Bowl Dr to Glory Rd)	1	AC+SY+SF	1,620,490	See TXDOT Sheet	$713,963.26
	Dynamic Message Sign	1	EA	350000	1	$350,000.00
	RT/Bus Queue Jump Lane	1	SF+EA	48.28+67.49	3+1	$34,734.55
	LT Storage Bay Lengthening	4	LF	84985.00	6000	$339,940.00
	Raised Median	3	SY	62.14	1266.67	$78,710.67
	RT Storage Bay Lengthening	1	LF	84985.00	1500	$84,985.00
	Relocate Driveway	1	SY+LF	4003.4	55+70	$6,024.62
	Mesa St@Glory Rd (Sidewalk/rail expansion w/ required drwy closure)	1	SY+SF+EA+LF+LF		See TXDOT Sheet	$88,299.48
					Sub Total	**$1,919,671.13**
					DRAINAGE (20%)	$383,934.23
					TCP (10%)	$191,967.11
					SW3P (2%)	$38,393.42
					CONTINGENCY (10%)	$191,967.11
					MOBILIZATION (10%)	$191,967.11
					UTILITIES (10%)	$191,967.11
					Section Total (Year 2018 Dollars)	**$3,109,867.24**
					Future Cost (Year 2030 Dollars)	**$4,699,222.91**
Schuster Ave to Texas Ave	Raised Median	3	SY	62.14	1222.22	$75,948.89
	Dual Hooded Left Turn	1	SY	58.95	16.67	$982.50
	Dynamic Message Sign	2	EA	350000	2	$700,000.00
	In-Pavement LED light (LED RPM) at River Ave	30	EA	53.22	30	$1,596.60
	Retaining Wall Relocation at River Ave	1	SY+SF+EA+AC+EA+EA	See TXDOT bid tab		$111,582.16
	LT Storage Bay Lengthening	3	LF	84985.00	4500	$254,955.00
					Subtotal	**$1,145,065.15**
					DRAINAGE (20%)	$229,013.03
					TCP (10%)	$114,506.51
					SW3P (2%)	$22,901.30
					CONTINGENCY (10%)	$114,506.51
					MOBILIZATION (10%)	$114,506.51
					UTILITIES (10%)	$114,506.51
					Section Total (Year 2018 Dollars)	**$1,855,005.54**
					Future Cost (Year 2030 Dollars)	**$2,803,040.73**
Texas Ave to Loop 375	Relocate driveway from Intersection	1	SY	37.43	87.78	$3,285.52
	Storage Turn Bay Lengthening (Both left-turns)	2	LF	84985.00	3000	$169,970.00
	Mini-Roundabout	1	EA+SF+EA+LF	66.8+5.49+400+0.51	12+380+4+510	$5,507.47
					Subtotal	**$178,762.99**
					DRAINAGE (20%)	$35,752.60
					TCP (10%)	$17,876.30
					SW3P (2%)	$3,575.26
					CONTINGENCY (10%)	$17,876.30
					MOBILIZATION (10%)	$17,876.30
					UTILITIES (10%)	$17,876.30
					Section Total (Year 2018 Dollars)	**$289,596.05**
					Future Cost (Year 2030 Dollars)	**$437,599.51**
					Cellular modem/wireless links to TxDOT TransVista	$50,000.00
					Continuous street lights throughout corridor (between the five intersections of I-10, Resler, Sunland, Executive and Glory Rd)	$603,000.00
					DRAINAGE (20%)	$120,600.00
					TCP (10%)	$60,300.00
					SW3P (2%)	$12,060.00
					CONTINGENCY (10%)	$60,300.00
					MOBILIZATION (10%)	$60,300.00
					UTILITIES (10%)	$60,300.00
					Section Total (Year 2018 Dollars)	$976,860.00
					Future Cost (Year 2030 Dollars)	$1,476,102.53
					GRAND TOTAL (Year 2018 Dollars)	**$46,000,000**
					GRAND TOTAL FUTURE COST (Year 2030 Dollars)	**$69,500,000**

NOTE: See "Details" spreadsheet tab Excel cost estimate file for calculation formula details.

Long-Term Recommended Improvements; Prelim. Cost Estimates for SH 20 / Mesa St Corridor (for each Mesa St segment)

Segment	Description	Number of Jobs	Units	Unit Price	Est. Qty.	Subtotal ($)
Mesa St @ I-10 North (SPUI w/ Below-ground Signal Bypass Lanes from Crossroads Dr to Belvidere St)	ROW (Land Acquisition)	1	AC	932,842.33	0.23	$214,151.13
	Removal of 4-lane HMAC pavement w/ curb	1	LF	206.55	6000	$1,239,300.00
	EXCAVATION (SPECIAL)	1	CY	17.84	359927.78	$6,421,111.56
	PREPARING ROW	1	STA	3,413.21	60	$204,792.60
	Mesa 4-Lane Roadway Underpass	1	LF	656.94	6000	$3,941,640.00
	RETAINING WALL (Rock Nail)	1	LF	1,360.00	8900	$12,104,000.00
	CTB/Rail	1	LF	55.13	6000.00	$330,780.00
	CONC MEDIAN	1	SY	58.14	10666.67	$620,160.00
	Curb	1	LF	18.44	6000.00	$110,640.00
	CURB RAMPS (TY 2)	50	EA	1,923.53	50.00	$96,176.50
	SPUI (See *Details* tab)					
	SPUI & Cross-street Bridges	4	SF	$90.40	108500	$9,808,400.00
	4-Ln (total) Surface Streets + SPUI connecting Rds	5	SF	$656.94	880	$578,107.20
	DRILL SHAFT (24 IN) (Spaced 3ft)	433	EA	$5,100.00	433	$2,208,300.00
	I-10 CD Rd Pav. Approx.. bridge, bridges, retain.:					
	2-Lane bridges over Mesa St	5	SF	$90.40	42560	$3,847,424.00
	2-Lane CD Road including braided ramp	1	LF	$1,507.12	4000	$6,028,480.00
	Relocate WB Exit Ramp	1	STA+LF+EA+LS	3413.21+611.64+750	10+1000+2+1	$518,798.09
	RETAINING WALL (Rock Nail)	1	LF	$1,360.00	600	$816,000.00
	Street Light	1	Mile	$75,000.00	1.13	$84,750.00
	Pumping System	2	EA	$1,215,000.00	2	$2,430,000.00
	Traffic Signal	16	EA	$300,000.00	16	$4,800,000.00
					Subtotal	**$56,403,011.08**
					DRAINAGE (30%)	$16,920,903.32
					TCP (10%)	$5,640,301.11
					SW3P (2%)	$1,128,060.22
					CONTINGENCY (10%)	$5,640,301.11
					MOBILIZATION (10%)	$5,640,301.11
					UTILITIES (10%)	$5,640,301.11
					Interchange Total (Year 2018 Dollars)	**$97,013,173.05**
					Future Cost (Year 2040 Dollars)	**$206,784,714.10**
Mesa St @ Resler Dr (SPUI w/ underpassing Mesa St Lanes)	Removal of 8-lane HMAC pavement w/ curb	1	LF	$206.55	2000	$413,100.00
	EXCAVATION (SPECIAL)	1	CY	$17.84	66111.11	$1,179,422.22
	PREPARING ROW	1	STA	$3,413.21	20	$68,264.20
	Mesa St 4-Lane Roadway Underpass	1	LF	$656.94	2000	$1,313,880.00
	RETAINING WALL (Rock Nail)	1	LF	$1,360.00	3400	$4,624,000.00
	CTB / Rail	1	LF	$55.13	2000.00	$110,260.00
	CONC MEDIAN	1	SY	$58.14	3555.56	$206,720.00
	Curb	1	LF	$18.44	2000.00	$36,880.00
	CURB RAMPS (TY 2)	50	EA	$1,923.53	21.00	$40,394.13
	SPUI (See Details tab)					
	Resler Bridge	1	SF	90.40	35000	$3,164,000.00
	4-Ln (total) Surface Streets + SPUI connecting Rds	5	SF	656.94	880	$578,107.20
	Traffic Signal	6	EA	300,000.00	6	$1,800,000.00
	DRILL SHAFT (24 IN)	167	EA	5,100.00	167	$851,700.00
	Street Light	1	Mile	75,000.00	0.092	$6,900.00
	ROW (Land Acquisition)	1	AC	932,842.33	0.12	$111,941.08
					Subtotal	**$14,505,568.83**
					DRAINAGE (30%)	$4,351,670.65
					TCP (10%)	$1,450,556.88
					SW3P (2%)	$290,111.38
					CONTINGENCY (10%)	$1,450,556.88
					MOBILIZATION (10%)	$1,450,556.88
					UTILITIES (10%)	$1,450,556.88
					Interchange Total (Year 2018 Dollars)	**$24,949,578.39**
					Future Cost (Year 2040 Dollars)	**$53,180,315.14**
Mesa St @ Sunland Park Dr (SPUI w/ underpassing Mesa St Lanes)	Removal of 8-lane HMAC pavement w/ curb	1	LF	$206.55	2000	$413,100.00
	EXCAVATION (SPECIAL)	1	CY	$17.84	96962.96	$1,729,819.26
	PREPARING ROW	1	STA	$3,413.21	20	$68,264.20
	Mesa St 4-Lane Roadway Underpass	1	LF	$656.94	2000	$1,313,880.00
	RETAINING WALL (Rock Nail)	1	LF	$1,360.00	3600	$4,896,000.00
	CTB / Rail	1	LF	$55.13	2000.00	$110,260.00
	CONC MEDIAN	1	SY	$58.14	3555.56	$206,720.00
	Curb	1	LF	$18.44	2000.00	$36,880.00
	CURB RAMPS (TY 2)	50	EA	$1,923.53	21.00	$40,394.13
	SPUI (See Details tab)					
	Sunland Park Bridge	1	SF	90.40	70000	$6,328,000.00
	4-Ln (total) Surface Streets + SPUI connecting Rds	5	SF	656.94	880	$578,107.20
	Traffic Signal	6	EA	300,000.00	6	$1,800,000.00
	DRILL SHAFT (24 IN)	167	EA	5,100.00	167	$851,700.00
	Street Light	1	Mile	75,000.00	0.082	$6,150.00
	ROW (Land Acquisition)	1	AC	932,842.33	0.09	$83,955.81
					Subtotal	**$18,463,230.60**
					DRAINAGE (30%)	$5,538,969.18
					TCP (10%)	$1,846,323.06
					SW3P (2%)	$369,264.61
					CONTINGENCY (10%)	$1,846,323.06
					MOBILIZATION (10%)	$1,846,323.06
					UTILITIES (10%)	$1,846,323.06
					Interchange Total (Year 2018 Dollars)	**$11,756,736.63**
					Future Cost (Year 2040 Dollars)	**$67,689,894.35**
Mesa St @ Executive Center Blvd (Continuous Green T Intersection)	10 ft- wide Shared Use Path (Exec Ctr Blvd To Sun Bowl Dr)	1	AC+SY+SF	1,620,490.00		$352,859.40
	Conc.Median Shifting and pavement construct.	1	LF	56.66	1000	$56,656.67
	Islands & removing of stab base & asph (2"-8")	2	SY+SY	62.14	344.44	$21,403.78
	Pavement Markings	4	LF+EA	See TXDOT bid tab		$4,787.33
	Traffic Signal	3	EA	300,000.00	3	$900,000.00
	Street Light	1	Mile	75,000.00	0.076	$5,700.00
	PREPARING ROW	1	STA	3,413.21	40	$136,528.40
	ROW (Land Acquisition)	1	AC	932,842.33	0.21	$195,896.89
					Subtotal	**$1,673,832.47**
					DRAINAGE (30%)	$502,149.74
					TCP (10%)	$167,383.25
					SW3P (2%)	$33,476.65
					CONTINGENCY (10%)	$167,383.25
					MOBILIZATION (10%)	$167,383.25
					UTILITIES (10%)	$167,383.25
					Interchange Total (Year 2018 Dollars)	**$2,878,991.84**
					Future Cost (Year 2040 Dollars)	**$6,136,604.44**
Mesa St @ Glory Rd / Baltimore Dr [1] (Below-ground Signal Bypass Lanes w/ Overhead Deck Park)						
	Removal of 6-lane HMAC pavement w/ curb	1	LF	172.23	2800	$482,244.00
	EXCAVATION (SPECIAL)	1	CY	17.84	142592.59	$2,543,851.81
	PREPARING ROW	1	STA	3,413.21	28	$95,569.88
	Mesa St 4-Lane Roadway Underpass	1	LF	656.94	2800	$1,839,432.00
	RETAINING WALL (Rock Nail)	1	LF	1,360.00	5000	$6,800,000.00
	CTB / Rail	1	LF	55.13	2800.00	$154,364.00
	CONC MEDIAN	1	SY	58.14	4977.78	$289,408.00
	Curb	1	LF	18.44	2800.00	$51,632.00
	CURB RAMPS (TY 2)	75	EA	1,923.53	75.00	$144,264.75
	Deck Park	1	EA	21,660,038.40	1.00	$21,660,038.40
	Bridges	3	SF	90.40	70000	$6,328,000.00
	4-Lane (total) surface streets + cross-streets	5	SF	656.94	880	$578,107.20
	DRILL SHAFT (24 IN)	333	EA	5,100.00	333	$1,698,300.00
	Street Light	1	Mile	75,000.00	0.19	$14,250.00
	ROW (Land Acquisition)	1	AC	932,842.33	1.15	$1,072,768.68
					Subtotal	**$43,752,230.72**
					DRAINAGE (30%)	$13,125,669.22
					TCP (10%)	$4,375,223.07
					SW3P (2%)	$875,044.61
					CONTINGENCY (10%)	$4,375,223.07
					MOBILIZATION (10%)	$4,375,223.07
					UTILITIES (10%)	$4,375,223.07
					Interchange Total (Year 2018 Dollars)	**$75,253,836.84**
					Future Cost (Year 2040 Dollars)	**$160,404,424.30**
Mesa St Bus Stop Pull-Out Lanes						$15,105,649.31
					Bus Stop Pull-Out Total (Year 2018 Dollars)	**$15,105,649.31**
					Future Cost (Year 2040 Dollars)	**$32,197,866.36**
Smart Corridor or Connected Vehicle /Automated						$10,000,000.00
144-count fiber along SH 20 / Mesa Street from Doniphan Drive to Loop 375						$1,000,000.00
Connect City of El Paso Cameras to TxDOT'S						$25,000.00
Continuous street lights throughout corridor; between the above five intersections (see cost w/ contingencies on itemized Mid-Term tabs)						$603,000.00
					GRAND TOTAL (Rounded, Year 2018 Dollars)	**$258,000,000**
					GRAND TOTAL FUTURE COST (Rounded, Year 2040 Dollars)	**$549,900,000**

[1] Assumes cross-street signals are not warranted or desired, ie. Stop Signs are utilized for each cross-street tiring into the Mesa St surface street

NOTE: See "Details" spreadsheet tab Excel cost estimate file for calculation formula details.

APPENDIX E

SH 20 / Mesa Street Existing Utilities Coordination Contact Lists & Mapping

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Mesa St. – SH 20 Corridor Study | Existing Utility Map (Preparation) Summary

Civil Associates, Inc. (CAI) received CADD files from a 2008 TxDOT Mesa St Corridor Report. Utilities located by name included Level 3, MCI, Sprint, water, sewer, water reuse, misc. storm structures and Texas Gas Service. Drawings identified misc. above ground boxes, poles and markers for telephone, fiber optic, and electrical. CAI's current study of the SH 20 / Mesa Street corridor has identified utilities from the 2008 report and input provided from 48 entities contacted by CAI via mail, email and phone.

A summary of utility data collected and used by CAI is described below.

El Paso Water – The project utility location exhibit identifies shows water lines from a 2008 TxDOT study with no additional lines were from the 1955 EL Paso Water Department's water distribution system map. Major transmission lines connect the water system along Mesa St. These lines are supplied and pressurized by a number reservoirs and booster pump stations. As seen on the project utility map, numerous lines (up to 6) are aligned parallel and perpendicular to Mesa St.

El Paso Sanitary Sewer – The project utility location exhibit identifies sanitary sewer lines from a 2008 TxDOT study with additional lines added from the 1950 EL Paso Water Department's sanitary sewage system map.

Texas Gas Service – CADD files were obtained from Texas Gas services and incorporated into the utility map. Previous CADD files from 2008 were slightly different.

Sprint Fiber Optic - 2011 plans were received. Line was generally placed on north to east side of the roadway inside the curb. ROW and pavement background on Sprint plans did not graphically match aerial and project ROW. Fiber optic line was general dimensioned ROW line where ROW dimensions were available on the plans. 2008 Sprint markers did not match the Sprint plans.

Verizon: Level 3 Cable and MCI 2-1.5 HDPE - These utilities are located on a street map. 2008 CADD drawings indicate the Level 3 line on the south/west and the MCI lines on the north/east side in a general location. A few MCI utility markers are on the north/east side. Verizon indicated a variety of other utilities Downtown along Mesa St. including MCI, Western Union, a joint ownership, Broadwings-24F, SP Telecom, and level 3.

Spectrum, formerly Time Warner Cable, lines are located overhead on poles and underground. These cables were not included in the 2008 CADD drawings. The maps received from Spectrum also include electrical lines as a background. Since not electrical lines were otherwise received, this linework was added to the study utility map.

The Transtelco facilities consisting of 2 – 1.5" HDPE conduits are part of a 16 conduit package, with multiple owners. The submittal indicated the lines are along Mesa St. between Mesa Hills Dr. and Baltimore Dr. Ownerships are believed to include Transtelco – 2, Valley Telephone – 8, Light Link – 2, Verizon – 2, and Qwest – 2. The owners and number of lines require additional confirmation.

Century-Link (Quest) confirmed that a line(s) is located in the same encasement as the Transtelco line from Baltimore to Mesa Hills Dr.

El Paso Electric response indicated there are 3 overhead transmission lines. This includes:

1. Double circuit 115kV Monopole line east of Doniphan Dr.
2. Perpendicular Crossing of 2-115 kV lines between Castello Dr. and Mesa Park Dr.
3. One single pole 115kV line crossing Mesa St. along Schuster Ave.

Storm culverts were research via TxDOT as-built drawings. Information was extracted from plans dated 1935 (sta. 388+25 at Doniphan Dr.) to sta. 51+00 near Waymore Dr.), 1953 Eubanks Rd. to Montana Ave., and 1960 Doniphan Dr. to Eubanks Rd.

TxDOT -El Paso District
SH 20 (Mesa St.) Corridor Study, CSJ: 0001-02-059
Utility Contact List
April 6, 2017

Utility_Company	Branch	Prefix	Last Name	Contact_Person	Office_Phone	Cell_Phone	Email_Address	Street_Address	City_State_Zip
Anthony Municipal Water System		Mrs.	Franzer	Judy Franzer	915-886-3944	915-929-3115	jfranzer@townofanthony.org	P.O.Box 1269	Anthony, TX 79821
AT&T	(Local)	Mrs.	McKown	Diana McKown	915-595-5142		dm8486@att.com	11200 Pellicano	El Paso, TX 79936
AT&T	(Long distance)	Mr.	Butler	Ike Butler	214-205-8922		ib9705@att.com	3910 San Jacinto Street	Dallas, TX 75204
Broadwing Communications		Mr.	Birdsell	Mr. Kevin Birdsell	512-742-1527			1122 Capital of Texas Highway South	Austin, TX 78746
Broadwing Communications		Mr.	Peevey	Mr. Trevor Peevey**	512- 742-3805			1122 Capital of Texas Highway South	Austin, TX 78746
Chevron Pipe Line Company		Mr.	Larsen	Mr. Don Larsen	915-775-3327			P.O. Box 20002	El Paso, TX 79998
Comanche Trail Pipeline		Mr.	Ford	Gary Ford	903-216-1007		currentgaryford@gmail.com	1155 Westmoreland Suite 101	El Paso, TX 79925
Conterra		Mr.	Brooks	Mark Brooks	704-936-1739		mbrooks@conterra.com	2101 Rexford Rd. 200 East	Charlotte, NC 28211
Crown Castle		Mr.	Potter	Bruce Potter	469-343-4401		bruce.potter6150@gmail.com	1209 Big Bend Drive	McKinney,TX 75069
Dell Telephone Cooperative, Inc.		Mr.	Lewis	Mr. J.P. Lewis	915-964-2352			P.O. Box 678	Dell City, TX 79837
Dell Telephone Cooperative, Inc.		Mr.	Munoz	Mr. Joel Munoz	915-964-2352			P.O. Box 678	Dell City, TX 79837
El Paso County Tornillo Water Improvement District		Mrs.	Vega	Francelia Vega	915-764-2966		epctwid@yahoo.com	P.O. Box 136	Tornillo, TX 79853
El Paso County Water Improvement District No. 1		Mr.	Reyes	Jesus Reyes	915-872-4000		jreyes@epcwid1.org	P.O. Box 749	Clint, TX 79836
El Paso County Water Improvement District No. 1		Mr.	Ornelas	Jay Ornelas	915-872-4016		jornelas@epcwid1.org	P.O. Box 749	Clint, TX 79836
El Paso County Water Improvement District No. 4 Fabens		Mr.	Madrid	Martin Madrid	915-525-9287		mmadrid@epcwcid4.com	P.O. Box 3880	Fabens, TX 79838
El Paso Electric	(Distribution)	Mrs.	Aguilar	Yolanda Aguilar	915-543-5829	575-644-4240	yolanda.aguilar@epelectric.com	P.O.Box 982 Loc.154	El Paso, TX 79960
El Paso Electric	(Distribution)	Ms.	Ontiveros	Margaret Ontiveros	915-543-4106	575-543-5053	margaret.ontiveros@epelectric.com	P.O.Box 982 Loc.571	El Paso, TX 79960
El Paso Electric	(Distribution)	Mr.	Vejil	Frank Vejil	915-543-2075	915-526-3713	frank.vejil@epelectric.com	P.O.Box 982 Loc.171	El Paso, TX 79960
El Paso Electric	(Transmission)	Mr.	Melendez	Francisco J. Melendez	915-543-5866		francisco.melendez@epelectric.com	P.O. Box 982	El Paso, TX 79960
El Paso Global Networks (Broadwing Bought Company)		Mr.	Alexander	Mr. Gary S. Alexander	713-420-7256			1001 Louisiana Street	Houston, TX 77002
El Paso Natural Gas Company		Mr.	Hart	Mr. Bill Hart	915-587-3645			8645 Railroad Drive	El Paso, TX 79904
El Paso Natural Gas Company		Mr.	Salgado	Mr. Henry Salgado**	915-587-3645			8645 Railroad Drive	El Paso, TX 79904
El Paso Natural-Kinder Morgan		Mr.		Leonard Sharp		915-471-0124	leonard_sharp@kindermorgan.com	12600 McCombs	El Paso, TX 79934
El Paso Water Utilities				John Balliew	915-594-5595			1154 Hawkins Boulevard	El Paso, TX 79961
El Paso Water Utilities		Mrs.	Castner	Amy Castner	915-594-5647	915-588-9342	acastner@epwu.org	1154 Hawkins Boulevard	El Paso, TX 79961
El Paso Water Utilities		Mr.	Hernandez	Fred Hernandez	915-594-5643	915-258-9376	fred.hernandez@epwu.org	1154 Hawkins Boulevard	El Paso, TX 79961
Enterprise		Mr.	Melton	Jim Melton		915-490-2708	jlmelton@eprod.com	1682 Daniels Ln.	El Paso, TX 79936
Espire Communications		Mr.	Unpingco	Mr. Ken Unpingco	915-544-9499	915-544-9585		201 E. Main Street, Suite 901	El Paso, TX 79901
Fiberlight		Mr.	Henry	Jason Henry	432-212-3704		jason.henry@fiberlight.com	13020 Highway 191	Midland,VA 79707
Homestead Municipal Utility District		Mr.	Rodenhaven	Mr. Ronald B. Rodenhaven	915-857-1051			3668 Desert Meadows Street	El Paso, TX 79938
Horizon Regional M.U.D.		Mr.	McGinnis	Charlie McGinnis	915-852-3917		cmcginnis@stes.com	14100 Horizon Boulevard	Horizon, TX 79928
International Boundary Water Commission		Mr.	Maynes	Mr. Hector A. Maynes	915-534-6672			2616 W. Paisano Drive	El Paso, TX 79922
Kinder Morgan Energy	(CO2)	Mr.	Brown	John Brown	915-491-2936		brownj2@kindermorgan.com	7198 Merchant Avenue STE B1	El Paso, TX 79915
Kinder Morgan Energy	(product)	Mr.	Resendez	Jesus Resendez	915-772-7400	915-471-0146	Jesus_Resendez@kindermorgan.com	11621 Railroad Drive	EL Paso, TX 79934
Kinder Morgan Energy	(Natural Gas)	Mr.	Olbrisch	James Olbrisch	915-503-9241		james_olbrisch@kindermorgan.com	12600 McCombs	El Paso, TX 79934
Level 3 Communications		Mr.	Boedeker	John Boedeker	512-386-2604		john.boedeker@level3.com	4207 Smith School Rd.	Austin, TX 78744
Level 3 Communications		Mr.	Telles	Armando Telles		915-227-9886	armando.telles@level3.com	501 W. Overland Street	El Paso, TX 79901
Longhorn Pipeline		Mr.	Griffin	Mr. Jim Griffin	512-394-4006			9301 Highway 290 West, Suite106	Austin, TX 78736
Lower Valley Water District		Mrs.	Reyes	Blanca Reyes	915-791-4493	915-726-9827	blanca@lvwd.org	1557 F.M. 1110	P.O. Box 909 Clint TX
Magellan Pipeline		Mr.	Melton	Greg Melton	915-849-1783	915-637-4004	greg.melton@magellanlp.com	13551 Montana Avenue	El Paso, TX 79934
Magellan Pipeline		Mr.	Montes	Miguel Montes	915-526-1081			6325 Trowbridge	El Paso, TX 79905
Magellan Pipeline		Mr.	Bishop	Charles Bishop	915-849-1783	915-491-3709	charles.bishop@magellanlp.com	13551 Montana Avenue	El Paso, TX 79934
Magellan Pipeline		Mr.	Bryant	Clifford Bryant	915-774-8766	915-474-9169	clifford.bryant@magellanlp.com	6325 Trowbridge	El Paso, TX 79905
McLeod U.S.A.		Mr.	Cloninger	Mr. Roger Cloninger	972-982-9500			5310 Harvest Hill Road #170	Dallas, TX 75230
Navajo Pipe Line Co.(Is Holly Energy Partners)		Mr.	Sanchez	Mr. George Sanchez	505-748-3311	575-746-5380		P.O. Box 159	Artesia, NM 88211-0159
Nustar Energy		Mr.	Odom	Wendall Odom	915-549-5526		wendell.odom@nustarenergy.com	4200 Justice	El Paso, TX 79938
Nustar Energy		Mr.	Betance	Roberto Betance	915-494-3145		roberto.betance@nustarenergy.com	4200 Justice	El Paso, TX 79938
Oneok Wes Tex		Mr.	Phillips	Oscar Phillips	915-595-6918	915-637-8446	ophillips@oneok.com	11394 James Watt, Suite 302	El Paso, TX 79936
PMI/Buckeye		Mr.	Gardner	Sean Gardner	915-856-6100	915-204-1244	segardner@buckeye.com	13551 B Montana Avenue	El Paso, TX 79938
PMI/Buckeye		Mr.	Medina	Otti Medina	915-856-6100	915-204-6804	omedina@buckeye.com	13551 B Montana Avenue	El Paso, TX 79938
Qwest Communication Corp.		Mr.	Mullins	Michael Mullins	520-838-3008	520-971-7256	mike.mullins@centurylink.com	1255 W Glenn Street	Tucson, AZ 85705
Qwest Communication Corp.		Mr.	Uranga	Joe Uranga	915-544-8621 old?	915-494-4493	jose.uranga@centurylink.com	201 E. Main Street Ste. 1410	El Paso, TX 79901
Rio Grande Electric Coop.		Mr.	Powell	Larry T. Powell	830-563-2444	915-401-6791		P.O. Box 1509	Bracketville, TX 78832
Rio Grande Electric Coop.		Mr.	Andrade	Roger Andrade				3633 Mattox Circle	El Paso, TX 79925
Roadrunner Gas Transmission		Mr.	McGuire	Bill McgGuire	915-307-3002	817-964-1294	bill.mcguire@4dacquisition.com	14776 Horizon Blvd Suite D	Horizon City, TX 79928
Roadrunner Gas Transmission		Mr.	Michael	Huston	915-588-7613		mike.huston@oneok.com	100 West Fifth Street	Tulsa, OK 74103
Shell Oil Products		Mr.	Resendez	Mr. Danny Resendez	915-526-1515	915-778-3376		P.O. Box 26216	El Paso, TX 79926
Sprint		Mr.	Sword	Colin Sword	602-417-0970	602-430-3615	colin.sword@sprint.com	401 West Harrison Street	Phoenix, AZ 85003
Texas Gas Service		Mr.	Magallanes	Saul Magallanes	915-630-7356		saul.magallanes@onegas.com	4700 Pollard Street	El Paso, TX 79930
Texas Gas Service		Mr.	Limon	Alejandro Limon	915-680-7218		ALimon@onegas.com	4700 Pollard Street	El Paso, TX 79930
Texas Gas Service		Mr.	Skaf	Skaf, Ramzi J.			Ramzi.Skaf@onegas.com	4700 Pollard Street	El Paso, TX 79930
Texas Western Municipal Gas Corporation		Mr.	Baker	Mr. David Baker	915-283-2337			P.O. Box 596	Van Horn, TX 79855
Time Warner Cable		Mr.	Mendoza	Ray Mendoza	915-775-7415		ray.mendoza@twcable.com	7010 Airport Rd.	El Paso Tx 79906
Tornillo Water Supply Corporation		Ms.	Vega	Ms. Francelia Vega	915-764-2966			P.O. Box 136	Tornillo, TX 79853
TW Telecom		Mr.	Caraveo	Oscar Caraveo	915-726-0520	915-491-3538	oscar.caraveo@twtelecom.com	201 E. Main Street, Suite 901	El Paso, TX 79901
U.S. Cable		Mr.	Webb	Mr. Jess Webb	915-758-3493			611 West Avenue A	Seminole, TX 79360
Valero,Energy Corporation		Mr.	Jewell	Mr. Charles Jewell	210-345-4681		charles.jewell@valero.com	P.O. Box 691470	San Antonio, TX 78269-1470
Valley Telecom Group		Mr.	Shame Thompson	Mr. Shame Thompson	520-384-8993	520-507-2602		P.O. 970	Willcox, AZ 85645
Valor Telecommunications		Mr.	Roy	Mr. John Roy	806- 637-7681			101 East Tate	Brownfield, TX 79316
Valor Telecommunications		Mr.	Longbrake	Mr. Terry Longbrake**	806- 637-7681			101 East Tate	Brownfield, TX 79316
Williams Energy Corporation		Mr.	Hiser	Mr. Bob Hiser	918-573-0275			One William Center MD 27-4	Tulsa, OK 74172
Windstream		Mr.	Blackwell	John Blackwell	432-447-0084	800-421-5711 Nancy		935 Daggett Street	Pecos, TX 79772

TxDOT - El Paso District
SH 20 (Mesa St.) Corridor Study, CSJ: 0001-02-059
Utility Correspondence Summary List
April 6, 2017

Entity	Contact	Utility in Area	Rec'd Map/ Plans	Item Received	Comments
Anthony Municipal Water System	Judy Franzer	No Response		None	8/25/2016 Emailed, 9/29/2016 called, waiting response
AT&T	Diana McKown				
AT&T	Ike Butler	yes	Plans	Email - Plans	10/02/2016 plans, but not in area. 12/22/2016 sent image.
Broadwing (formerly El Paso Global Networks)	Mr. Gary S. Alexander	See level 3 for update		None	8/1/16, Phone # out of service, Broadwing acquired by Level 3, Windstream 8/1/2016 email states not utility in area.
Broadwing Communications	Mr. Kevin Birdsell				Letter: return to sender, 8/1 phone busy
Broadwing Communications	Mr. Trevor Peevey				Letter: return to sender, 8/1 phone busy
Chevron Pipe Line Company	Mr. Don Larsen	No Response		None	3 calls with messages. Letter Return to sender 9/10/2016
Comanche Trail Pipeline	Gary Ford	No		Email response - no utilities	7/20/16 email - no utilities
Comanche Trail Pipeline	Taylor Harris	No		Call - no utilities	Called 7/2016
Conterra	Mark Brooks	Yes	Digital File	None	2/17/2017 received CADD file frpm Don Swayne
Crown Castle	Bruce Potter	Yes	Plans	Email - Plans	9/03/2016 email- plans, 12/20/2016 no more utilities
Dell Telephone Cooperative, Inc.	Mr. J.P. Lewis				
Dell Telephone Cooperative, Inc.	Mr. Joel Munoz	Yes	Location Description	Email	10/3/2016 Email- In RR Tunnel to Chase Tower, 12/29/2016 no more utilities
El Paso County Tornillo Water Improvement District	Francelia Vega	No		Letter response- no utilities	7/19/2016 email - Corp. dissolved. Remove from future list.
El Paso County Water Improvement District No. 1	Jesus Reyes				
El Paso County Water Improvement District No. 1	Jay Ornelas	No		Email - no utilities	7/11/16 email - no utilities in area
El Paso County Water Improvement District No. 4	Martin Madrid	No		Email - no utilities	8/29/2016 email
El Paso Electric	Yolanda Aguilar				
El Paso Electric	Margaret Ontiveros				
El Paso Electric	Frank Vejil				Prime contact
El Paso Electric	Francisco J. Melendez	Yes	Map	Email - aerial schematic	7/27/2016: map via Crobles Robles, no response for 12/19/2016, used google earth for aerial lines
El Paso Natural Gas Company	Mr. Bill Hart		Map See KM		Rec'd El Paso NG line map from Olbrisch at KM (2 pipes).
El Paso Natural Gas Company	Mr. Henry Salgado				ELNGC under KM.
El Paso Natural Gas Company	Leonard Sharp				
El Paso Water Utilities	John Balliew	Yes	Map	Hardcopy map from TxDOT	Received at the beginning of project.
El Paso Water Utilities	Amy Castner				
El Paso Water Utilities	Fred Hernandez	Yes	Digital Map	Email - Tiff	12/08/2016 email - tiffs, use hardcopies as tiff is difficult to read
Enterprise	Jim Melton	No		Email - no utilities	7/15/16 email - no utilities in El Paso
Espire Communications	Mr. Ken Unpingco	See level 3			TxDOT states changed to Level 3. Contact's phone recording states Level 3.
Fiberlight	Jason Henry	No		Email - no utilities	8/30/16 email - no el paso utilities
Fort Bliss	Bobby Horwedel	No		Base is not near project	
Fort Bliss	Manny Amaro				
Fort Bliss (communication)	Angel Velasquez				
Holley Petroleum	Omar Acosta	See Holly Partners			No response to mailings and email or 8/30/2016 call. Believe Holly Energy Partners is Holly Energy.
Holly Energy Partners - (Navajo Pipe Line Co)	Mr. George Sanchez	No		Letter - no utilities	7/25/2016 email - no utilities in the area
Homestead Municipal Utility District	Mr. Ronald B. Rodenhaven	No response		None	Letter: return to sender, called - busy 7/20, 7/25
Horizon Regional M.U.D.	Charlie McGinnis	No		Letter: no utility	7/18/16 letter by mail. Entity not in area.
International Boundary Water Commission	Mr. Hector A. Maynes	N/A			Not in international waters
Kinder Morgan Energy	John Brown	No		Letter - no CO2 Utilities	7/18/2016 - letter by mail
Kinder Morgan Energy	James Palacios				
Kinder Morgan Energy	Jesus Resendez	No		Email - no petro Utilities	07/13/16 email - No Petro line conflicts
Kinder Morgan Energy	James Olbrisch	Yes	Map	Email - map of 2 EP Nat Gas/KM lines	7/15/2016 email - Map. Per call - Gas line between RR and Doniphan. No response to 12/19 email.
Level 3 Communications	John Boedeker	Yes	Map, SS	Emailed maps, file no. and disclaimer, and spreadsheet	8/31/16 email. Spreadsheet only to Texas St. to the south. 2/3/2017 expanded maps and update to UG and OH.
Level 3 Communications	Armando Telles				
Lower Valley Water District	Blanca Reyes	No		Call - no utilities	12/23/2016 call - he stated no utilities in area, did not receive written response in email.

TxDOT - El Paso District
SH 20 (Mesa St.) Corridor Study, CSJ: 0001-02-059
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April 6, 2017

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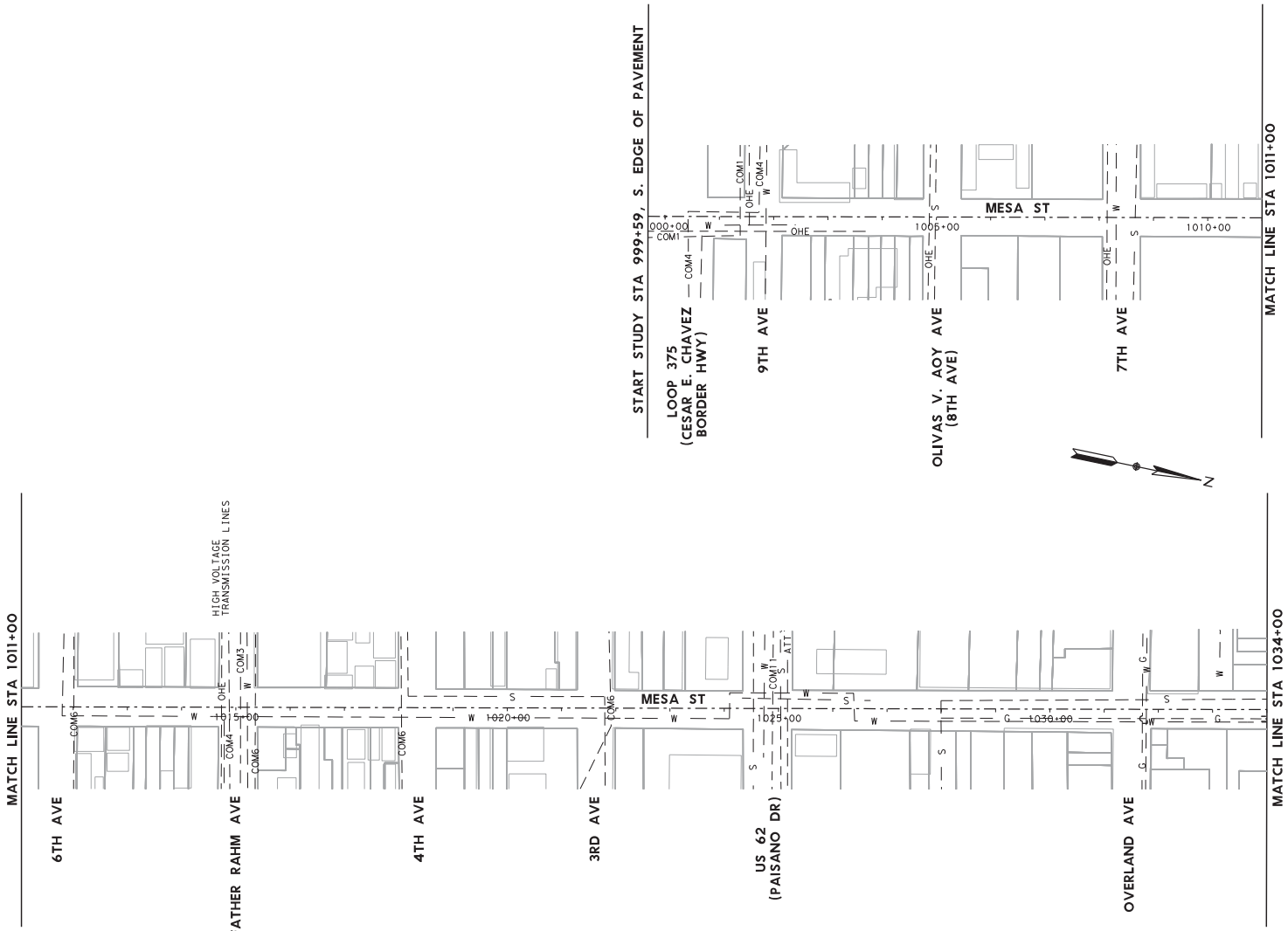
Magellan Pipeline	Greg Melton	No		Email - no utilities	7/14/2016 email response - no utilities.
Magellan Pipeline	Miguel Montes				
Magellan Pipeline	Charles Bishop				
Magellan Pipeline	Clifford Bryant				
Magellan Pipeline (Formerly Longhorn Pipeline)	Mr. Jim Griffin	No		Email - no utilities	Per call - Magellan owns Longhorn. 10/2016 email no utiites
MCI (Verizon)	George Mohrmann	Yes	Map	Email -maps	8/29/2016 email. Line includes Brooks Fiber, Mclmetro Access, MFS Telecom, SouthernNet, WorldCom Network Services and Intermedia requests
MCI (Verizon)	Erik Baker				
MCI (Verizon)	John Bachelder		Map	Email - map	3/1/17 email with utilities on south end of project
MCI (Verizon)	Manny Armendariz				
McLeod U.S.A.	Mr. Roger Cloninger	No			Acquired by Windstream
Nustar Energy	Ernie Hooter				
Nustar Energy	Wendall Odom	No		Email - no utilities	7/18/16 email - no utilities in the area
Nustar Energy	Roberto Betance				
Oneok Wes Tex	Oscar Phillips	No		Email - no utilities	7/12/2016 email (response form) and call
Oneok Wes Tex					
Oneok Wes Tex					
Oneok Wes Tex					
Oneok Wes Tex					
PMI/Buckeye	Sean Gardner	No		email -no utilities	8/29/2016 - no utilities
PMI/Buckeye	Otti Medina	No		email -no utilities	8/29/2016 - no utilities
Qwest Communication Corp.	Michael Mullins	Yes	Map	Email: map	7/22/2016 email. Also known as Century Link
Qwest Communication Corp.	Joe Uranga				
Rio Grande Electric Coop.	Larry T. Powell	No		Email - no utilities	8/16/2016 email - no utility in area
Rio Grande Electric Coop.	Roger Andrade	No		Mail/email - no Utilities	7/11/2016 email - no utility in area
Roadrunner Gas Transmission	Bill McgGuire	No		Email - no utilities	7/11/2016 email- not in study area
Roadrunner Gas Transmission	Huston				
Shell Oil Products	Mr. Danny Resendez	No response			Letter: return to sender. Left message at office # 7/20/2016, 9/1/2016
Sprint	Colin Sword	Yes	Plans	Email-plan	8/29/2016 email - 12/2016 no changes
Texas Gas Service	Saul Magallanes	Yes	Map	Email -digital maps	9/21/2016 email
Texas Gas Service	Alejandro Limon				
Texas Gas Service	Skaf, Ramzi J.				
Texas Western Municipal Gas Corporation	Mr. David Baker	No response			Deon, City of EL Paso utility coordinator, states utility owned by City. Waiting for response. Recalled 9/30/2016 mail box is full. KM and TSG says they acquired some assets have been obtained.
Time Warner Cable	west-engineering-relo@twcable.com	Yes	Map	Email -numerous maps	8/21/2016 email
Time Warner Cable	Ray Mendoza				Previous contact at Ray.Mendoza@charter.com
Tornillo Water Supply Corporation	Ms. Francelia Vega	No		Per Phone - no Utilities	Called in October 2016. Changed contact name
Transtelco	Kevin Inman	Yes	Map	Map of Duct line	7/13/16 email, only one duct. 1/5/2017 2 new routes
Transtelco	Victor Espinoza				
TW Telecom	Oscar Caraveo	See Spreadsheet from Level 3			
U.S. Cable	Mr. Jess Webb	No response			No email or mail response. Company not on internet & number is inactive
Valero,Energy Corporation	Mr. Charles Jewell	No response			Sent 2 emails and 2 calls with message.
Valley Telecom Group	Mr. Shane Thompson	No response			9/1/2016 Nancy - we will reply. 3rd attempt, 10/4- 4th will call back
Valor Telecommunications	Mr. John Roy	No		Windstream email- no utilities	8/1/2016 email no utilities in study area
Valor Telecommunications	Mr. Terry Longbrake	No		Windstream email- no utilities	Donna Bownds responded from Donna.Bownds@windstream.com
Williams Energy Corporation	Mr. Bob Hiser	No		Email - no utilities	09/02/2016 call -Cory Crawford 682-730-4845 new contact
Windstream	John Blackwell	No		Per Phone - no utilities	8/01/2016 call - Donna Bownds said none.



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SCALE IN FEET

LEGEND

- ROW/PROPERTY LINES
- 2015 EL PASO APPRAISAL MAP
- DRAINAGE-BOX OR CIRCULAR CULVERT
- G — TEXAS GAS SERVICE
- KM G — KINDER MORGAN GAS
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- COM1 — VERIZON
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- COM3 — LEVEL 3 AERIAL
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- COM11 — TRANSTELCO
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- S — SEWER
- W — WATER
- DUCT — 2-1.5 DUCT (TRANSTELCO, VALLEY TELEPHONE, LIGHTLINK, VERIZON & QUEST)
- E — ELECTRIC
- T — TELEPHONE - MISC

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PRELIMINARY
SUBJECT TO REVISION

Mesa St.
SH 20 Corridor Study

CIVIL ASSOCIATES, INC.
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

SH 20 (MESA STREET) EXISTING UTILITIES

BEGIN STUDY TO STA 1034+00

SHEET 1 OF 12

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Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0001	02	059	SH 20
DIST		COUNTY	SHEET NO.
ELP		EL PASO	1

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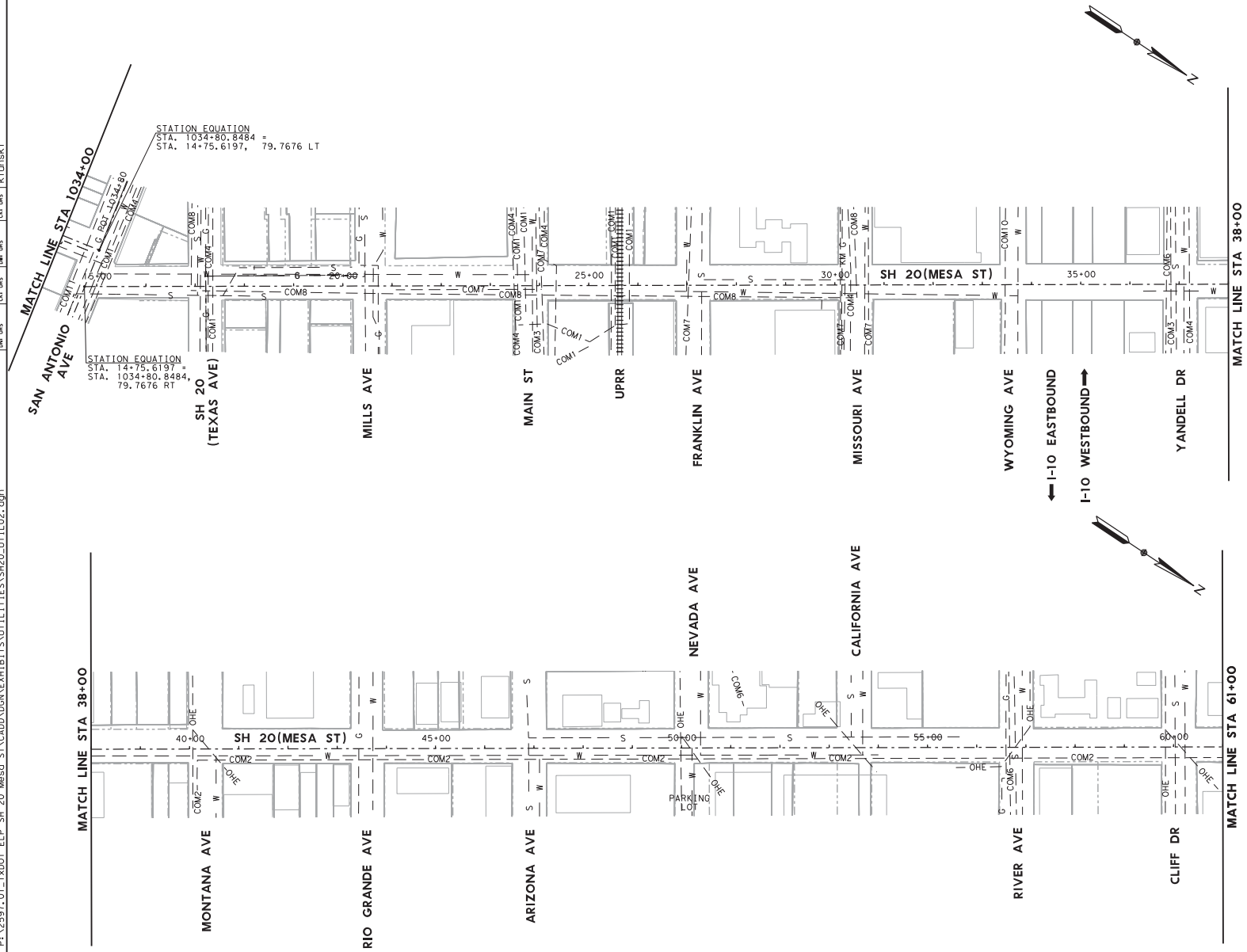

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SCALE IN FEET

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SH 20 (MESA STREET) EXISTING UTILITIES

STA 1034+00 TO STA 61+00

SHEET 2 OF 12

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Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0001	02	059	SH 20
DIST		COUNTY	SHEET NO.
ELP		EL PASO	2

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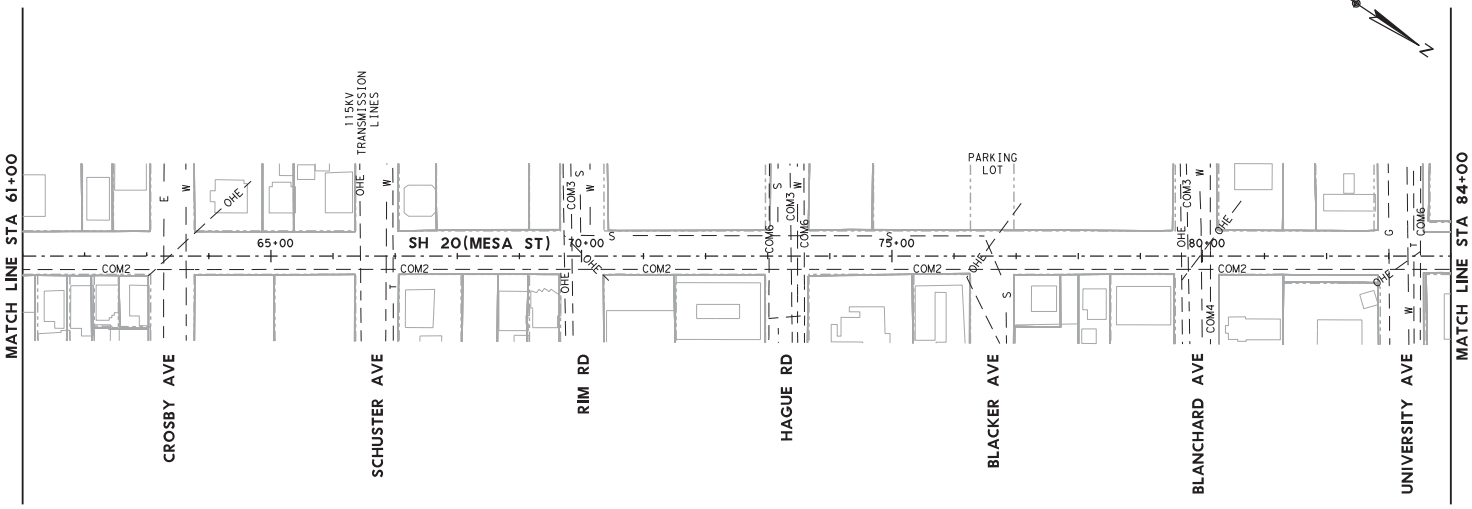

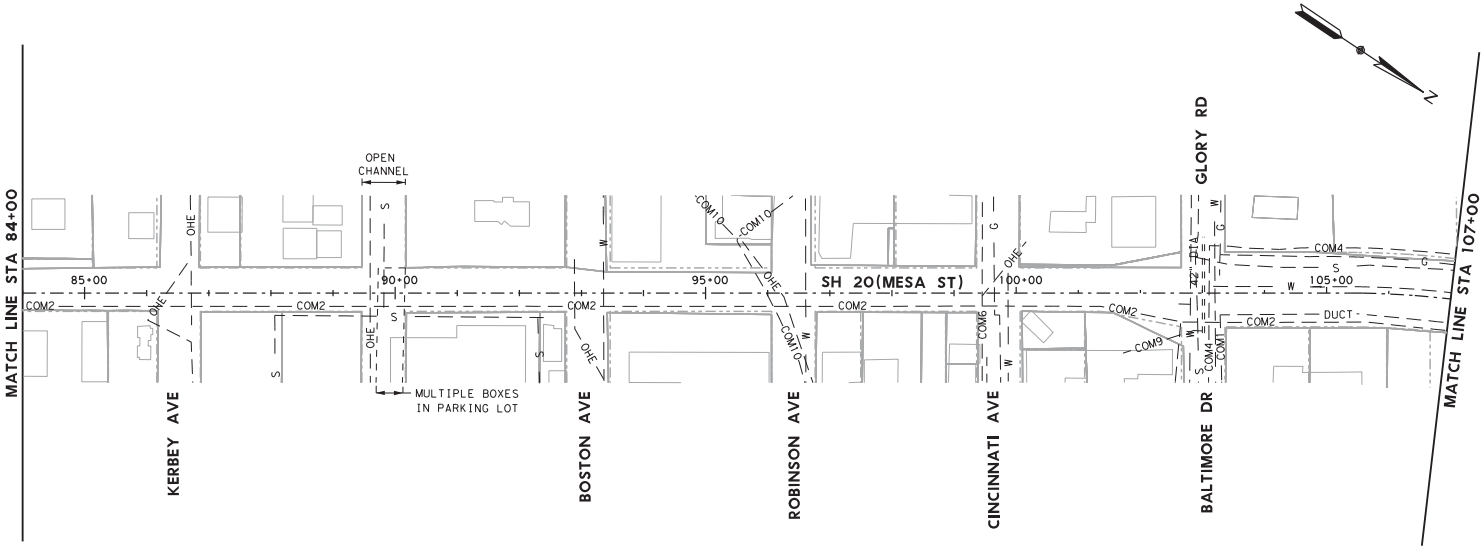

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SH 20 (MESA STREET) EXISTING UTILITIES

STA 61+00 TO STA 107+00

SHEET 3 OF 12

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0001	02	059	SH 20
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ELP		EL PASO	3

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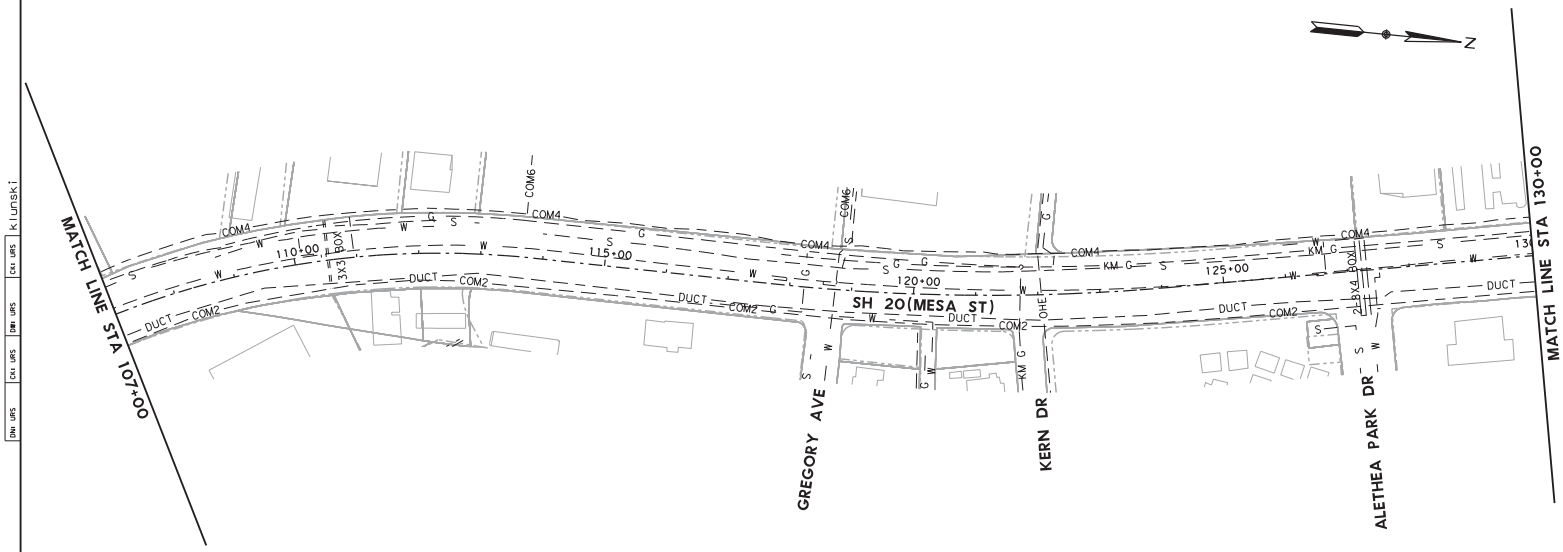

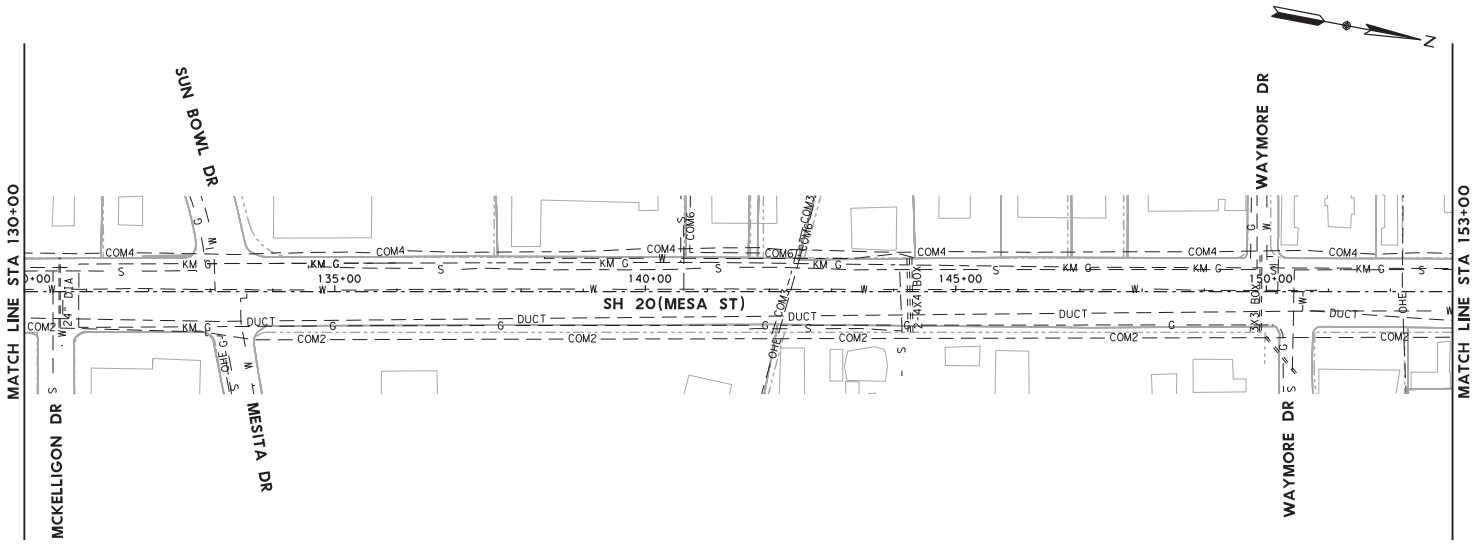

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- E — ELECTRIC
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PRELIMINARY
SUBJECT TO REVISION

Mesa St.
SH 20 Corridor Study

CIVIL ASSOCIATES, INC.
CAI
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

SH 20 (MESA STREET) EXISTING UTILITIES

STA 107+00 TO 153+00

SHEET 4 OF 12

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Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0001	02	059	SH 20
DIST		COUNTY	SHEET NO.
ELP		EL PASO	4

DWN URS | CKD URS | DWN URS | CKD URS | klunski

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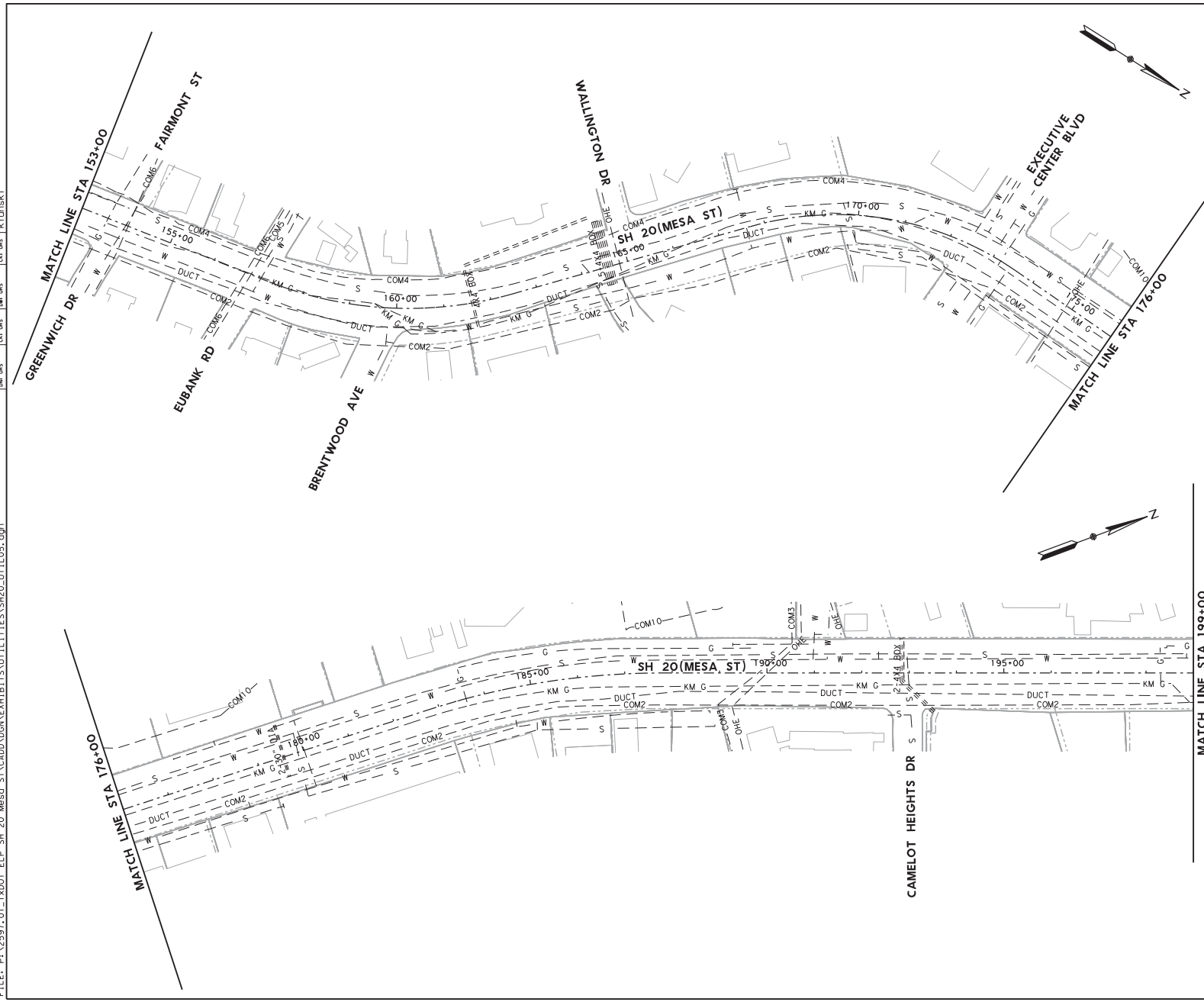

0' 100' 200'
SCALE IN FEET

LEGEND

- ROW/PROPERTY LINES
- 2015 EL PASO APPRAISAL MAP
- DRAINAGE-BOX OR CIRCULAR CULVERT
- G — TEXAS GAS SERVICE
- KM G — KINDER MORGAN GAS
- ATT — AT&T
- COM1 — VERIZON
- COM2 — SPRINT
- COM3 — LEVEL 3 AERIAL
- COM4 — LEVEL 3 UG
- COM5 — CASTLE CROWN FIBER OPTICS
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- COM7 — TIME WARNER CABLE-UNDERGROUND
- COM8 — WESTERN UNION
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- NPW — WATER REUSE
- OHE — OVERHEAD ELEC.
- S — SEWER
- W — WATER
- DUCT — 2-1.5 DUCT (TRANSTELCO, VALLEY TELEPHONE, LIGHTLINK, VERIZON & QUEST)
- E — ELECTRIC
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PRELIMINARY
SUBJECT TO REVISION

Mesa St.
SH 20 Corridor Study

CIVIL ASSOCIATES, INC.
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

SH 20 (MESA STREET) EXISTING UTILITIES

STA 153+00 TO 199+00

SHEET 5 OF 12

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Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0001	02	059	SH 20
DIST		COUNTY	SHEET NO.
ELP		EL PASO	5

DWN: URS CKD: URS DBN: URS CKN: URS klunski

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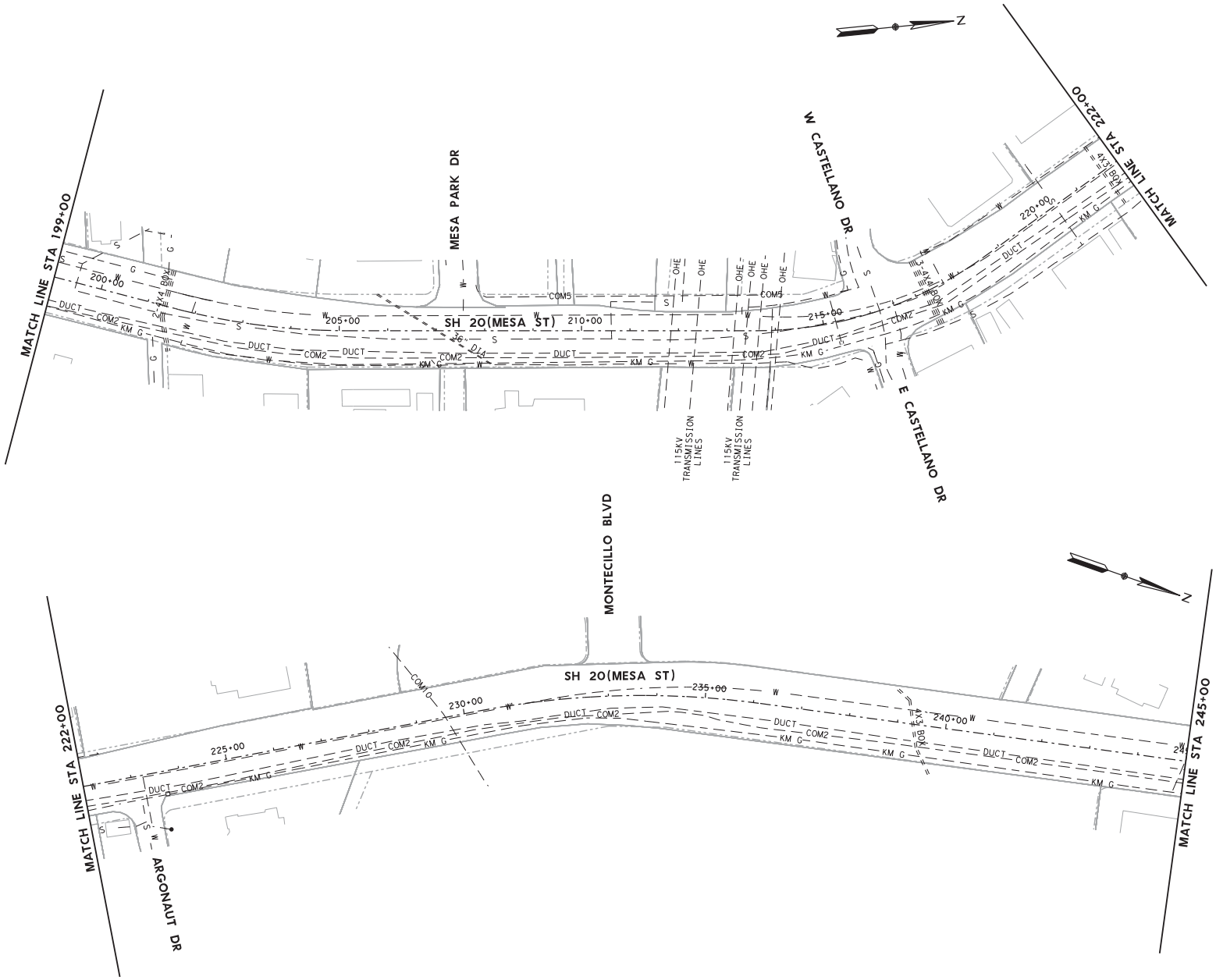

0' 100' 200'
SCALE IN FEET

LEGEND

- ROW/PROPERTY LINES
- 2015 EL PASO APPRAISAL MAP
- DRAINAGE-BOX OR CIRCULAR CULVERT
- G — TEXAS GAS SERVICE
- KM G — KINDER MORGAN GAS
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- W — WATER
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SUBJECT TO REVISION

Mesa St.
SH 20 Corridor Study

CIVIL ASSOCIATES, INC.
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

SH 20 (MESA STREET) EXISTING UTILITIES

STA 199+00 TO 245+00

SHEET 6 OF 12

©2016
Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0001	02	059	SH 20
DIST		COUNTY	SHEET NO.
ELP		EL PASO	6

DGN: URS | CKL: URS | DBN: URS | CKV: URS | klunski

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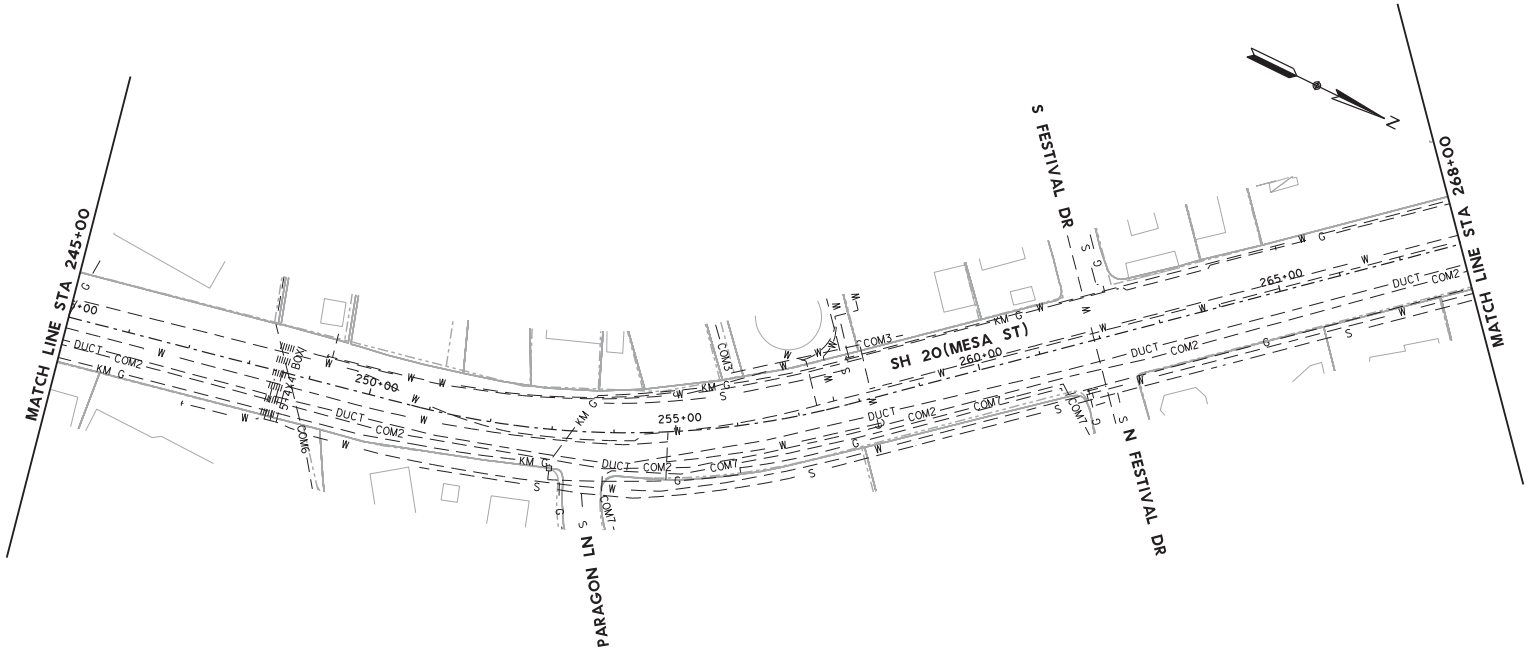

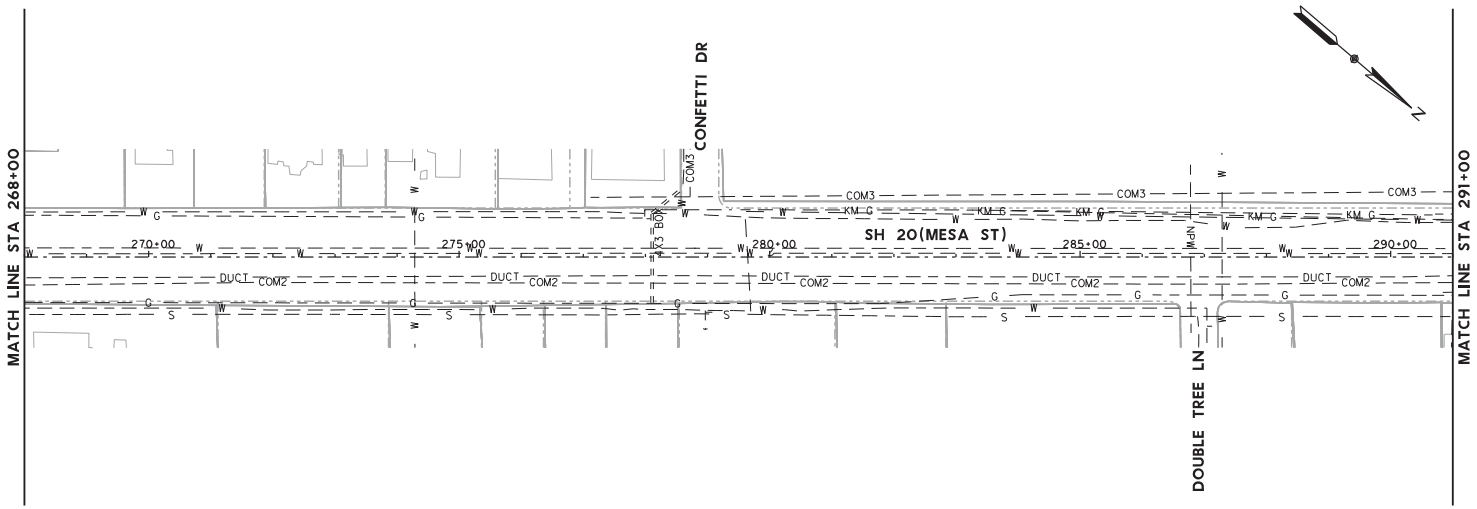

0' 100' 200'
SCALE IN FEET

LEGEND

- ROW/PROPERTY LINES
- 2015 EL PASO APPRAISAL MAP
- DRAINAGE-BOX OR CIRCULAR CULVERT
- G — TEXAS GAS SERVICE
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PRELIMINARY
SUBJECT TO REVISION

Mesa St.
SH 20 Corridor Study

CIVIL ASSOCIATES, INC.
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

SH 20 (MESA STREET) EXISTING UTILITIES

STA 245+00 TO STA 291+00

SHEET 7 OF 12

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Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0001	02	059	SH 20
DIST		COUNTY	SHEET NO.
ELP		EL PASO	7

DWN URS | CKD URS | DWN URS | CKD URS | klunski

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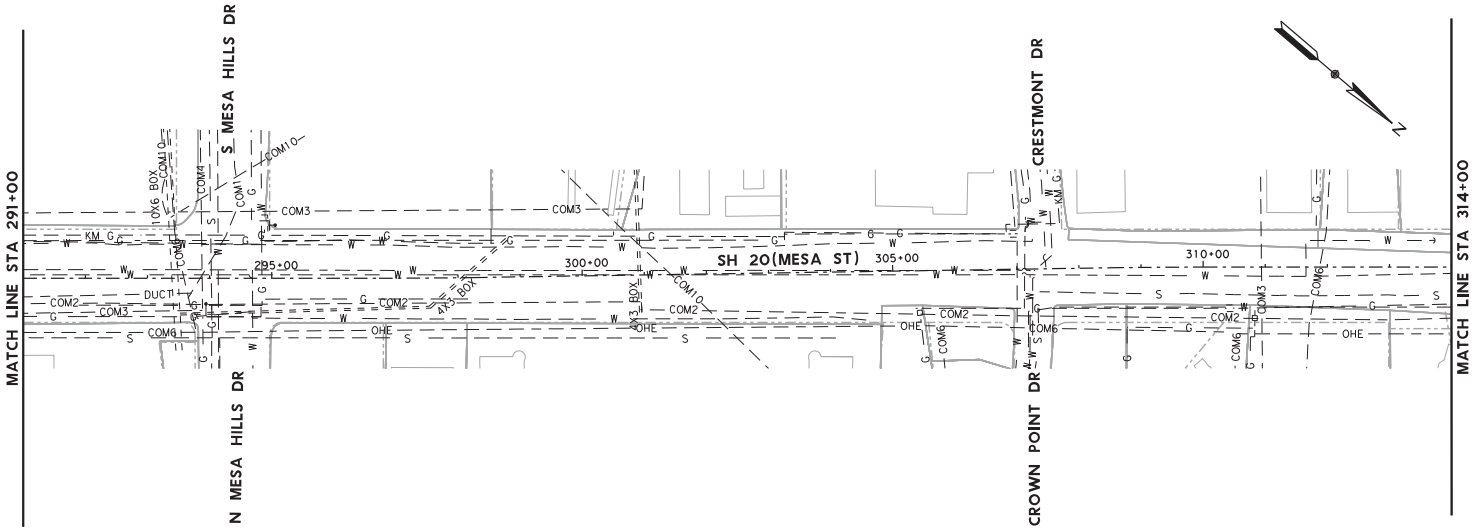

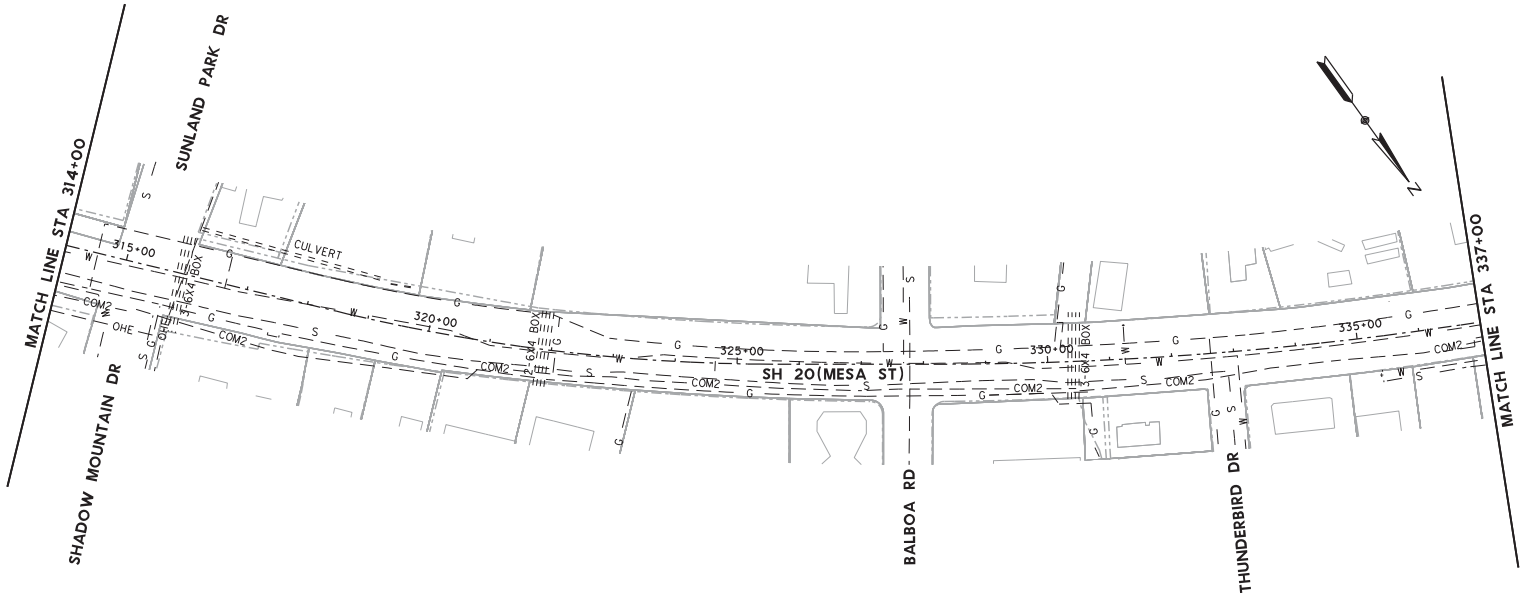

0' 100' 200'
SCALE IN FEET

LEGEND

- ROW/PROPERTY LINES
- 2015 EL PASO APPRAISAL MAP
- DRAINAGE-BOX OR CIRCULAR CULVERT
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SUBJECT TO REVISION

Mesa St.
SH 20 Corridor Study

CIVIL ASSOCIATES, INC.
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

SH 20 (MESA STREET) EXISTING UTILITIES

STA 291+00 TO STA 337+00

SHEET 8 OF 12

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CONT	SECT	JOB	HIGHWAY
0001	02	059	SH 20
DIST		COUNTY	SHEET NO.
ELP		EL PASO	8

DWN: URS CKD: URS DBN: URS CKL: URS klunski

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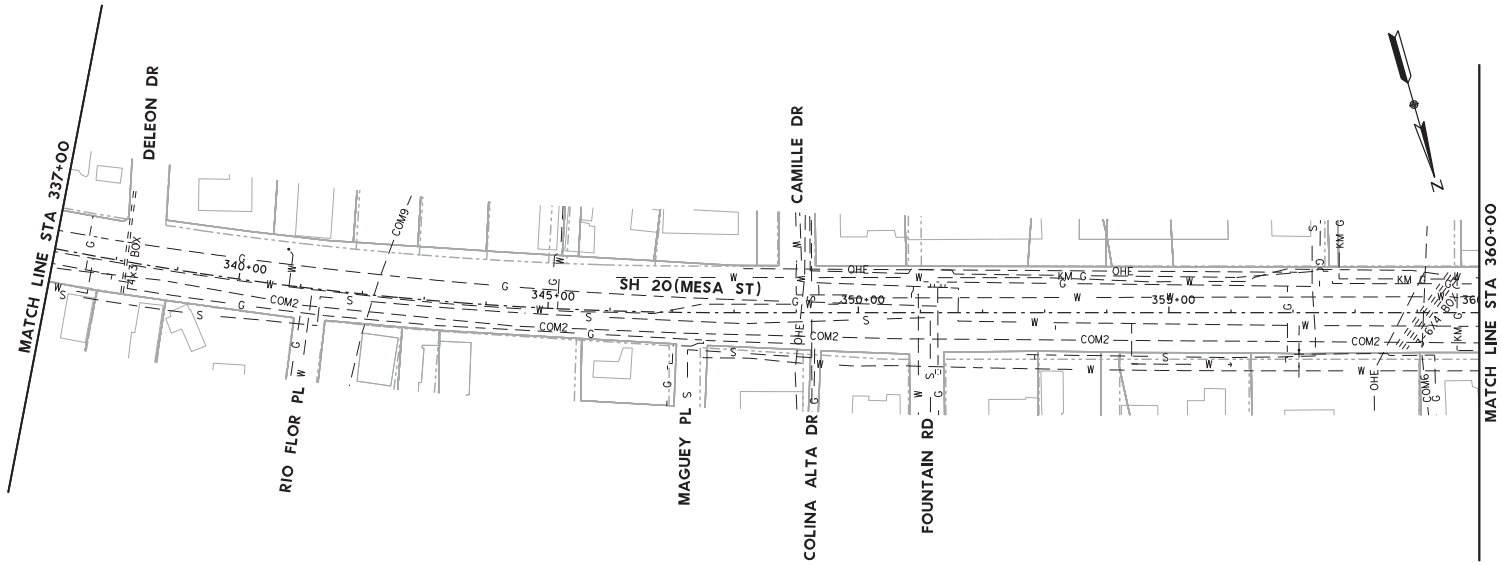

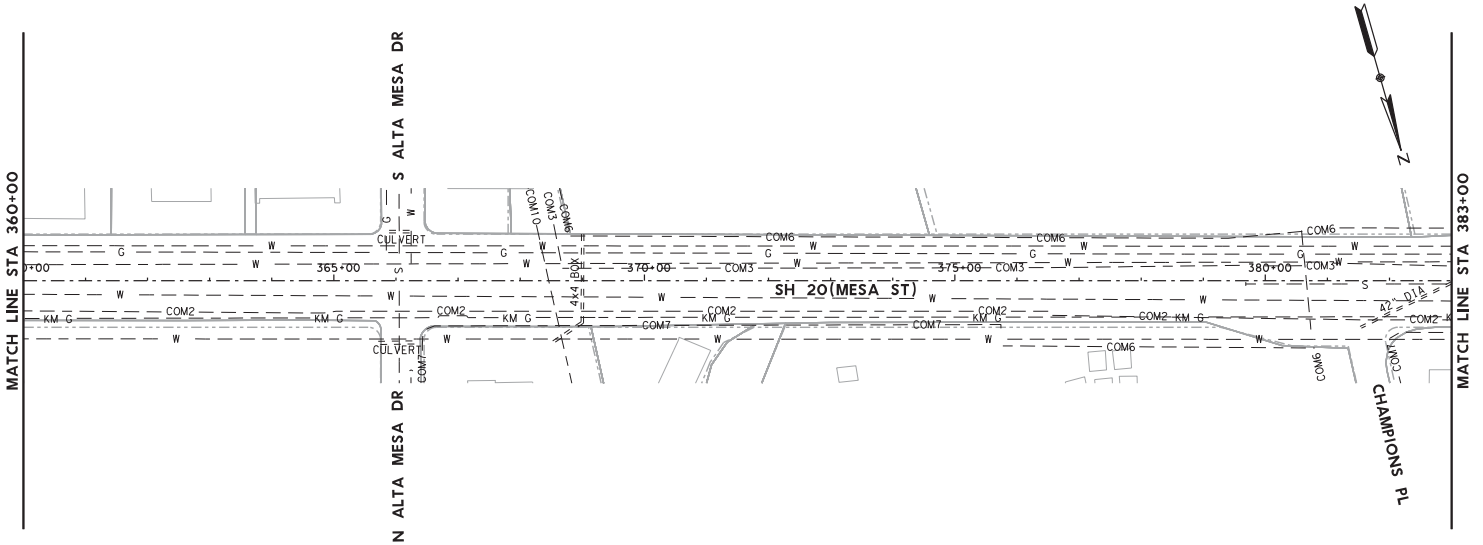

LEGEND

- ROW/PROPERTY LINES
- 2015 EL PASO APPRAISAL MAP
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PRELIMINARY
SUBJECT TO REVISION

Mesa St.
SH 20 Corridor Study

CIVIL ASSOCIATES, INC.
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

SH 20 (MESA STREET) EXISTING UTILITIES

STA 337+00 TO STA 383+00

SHEET 9 OF 12

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CONT	SECT	JOB	HIGHWAY
0001	02	059	SH 20
DIST		COUNTY	SHEET NO.
ELP		EL PASO	9

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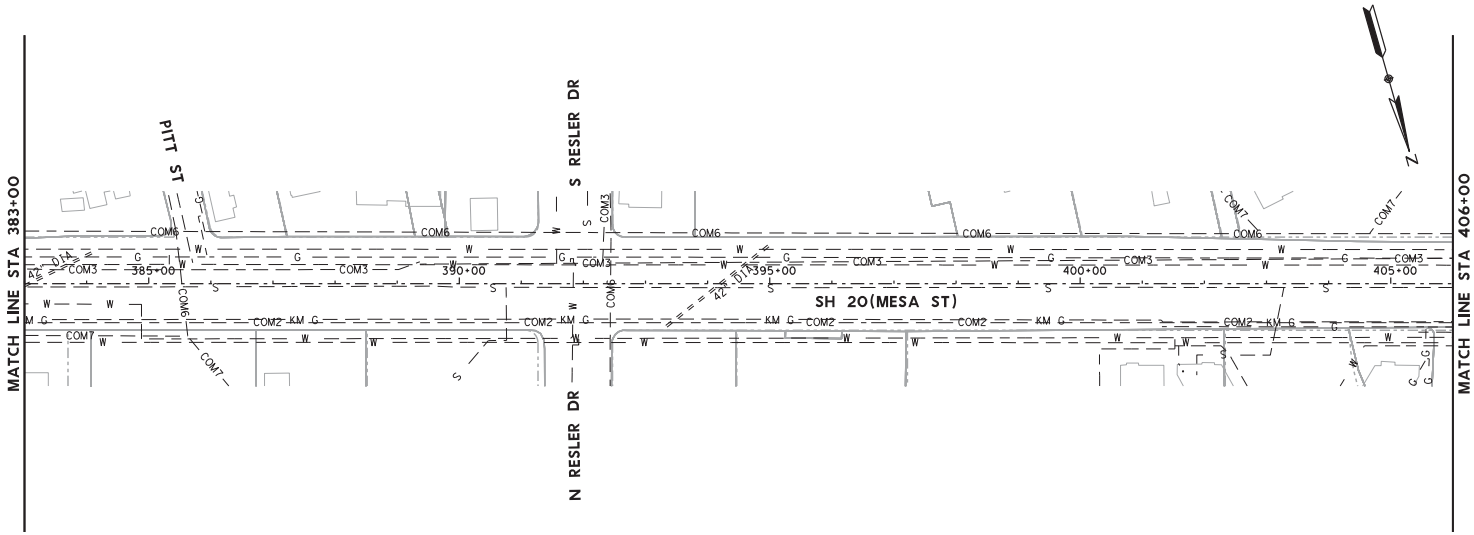

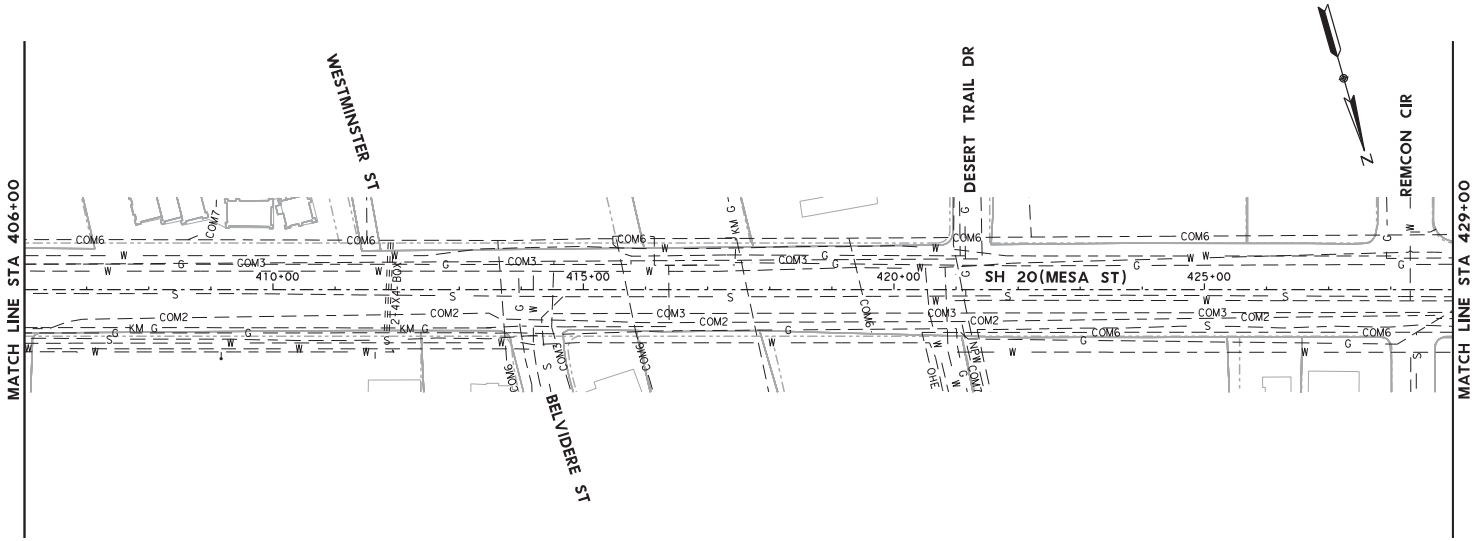

0' 100' 200'
SCALE IN FEET

LEGEND

- ROW/PROPERTY LINES
- 2015 EL PASO APPRAISAL MAP
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PRELIMINARY
SUBJECT TO REVISION

Mesa St.
SH 20 Corridor Study

CIVIL ASSOCIATES, INC.
9330 LBJ Fwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

SH 20 (MESA STREET) EXISTING UTILITIES

STA 383+00 TO STA 429+00

SHEET 10 OF 12

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Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0001	02	059	SH 20
DIST		COUNTY	SHEET NO.
ELP		EL PASO	10

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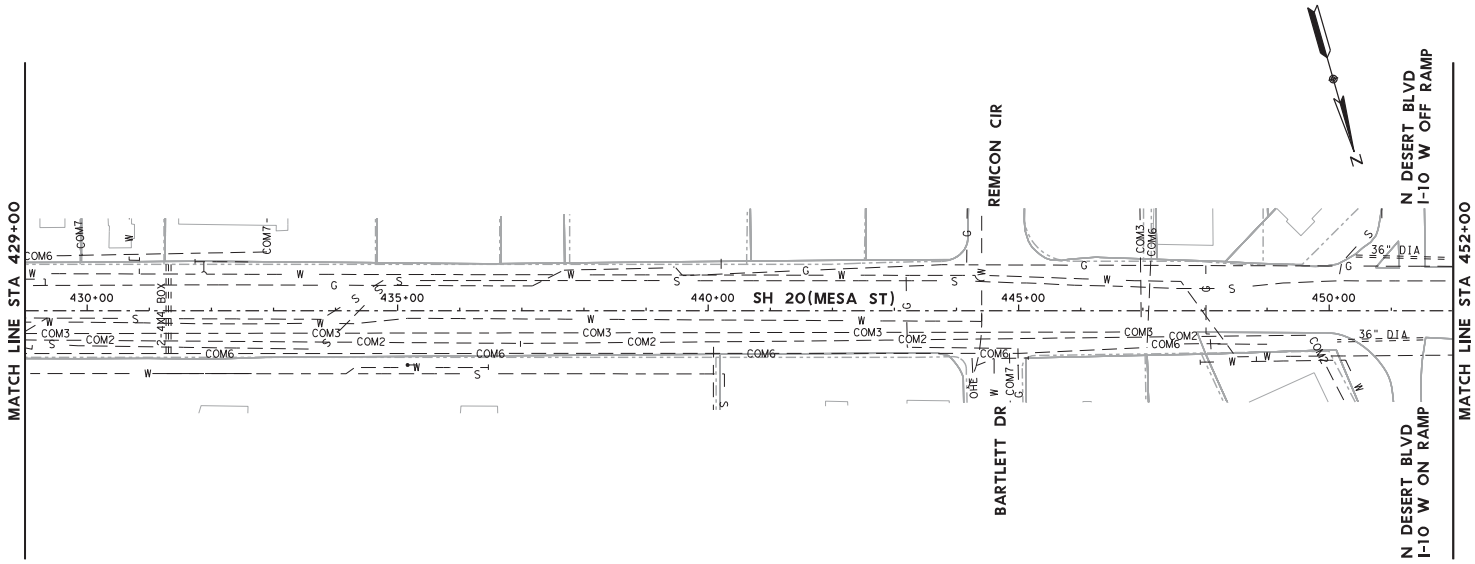

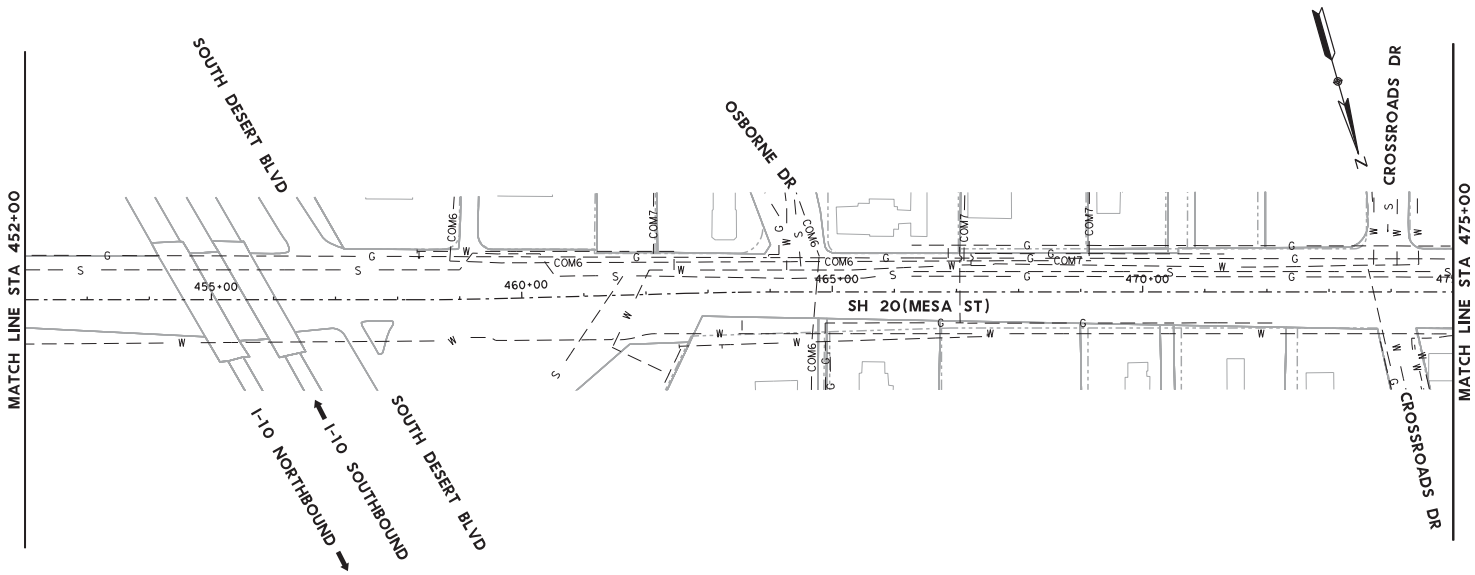

0' 100' 200'
SCALE IN FEET

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PRELIMINARY
SUBJECT TO REVISION

Mesa St.
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9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

SH 20 (MESA STREET) EXISTING UTILITIES

STA 429+00 TO 475+00

SHEET 11 OF 12

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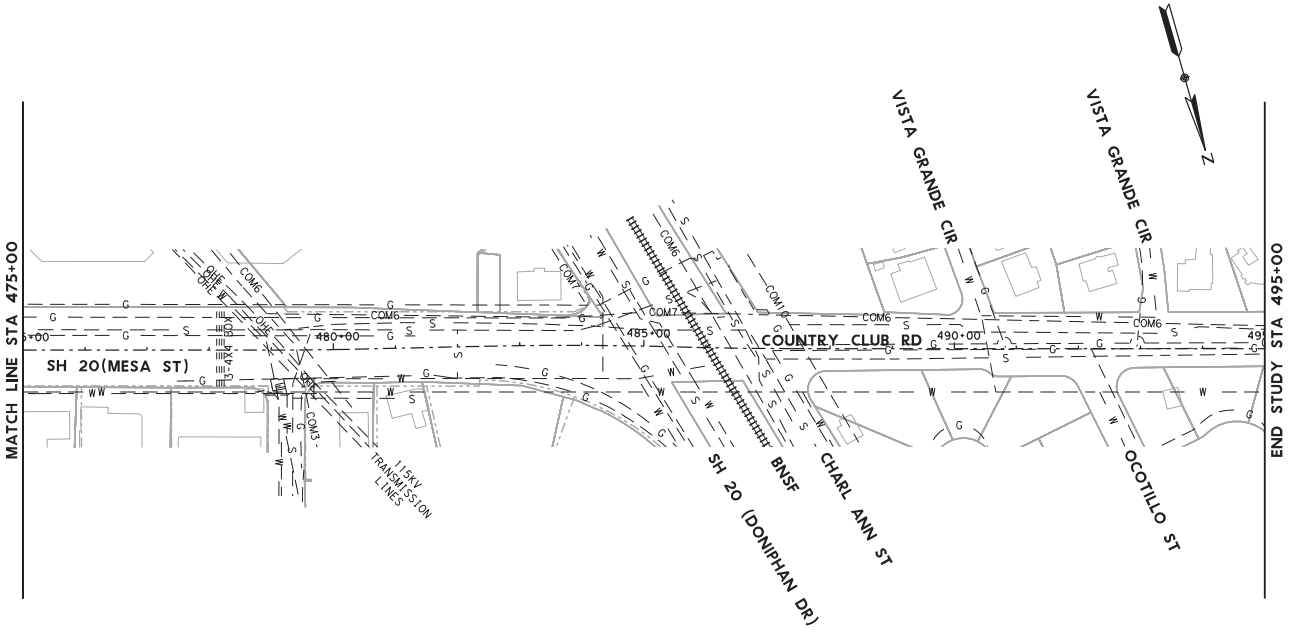
Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0001	02	059	SH 20
DIST		COUNTY	SHEET NO.
ELP		EL PASO	11

DATE: 3/31/2017 9:59:47 AM
FILE: P:\2597.01_TxDOT ELP SH 20 Mesa ST\CADD\DGN\EXHIBITS\UTILITIES\SH20_UTIL011.dgn

DW: URS | CK: URS | DN: URS | CK: klunski



0' 100' 200'
SCALE IN FEET

LEGEND

- ROW/PROPERTY LINES
- 2015 EL PASO APPRAISAL MAP
- DRAINAGE-BOX OR CIRCULAR CULVERT
- G — TEXAS GAS SERVICE
- KM G — KINDER MORGAN GAS
- ATT — AT&T
- COM1 — VERIZON
- COM2 — SPRINT
- COM3 — LEVEL 3 AERIAL
- COM4 — LEVEL 3 UG
- COM5 — CASTLE CROWN FIBER OPTICS
- COM6 — TIME WARNER CABLE/OVERHEAD ELEC.
- COM7 — TIME WARNER CABLE-UNDERGROUND
- COM8 — WESTERN UNION
- COM9 — CONTERRA FO UG
- COM10 — CONTERRA FO AERIAL
- COM11 — TRANSTELCO
- NPW — WATER REUSE
- OHE — OVERHEAD ELEC.
- S — SEWER
- W — WATER
- DUCT — 2-1.5 DUCT (TRANSTELCO, VALLEY TELEPHONE, LIGHTLINK, VERIZON & QUEST)
- E — ELECTRIC
- T — TELEPHONE - MISC

THIS PRELIMINARY DOCUMENT IS RELEASED FOR INFORMATIONAL PURPOSES UNDER THE AUTHORITY OF KENT A LUNSKI, P.E., LIC NO. 84992, ON MARCH 31, 2017. IT IS NOT TO BE USED FOR REGULATORY APPROVAL, PERMITS, BIDDING OR CONSTRUCTION PURPOSES.

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PRELIMINARY
SUBJECT TO REVISION

Mesa St.
SH 20 Corridor Study

CIVIL ASSOCIATES, INC.
9330 LBJ Frwy, Ste. 1150
Dallas, Texas 75243
TBPE Firm Registration No. 6981

SH 20 (MESA STREET)

EXISTING UTILITIES

STA 475+00 TO END OF STUDY

SHEET 12 OF 12

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Texas Department of Transportation

CONT	SECT	JOB	HIGHWAY
0001	02	059	SH 20
DIST		COUNTY	SHEET NO.
ELP		EL PASO	12

DW: URS | CK: URS | DW: URS | CK: URS | klunski

DATE: 3/31/2017 9:59:48 AM
FILE: P:\2597.01_TxDOT ELP SH 20 Mesa ST\CADD\DGN\EXHIBITS\UTILITIES\SH20_UTIL012.dgn

APPENDIX F

SH 20 / Mesa Street
Constraints Maps

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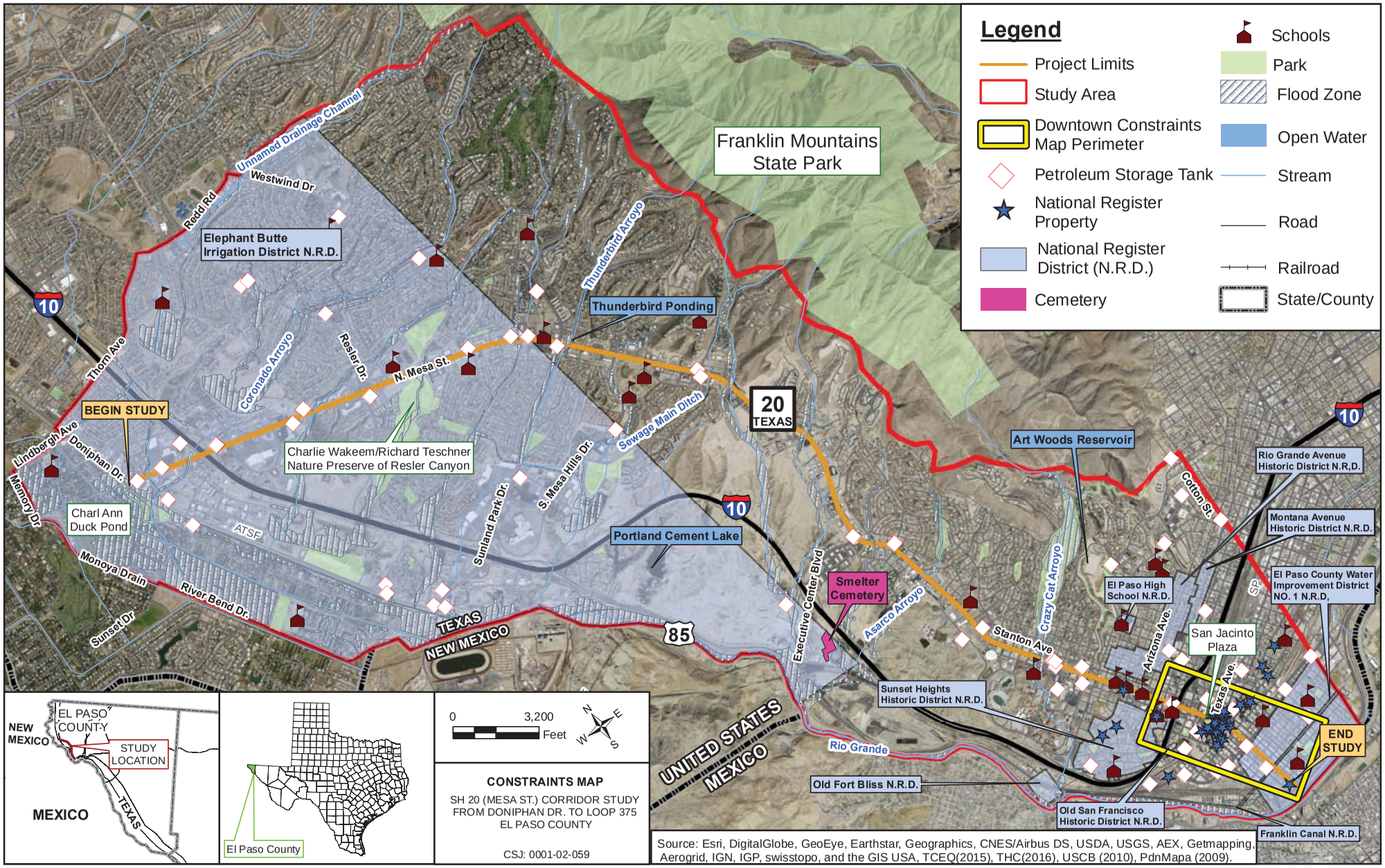
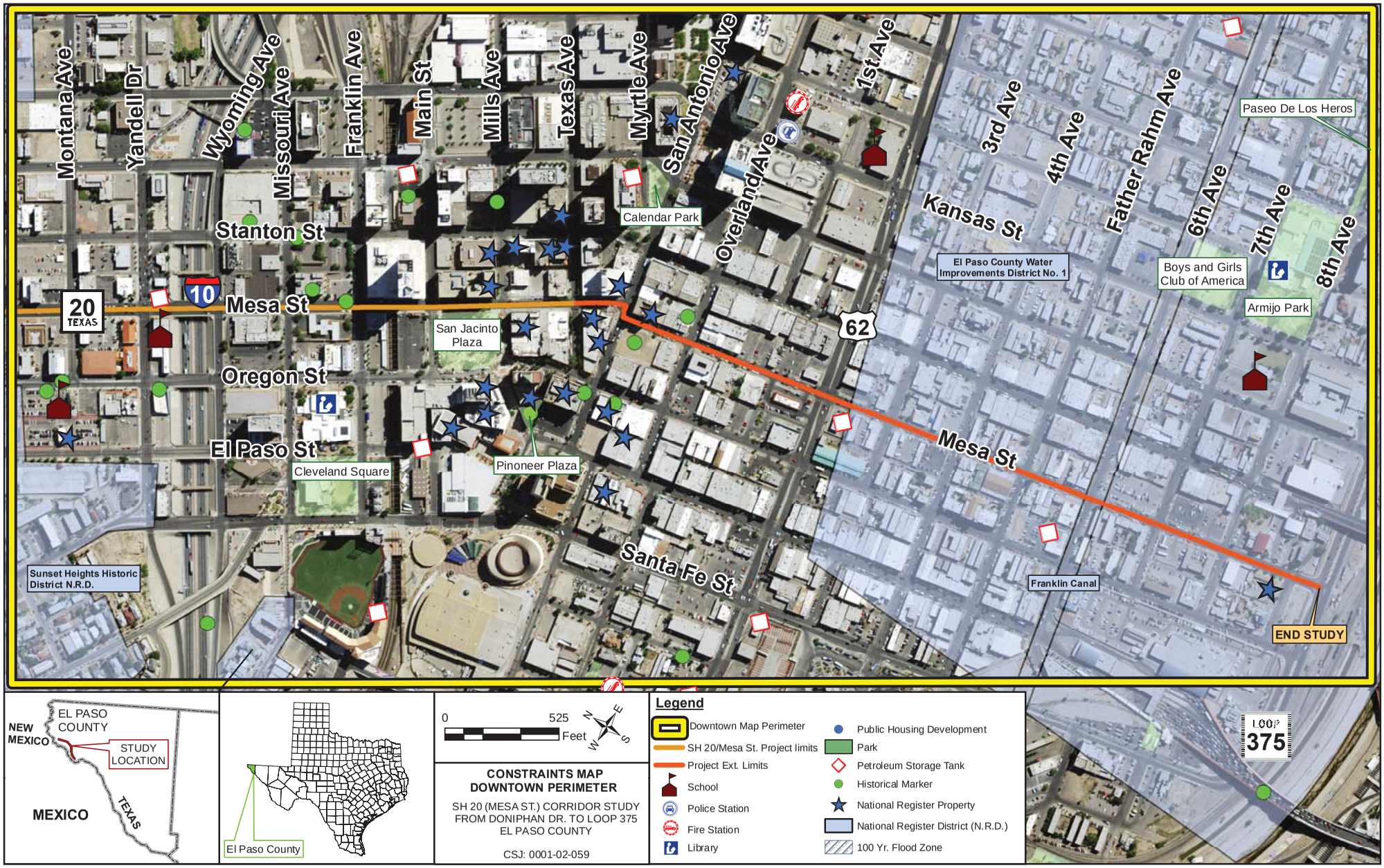

Legend
Project Limits
Study Area
Downtown Constraints Map Perimeter
Petroleum Storage Tank
National Register Property
National Register District (N.R.D.)
Cemetery
Schools
Park
Flood Zone
Open Water
Stream
Road
Railroad
State/County
Franklin Mountains State Park
Unnamed Drainage Channel
Westwind Dr
Redd Rd
Elephant Butte Irrigation District N.R.D.
Thunderbird Arroyo
Thunderbird Ponding
Thorn Ave
Coronado Arroyo
Resler Dr.
N. Mesa St.
BEGIN STUDY
Lindbergh Ave
Doniphan Dr.
Memory Dr.
Charlie Wakeem/Richard Teschner Nature Preserve of Resler Canyon
Charl Ann Duck Pond
ATSF
Monoya Drain
River Bend Dr.
Sunset Dr
Sunland Park Dr.
S. Mesa Hills Dr.
Sewage Main Ditch
Portland Cement Lake
TEXAS
NEW MEXICO
20
TEXAS
10
85
Executive Center Blvd
Smelter Cemetery
Asarco Arroyo
Art Woods Reservoir
Crazy Cat Arroyo
Stanton Ave
Cotton St.
Rio Grande Avenue Historic District N.R,D.
Montana Avenue Historic District N.R.D.
El Paso High School N.R.D.
El Paso County Water Improvement District NO. 1 N.R.D,
Arizona Ave.
San Jacinto Plaza
Texas Ave.
END STUDY
Sunset Heights Historic District N.R.D.
UNITED STATES
MEXICO
Rio Grande
Old Fort Bliss N.R.D.
Old San Francisco Historic District N.R.D.
Franklin Canal N.R.D.
NEW MEXICO
EL PASO COUNTY
STUDY LOCATION
MEXICO
TEXAS
El Paso County
0
3,200
Feet
N
E
S
W
CONSTRAINTS MAP
SH 20 (MESA ST.) CORRIDOR STUDY
FROM DONIPHAN DR. TO LOOP 375
EL PASO COUNTY
CSJ: 0001-02-059
Source: Esri, DigitalGlobe, GeoEye, Earthstar, Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS USA, TCEQ(2015), THC(2016), USCB (2010), PdnMapa (2009).


Montana Ave
Yandell Dr
Wyoming Ave
Missouri Ave
Franklin Ave
Main St
Mills Ave
Texas Ave
Myrtle Ave
San Antonio Ave
Overland Ave
1st Ave
3rd Ave
4th Ave
Father Rahm Ave
6th Ave
7th Ave
8th Ave
Paseo De Los Heros
Kansas St
Stanton St
Mesa St
Oregon St
El Paso St
Santa Fe St
20
TEXAS
10
62
Calendar Park
San Jacinto Plaza
Pinoneer Plaza
Cleveland Square
El Paso County Water Improvements District No. 1
Boys and Girls Club of America
Armijo Park
Sunset Heights Historic District N.R.D.
Franklin Canal
END STUDY
NEW MEXICO
EL PASO COUNTY
STUDY LOCATION
MEXICO
TEXAS
El Paso County
0
525
Feet
N
E
S
W
CONSTRAINTS MAP
DOWNTOWN PERIMETER
SH 20 (MESA ST.) CORRIDOR STUDY
FROM DONIPHAN DR. TO LOOP 375
EL PASO COUNTY
CSJ: 0001-02-059
Legend
Downtown Map Perimeter
SH 20/Mesa St. Project limits
Project Ext. Limits
School
Police Station
Fire Station
Library
Public Housing Development
Park
Petroleum Storage Tank
Historical Marker
National Register Property
National Register District (N.R.D.)
100 Yr. Flood Zone
LOOP
375

APPENDIX G

SH 20 / Mesa Street
February 2018 Public Meeting
Exhibit Boards of Draft Recommendations

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WELCOME!

Why Am I Here?

- Learn about the recommendations
- Ask questions and provide comments on the recommendations

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by TxDOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 16, 2014, and executed by FHWA and TxDOT.

La revisión ambiental, consultas y otras acciones requeridas por las leyes ambientales federales aplicables para este proyecto están siendo o han sido, llevado a cabo por TxDOT - en virtud de 23 USC 327 y un Memorando de Entendimiento fechado el 16 de diciembre del 2014, y ejecutado por la FHWA y TxDOT.

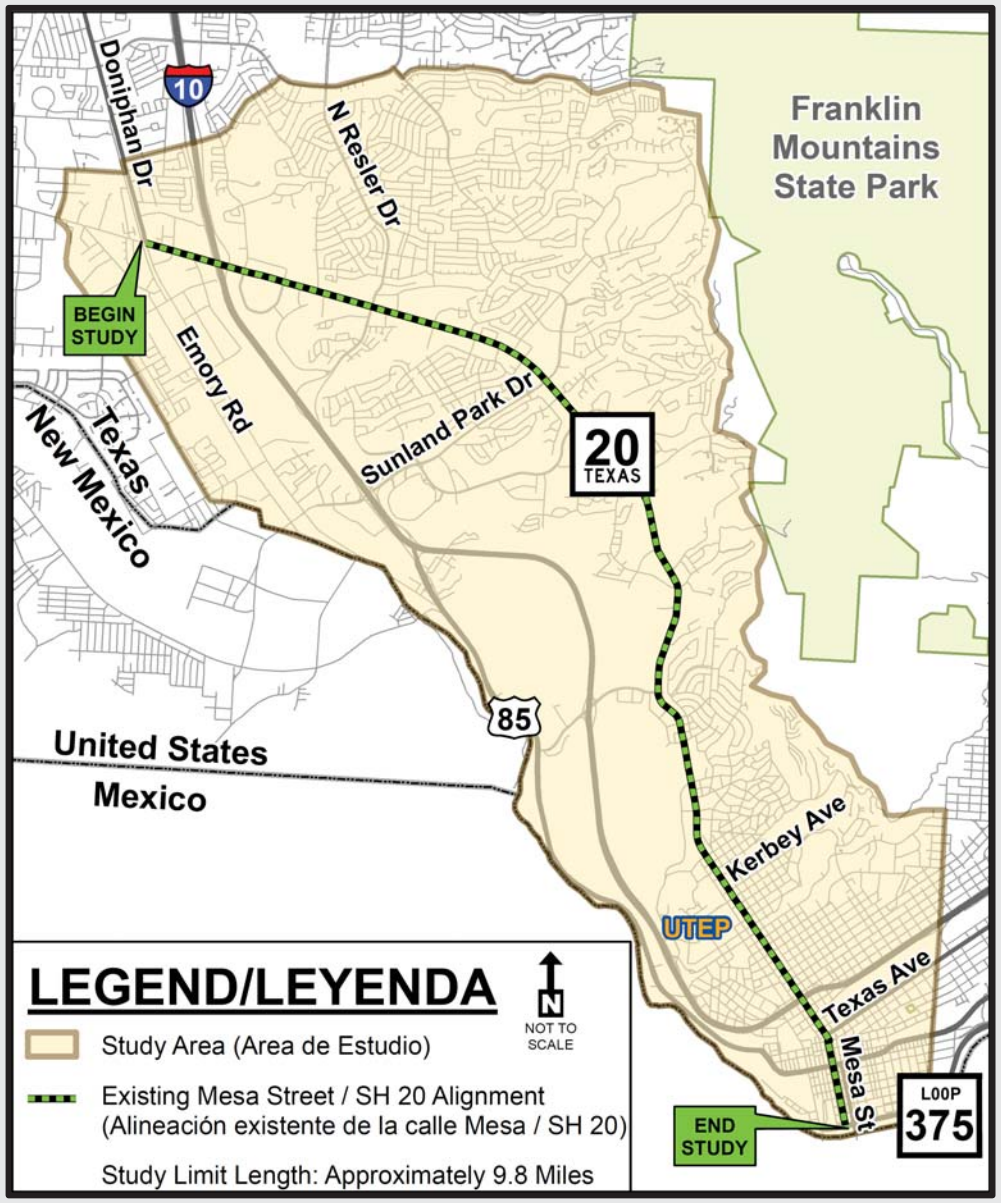
Study Location Map

Study Limits:

Doniphan Drive (SH 20)

to

Cesar Chavez Border Highway (Loop 375)



Study Purpose

This **Traffic Engineering and Planning Corridor Study** is being conducted to support TxDOT's primary goals and objectives:

- Safety
- Congestion relief
- Transportation reliability

This TxDOT study will develop a **Master Plan** of recommended Short-, Mid-, and Long-Term transportation solutions to upgrade and improve the Mesa Street corridor from Doniphan Drive to Cesar Chavez Border Highway.

Study Goals

- All-inclusive public, agency, and stakeholder input
- Safe, cost-effective, and reliable transportation solution concepts that consider all travel modes within the Mesa Street corridor
- Short-, Mid-, and Long-Term solution concepts that address the future travel demands forecasted to occur on Mesa Street between the years 2020 and 2040

General Study Information

Study Limits: Doniphan Drive to Cesar Chavez Border Highway
Study Length: Approximately 9.8 miles

City / County: El Paso / El Paso

Study Elements and Aspects include:

- Access management
- Bicyclist and pedestrian accommodations
- Crash analyses
- Design solution alternatives
- Forecast travel demand on Mesa Street through Year 2040
- Mass transit accommodation
- Public, agency, and stakeholder involvement
- Sidewalk and crosswalk connectivity
- Signage, illumination and pavement markings
- Traffic signalization

Mesa St.
SH 20 Corridor Study

Study Phases

Public & Agency Involvement

Evaluate Existing Travel Conditions & Identify Corridor Issues

Develop Study Goals & Objectives

Determine & Evaluate Travel Demand Forecasts

Produce Conceptual Alternative Solutions

Evaluate & Screen Conceptual Alternative Solutions

Produce Viable Alternative Solutions

Current Phase

Current Phase

Master Plan of Final Recommended Solutions

Public & Agency Involvement

Public Feedback from the August 2016 Public Meetings

Major Mesa Street issues?

(in alphabetical order)

- Bike and Pedestrian-related elements
- City Street Connectivity / Alternatives Routes to alleviate Mesa Street
- Crashes / Safety
- Travel Lanes / Turning Lanes

Normal travel mode along Mesa Street?

(in order of popularity)

1. Car
2. I avoid Mesa Street due to its congestion
3. Bike
4. Walk
5. Bus

Mesa Street priorities?

(in order of popularity)

1. Vehicular Congestion
2. Safety
3. Bikeability
4. Walkability
5. Transit
6. Aesthetics / Landscaping
7. Access Control

Primary purpose in traveling Mesa Street?

(in order of popularity)

1. Work
2. Personal
3. Shopping
4. Business
5. School
6. Other

Study Results Summary

- Mesa Street travel times and traffic flow are governed by the major Mesa Street intersections and not by the number of lanes between the intersections. Therefore, more efficient intersections will increase Mesa Street's Operation and Efficiency.
- Between 2010 & 2016, 2,981 crashes & 18 fatalities have occurred on Mesa Street.
- The Mesa Street study recommends the following study goal-oriented improvements:

Safety

- Horizontal & Vertical roadway curvature modifications
- Signalization, sidewalk, and crosswalk upgrades
- Separation of pedestrian and vehicular modes at high traffic, crash-prone intersections
- Shared Use Paths (for bike & pedestrians) that link the City of El Paso *Bike Plan* routes

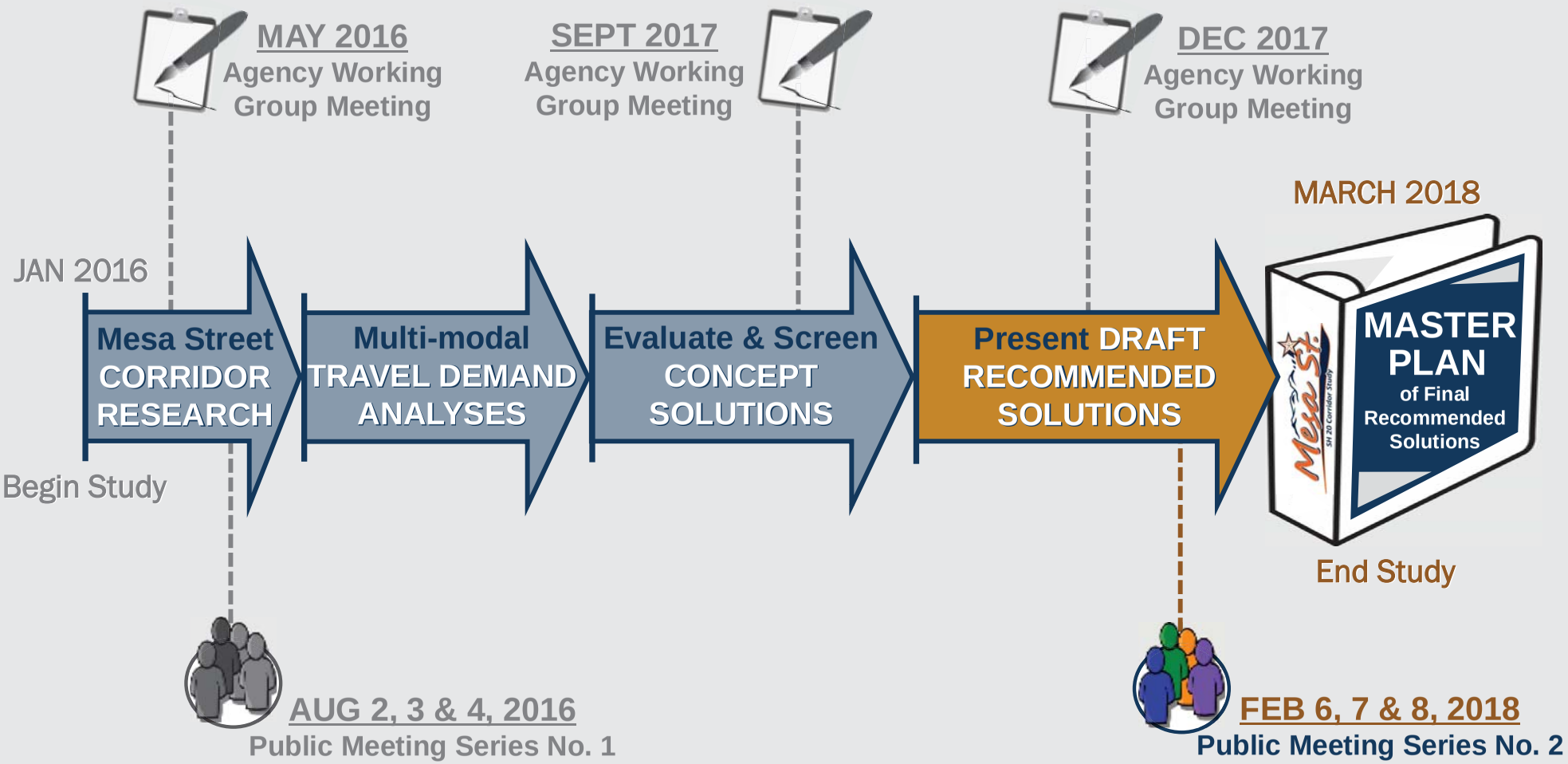
Congestion Relief

- Optimized traffic signal timing and phasing
- Congestion relief at major intersections (added turn lanes, alternate routes & bypass lanes)
- Solution that cater bus / transit movements at intersections
- Achieving acceptable Levels of Service (improved travel flow) through year 2040

Transportation Reliability

- Signal Bypass Lanes that avoid 21 total northbound and southbound Mesa Street traffic signals
- Travel Time Savings -- a one-way trip on the corridor in year 2040 is reduced by 7 to 23 minutes

Study Timeline



Short-Term Recommendations

Mesa Street

- Street lighting & pavement marking upgrades

Mesa Street Intersections

- Optimized signal timing & phasing
- Near-side signal heads within identified Mesa St horizontal curves
- Right-turn lanes at identified intersections

Pedestrian / Bicycle

- ADA sidewalk & crosswalk upgrades throughout corridor
- Mesa St median safety rail at Champions Place (Coronado High School)
- Mesa St at Montecillo Blvd sidewalk & crosswalk upgrades
- Mesa St raised median w/ safety rail between Glory Rd and Cincinnati Ave
- Mesa St at University Ave "Pedestrian Scramble" signal timing

Transit

- Right-turn signal heads at identified Mesa St intersections

Intelligent Transportation System (ITS)

- Bluetooth camera surveillance; Speed Feedback Signs; and Video Imaging Vehicle Detection System (VIVDS)

Mid-Term Recommendations

Mesa Street

- Horizontal & vertical roadway curvature modifications
- Access Management (redundant driveway removals & median opening closures)
- Hooded left-turn (median) lanes at identified locations
- Mesa St at 9th St Mini-Roundabout

Mesa Street Intersections

- Lengthen right- & left-turn lane storage bays
- Relocate eastbound I-10 exit ramp (to Mesa St) westward to access McClintock Dr
- Extend Desert Pass St eastward to Mesa St at Belvidere St
- Extend Mesa Park Dr westward to I-10 and link southward to Executive Center Blvd

Pedestrian / Bicycle

- Mesa St Shared Use Path from Doniphan Dr to Resler Dr and Sun Bowl Dr to Glory Rd
- Sidewalk expansion with safety rails between Glory Rd and Cincinnati Ave

Transit

- Bus Queue Jump (right turn) Lanes at identified intersections

Intelligent Transportation System (ITS)

- Dynamic Message Signs; CCTVs and cellular modem/wireless links to TxDOT TransVista

Long-Term Recommendations

Mesa Street

- "Smart Corridor" or Connected Vehicle / Automated Vehicle (CV/AV) Corridor

Mesa Street Intersections

- Doniphan Dr at Mesa St intersection expansion
- I-10 (Mesa St North) Single Point Urban Interchange (SPUI) with Mesa St (Signal Bypass) Lanes between Crossroads Dr and Belvidere St
- Resler Dr SPUI w/ underpassing Mesa St lanes
- Sunland Park Dr SPUI w/ underpassing Mesa St lanes
- Executive Center Blvd Continuous Green T intersection at Mesa St

Pedestrian / Bicycle

- Mesa St Shared Use Path from Executive Center Blvd to Sun Bowl Dr
- Mesa St Bypass Lanes beneath Glory Rd, Cincinnati Ave, and Robinson Ave

Intelligent Transportation System (ITS)

- Optimize and complete the Mesa St fiberoptic communications from Doniphan Dr to Loop 375 by linking the City and TxDOT camera systems

Mesa St.
SH 20 Corridor Study

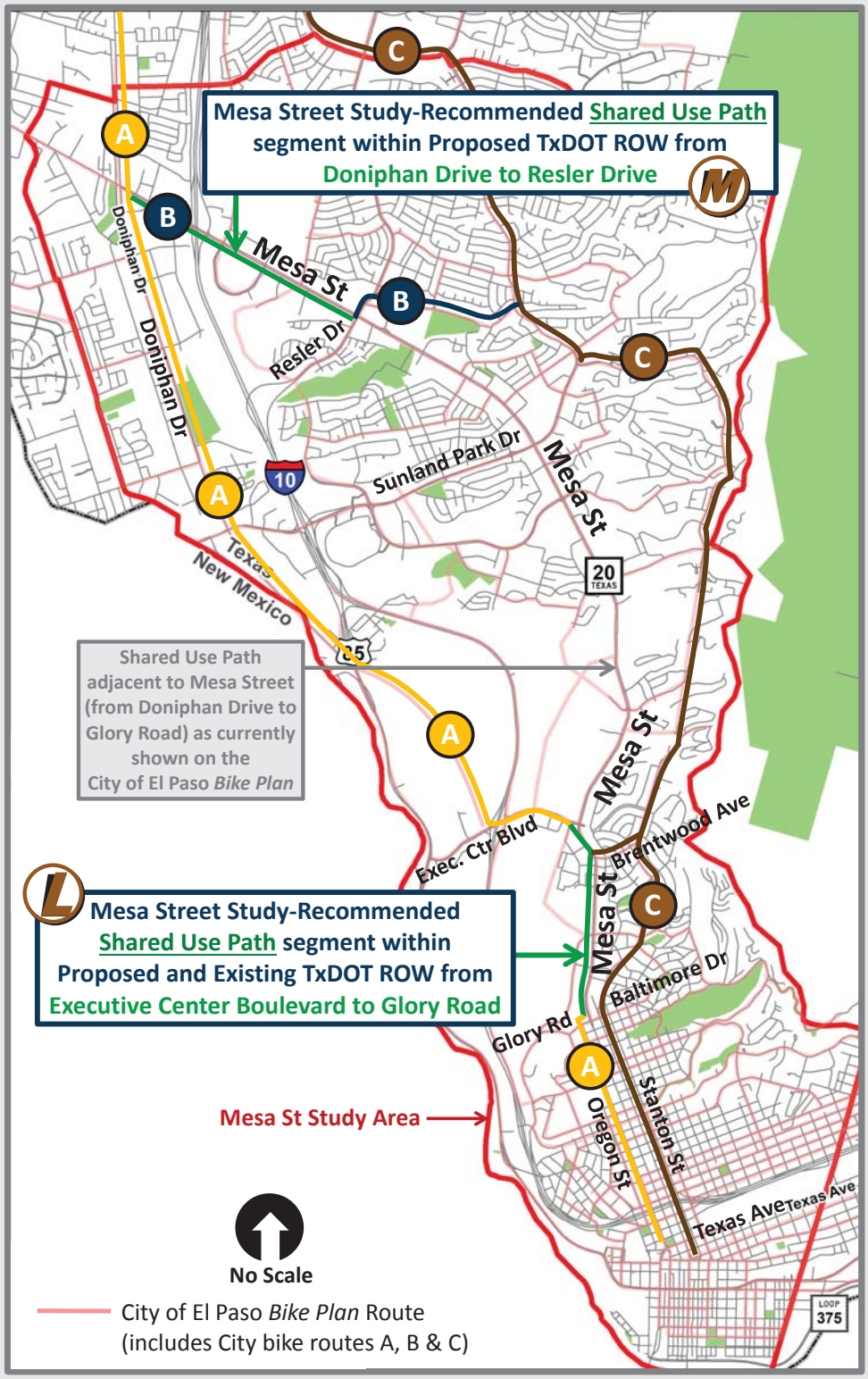
Recommended Shared Use Paths

This concept map displays the Mesa Street Study-recommended 10-foot wide Shared Use Path segments located adjacent to southbound Mesa Street.

These select path locations are based on Mesa Street corridor constraints, available right-of-way (ROW), and connectivity links to currently planned local bike routes.

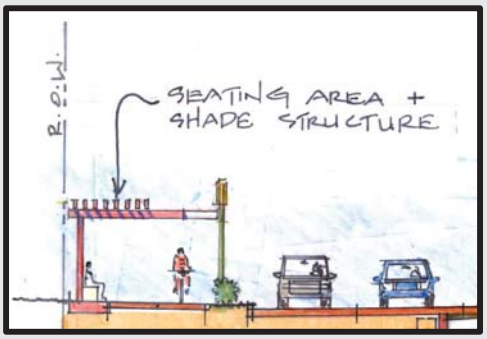
The paths are intended to provide safer A-B-C bike route options in the Mesa Street study area, as opposed to biking directly on Mesa Street alongside the high speed / volume traffic and traversing the many cross-streets, turn lanes, driveways, and Mesa Street inclines.

Due to the necessary ROW acquisition and construction costs, these conceptual paths are **Mid-** and **Long-Term** recommendations.



Bike Route Options | From Doniphan Drive to Downtown El Paso

- **A** Doniphan Dr > Paisano Cycle Track > Executive Ctr Blvd > Mesa St > Oregon St
- **B** Mesa St > Resler Dr > Cloudview Dr > Northwind Dr > Westwind Dr > Stanton St
- **C** Redd Rd > Westwind Dr - Stanton Trail > Stanton St

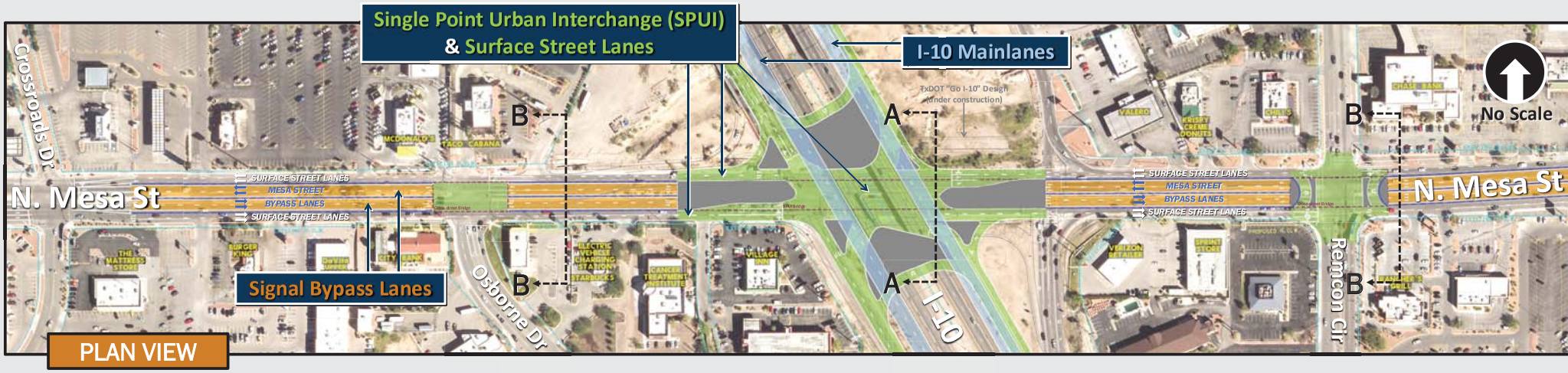


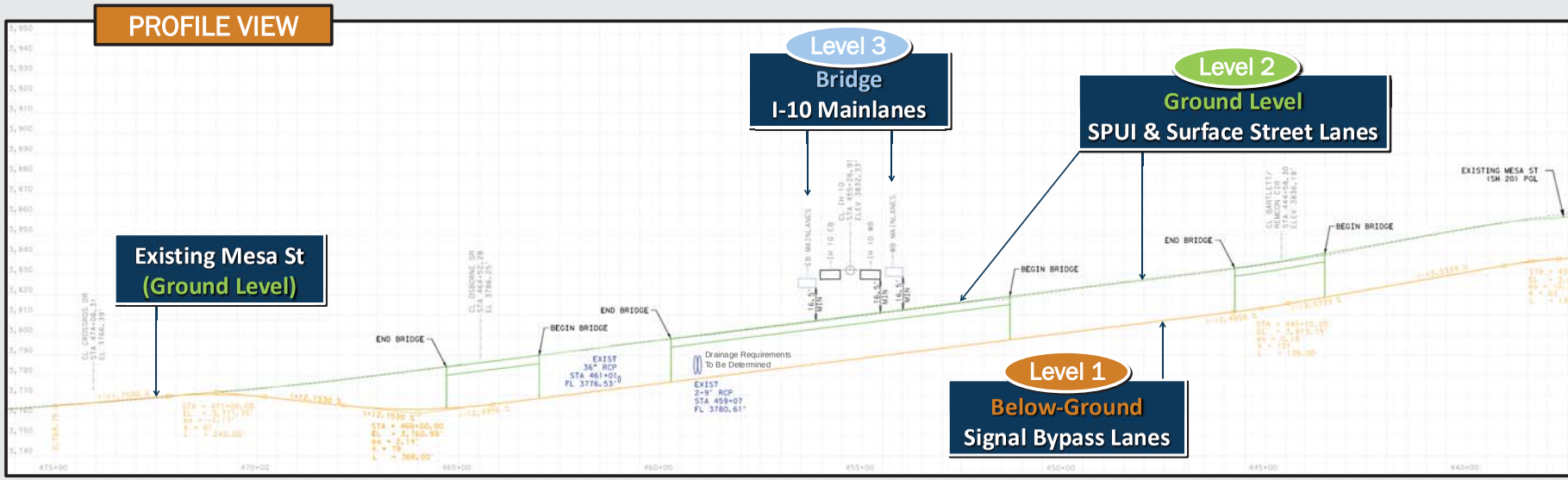
Shared Use Path Concept

TEXAS DEPARTMENT OF TRANSPORTATION

North Mesa St @ I-10

3-level Interchange with Below-Ground Mesa St (Signal Bypass) Lanes

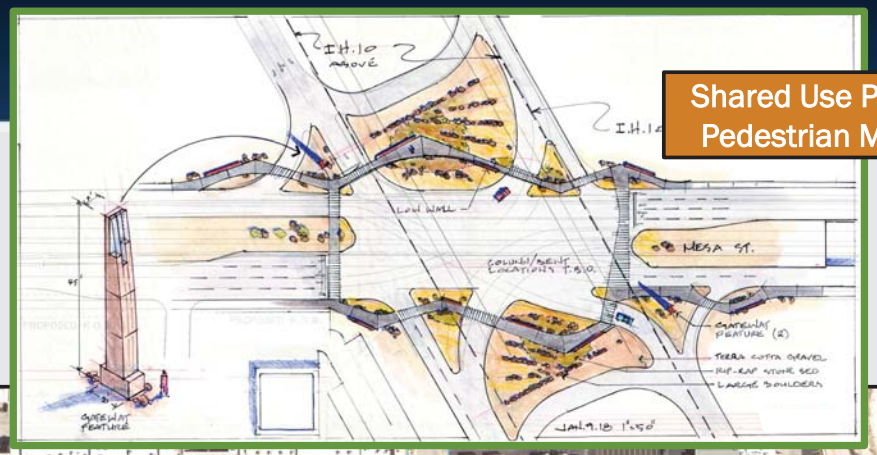


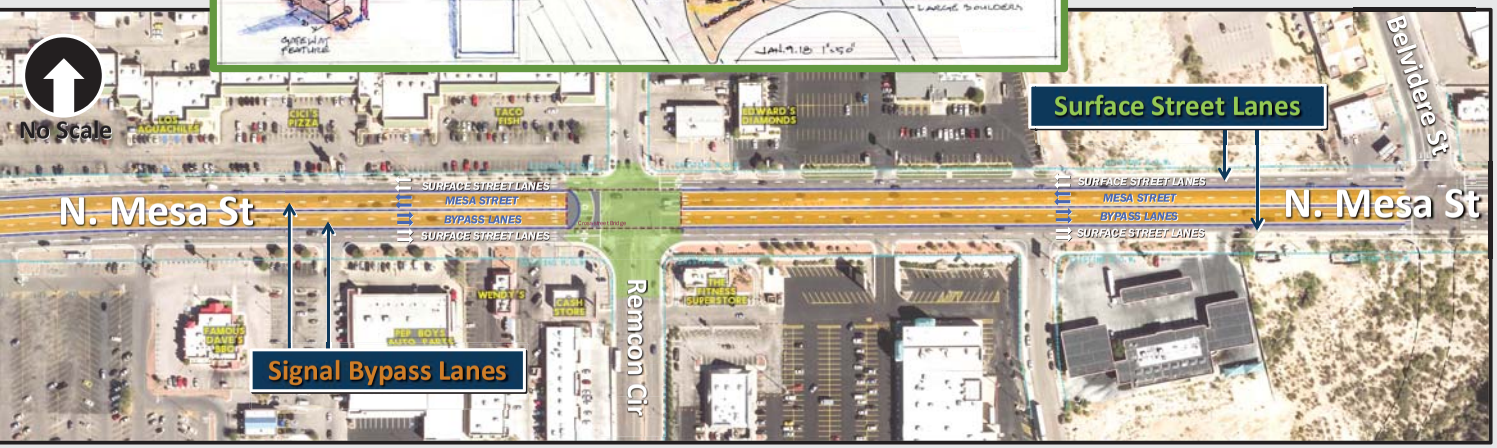


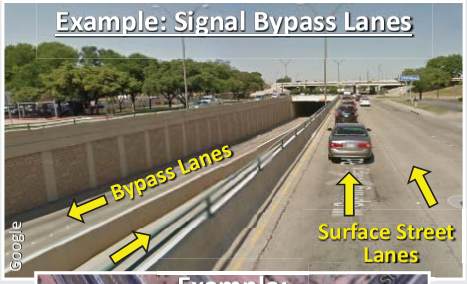
RECOMMENDED
DRAFT CONCEPT

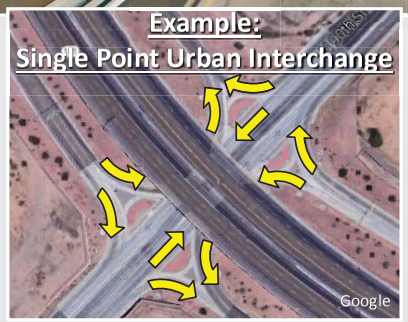
VIEW THE VIDEO SIMULATION FOR THIS CONCEPT AT STATION 6

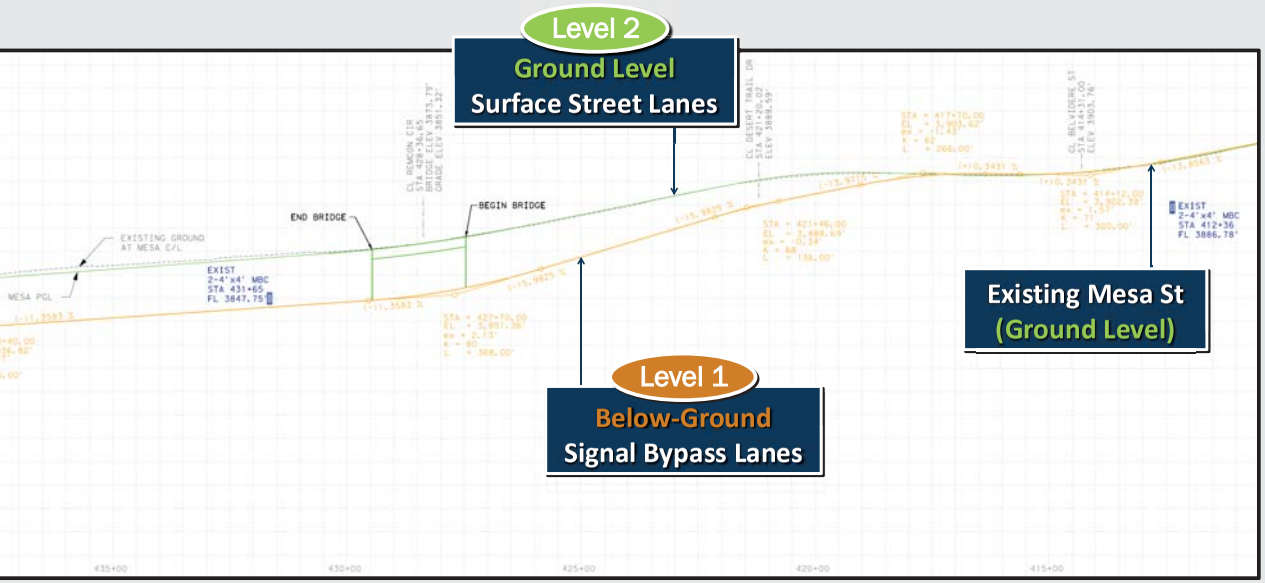
Mesa St.
SH 20 Corridor Study











-- MESA STREET TRAFFIC CONDITIONS --

Level of Service:
AM Peak Hour (PM Peak Hour)

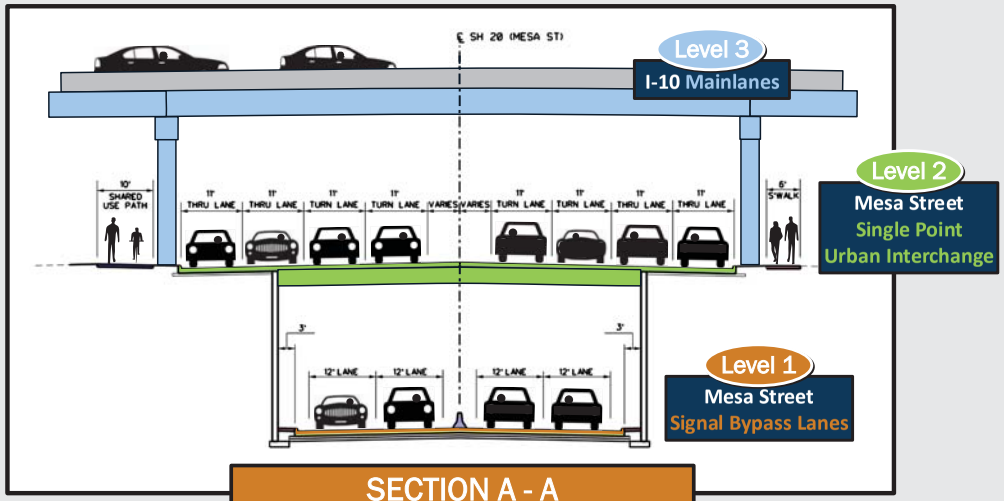
2016 Existing: E (C)
2040 No-Build: F (F)
2040 Recommended Build: C (C)
2040 Build w/o Bypass Lns: D (D)

LOS A (free flow)
LOS B (reasonably free flow)
LOS C (stable flow)
LOS D (approaching unstable flow)
LOS E (unstable flow)
LOS F (forced or breakdown flow)

RECOMMENDED
DRAFT CONCEPT

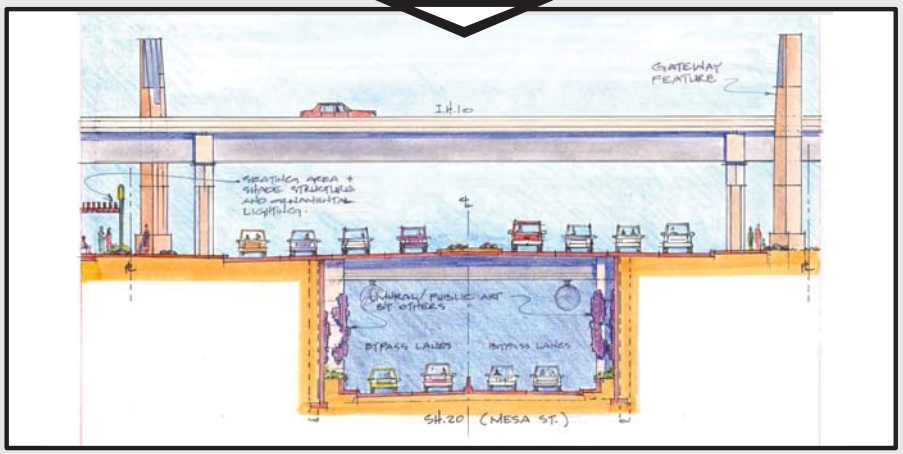
North Mesa St @ I-10

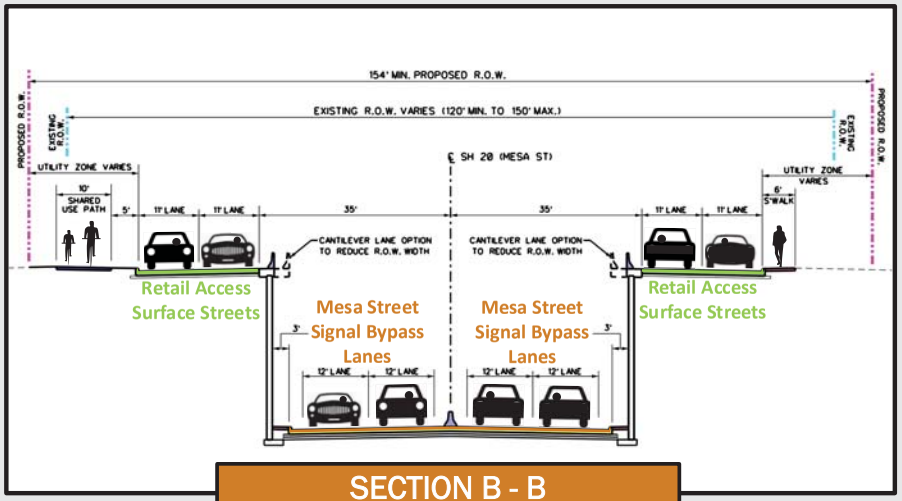
L 3-level Interchange with Below-Ground Mesa St (Signal Bypass) Lanes



SECTION A - A
NORTH MESA STREET (AT I-10)

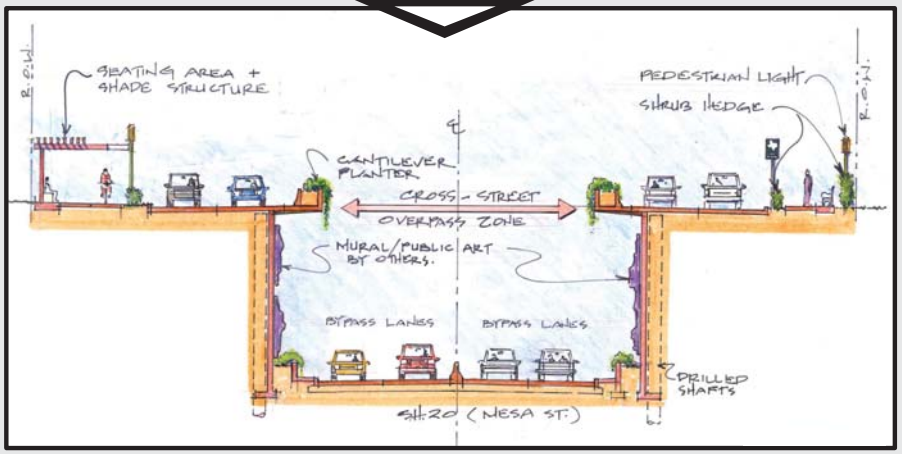
RENDERING





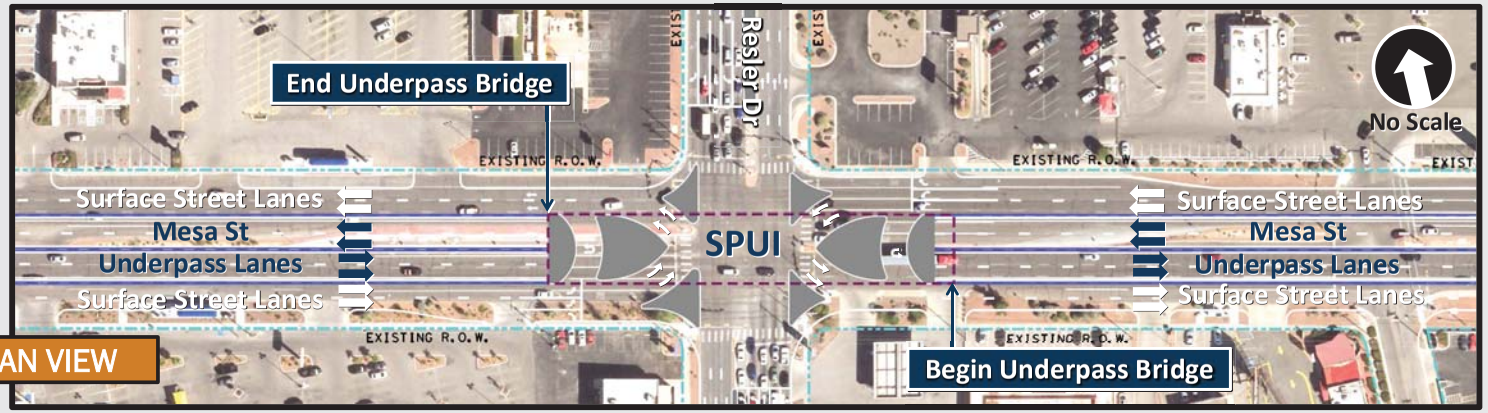
SECTION B - B
NORTH MESA STREET

RENDERING

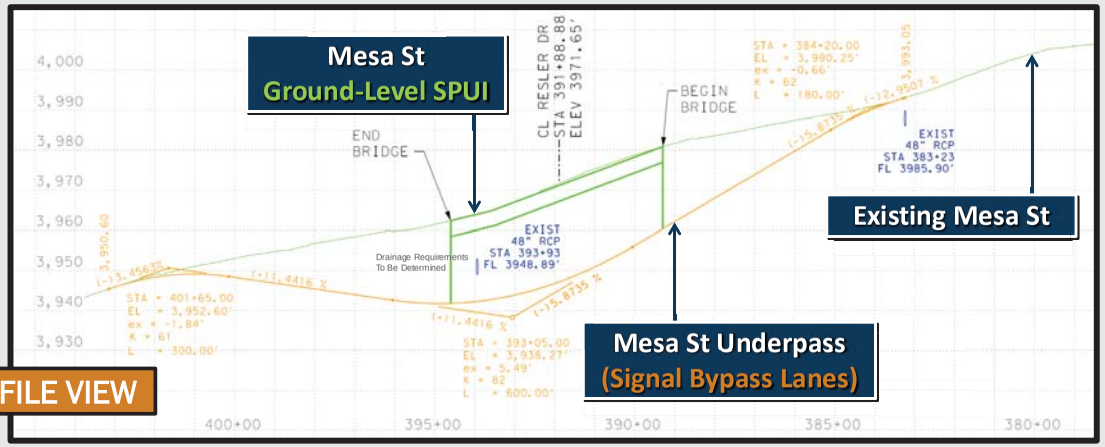


Mesa St @ Resler Dr

L Single Point Urban Interchange (SPUI) with Underpassing Mesa St Lanes



PLAN VIEW



PROFILE VIEW

Shared Use Path / Pedestrian Modes

-- MESA STREET TRAFFIC CONDITIONS --

Level of Service:
AM Peak Hour (PM Peak Hour)

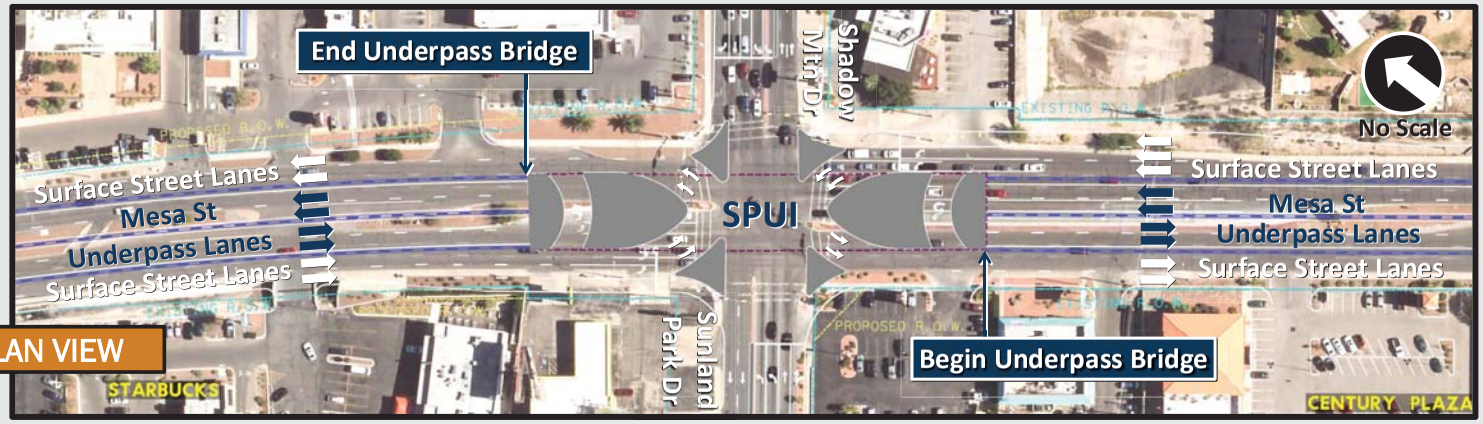
2016 Existing: C (D)
2040 No-Build: D (F)
2040 Recommended Build: D (D)

LOS A (free flow)
LOS B (reasonably free flow)
LOS C (stable flow)
LOS D (approaching unstable flow)
LOS E (unstable flow)
LOS F (forced or breakdown flow)

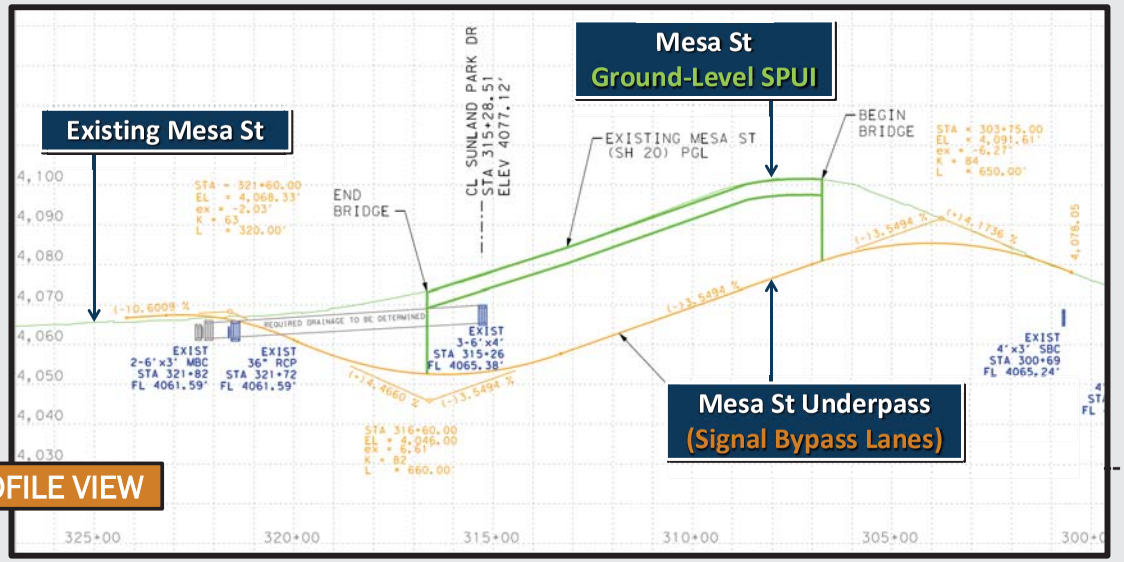
RECOMMENDED
DRAFT CONCEPT

Mesa St @ Sunland Park Dr

L — Single Point Urban Interchange (SPUI) with Underpassing Mesa St Lanes



PLAN VIEW



PROFILE VIEW

-- MESA STREET TRAFFIC CONDITIONS --

Level of Service:
AM Peak Hour (PM Peak Hour)

2016 Existing: D (E)
2040 No-Build: F (F)
2040 Recommended Build: C (D)

LOS A (free flow)
LOS B (reasonably free flow)
LOS C (stable flow)
LOS D (approaching unstable flow)
LOS E (unstable flow)
LOS F (forced or breakdown flow)

RECOMMENDED DRAFT CONCEPT

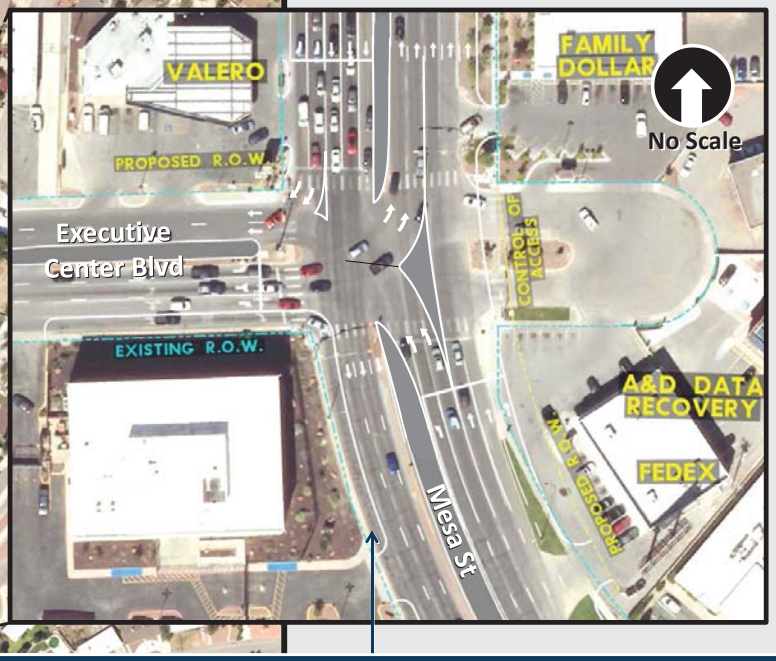
VIEW THE VIDEO SIMULATION FOR THIS CONCEPT AT STATION 6

TEXAS DEPARTMENT OF TRANSPORTATION

Mesa St. SH 20 Corridor Study

Mesa St @ Executive Center Blvd

Continuous Green T Intersection



Horizontal Curve shift improves safety and creates space for a **10 ft-wide Shared Use Path** adjacent to southbound Mesa Street that links the planned City of El Paso *Bike Plan* routes along **Executive Center Blvd** and **Brentwood Ave**

-- MESA STREET TRAFFIC CONDITIONS --

Level of Service: AM Peak Hour (PM Peak Hour)

2016 Existing: C (C)
2040 No-Build: D (F)
2040 Recommended Build: D (C)

LOS A (free flow)
LOS B (reasonably free flow)
LOS C (stable flow)
LOS D (approaching unstable flow)
LOS E (unstable flow)
LOS F (forced or breakdown flow)

RECOMMENDED DRAFT CONCEPT

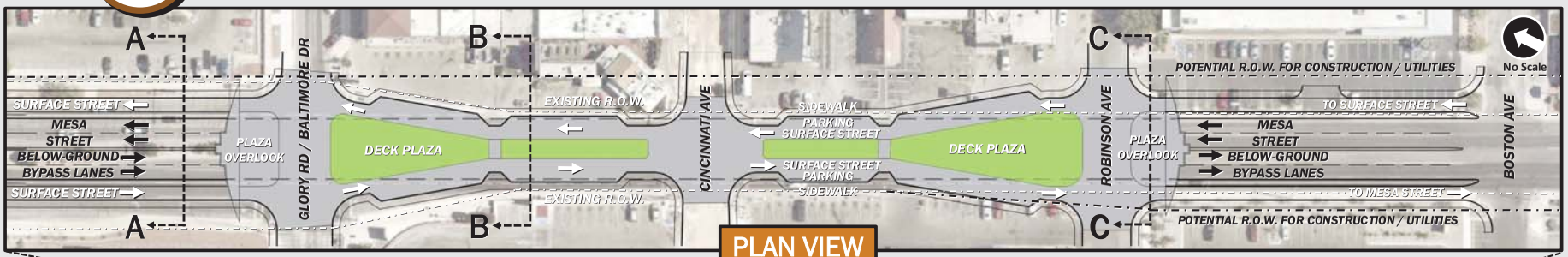
VIEW THE VIDEO SIMULATION FOR THIS CONCEPT AT STATION 6

TEXAS DEPARTMENT OF TRANSPORTATION

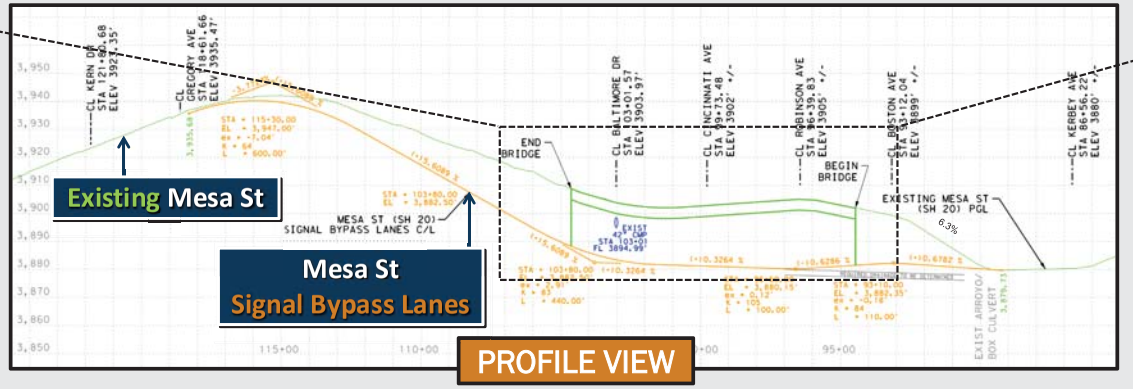
Mesa St
SH 20 Corridor Study

Mesa St @ Glory Rd / Baltimore Dr

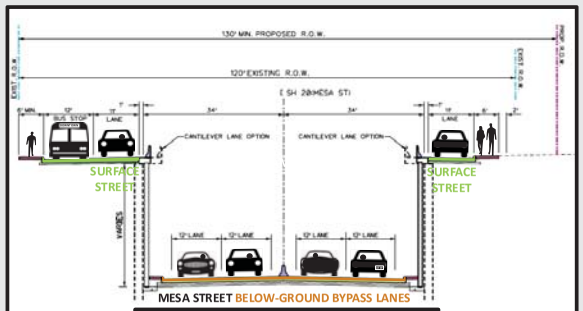
L Below-Ground Mesa St (Signal Bypass) Lanes & Pedestrian Deck Plaza



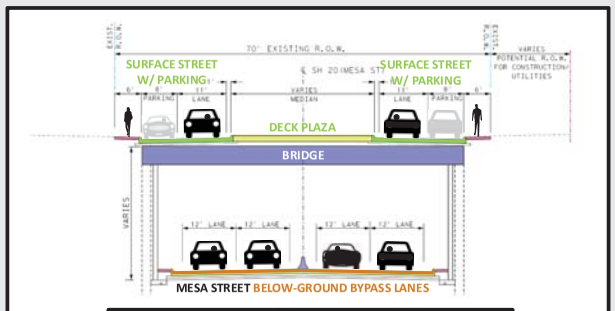
PLAN VIEW



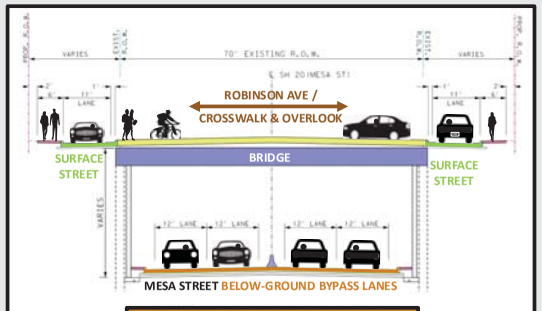
PROFILE VIEW



SECTION A - A
North of Glory Rd



SECTION B - B
Glory Rd to Robinson Ave



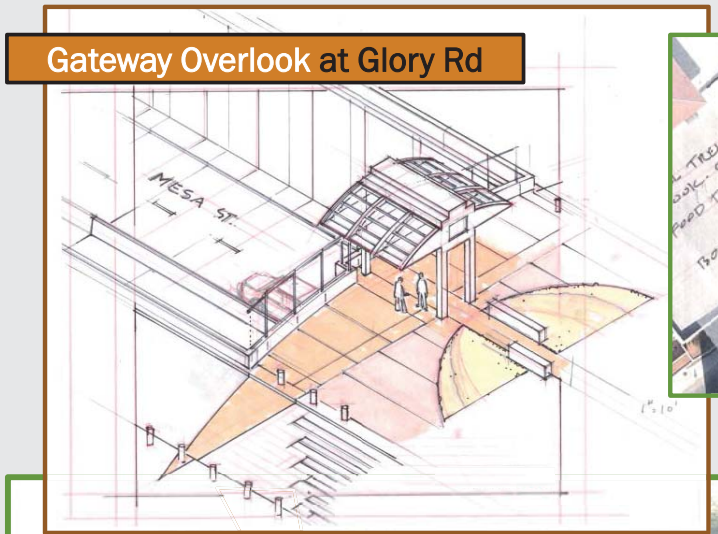
SECTION C - C
At Robinson Ave

RECOMMENDED DRAFT CONCEPT

VIEW THE VIDEO SIMULATION FOR THIS CONCEPT AT STATION 6

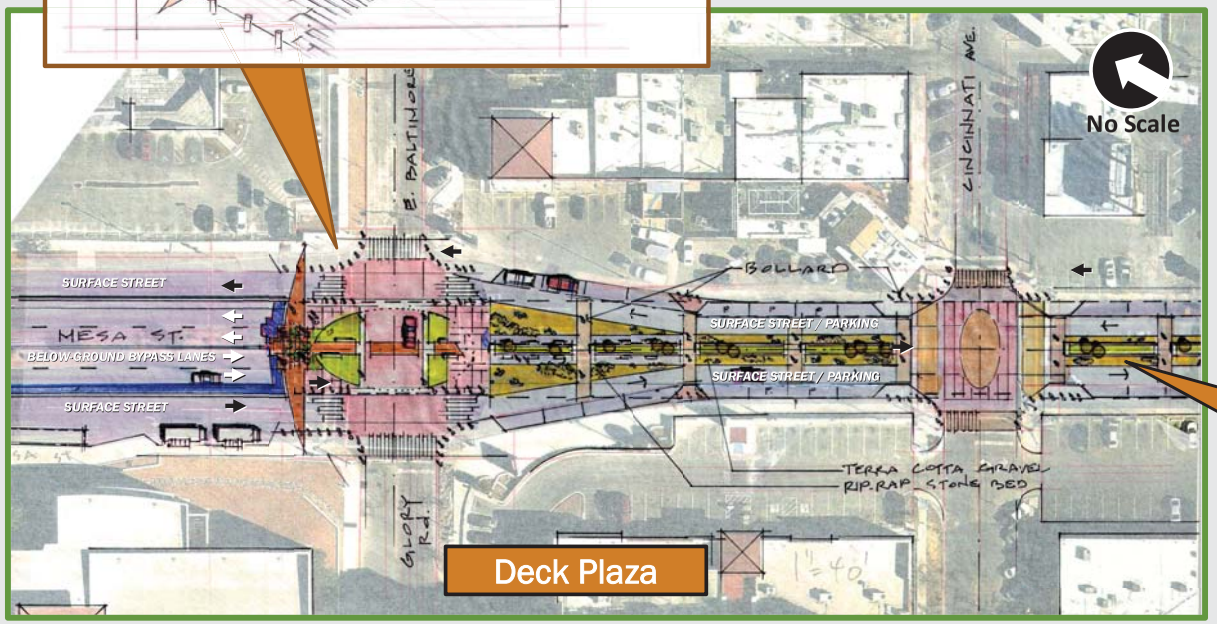
Mesa St @ Glory Rd / Baltimore Dr

L — Pedestrian Deck Plaza & Gateway Overlook



Gateway Overlook at Glory Rd

Crosswalk



Deck Plaza

Pickaxe Accent Theme

Interactive Survey

Survey Options:

- Complete the survey at this meeting using our laptop computers
- Complete the survey online at **www.txdot.gov**, keyword "Mesa Street" and **click on the survey link**
- Complete the survey from your smart phone using the QR code above and **click on the survey link**

Deadline for comments is Friday, February 23, 2018

Provide Comments

Submit a Comment after this Public Meeting:

Email: mesastreet@civilassociates.com

Phone: (915) 790-4233

Mail: Gus Sanchez
Project Manager
Re: Mesa Street
TxDOT El Paso District
13301 Gateway Blvd. West
El Paso, TX 79928-5410

*Comments must be received or postmarked on or before **Friday, February 23, 2018** to be included in the Public Meeting Summary.*

Thank you for attending!

- Please remember to submit your **comment form** and complete our **survey**
- For any further questions and information, please ask a study team member

APPENDIX H

SH 20 / Mesa Street

Measures of Effectiveness Evaluation Matrices / Maps

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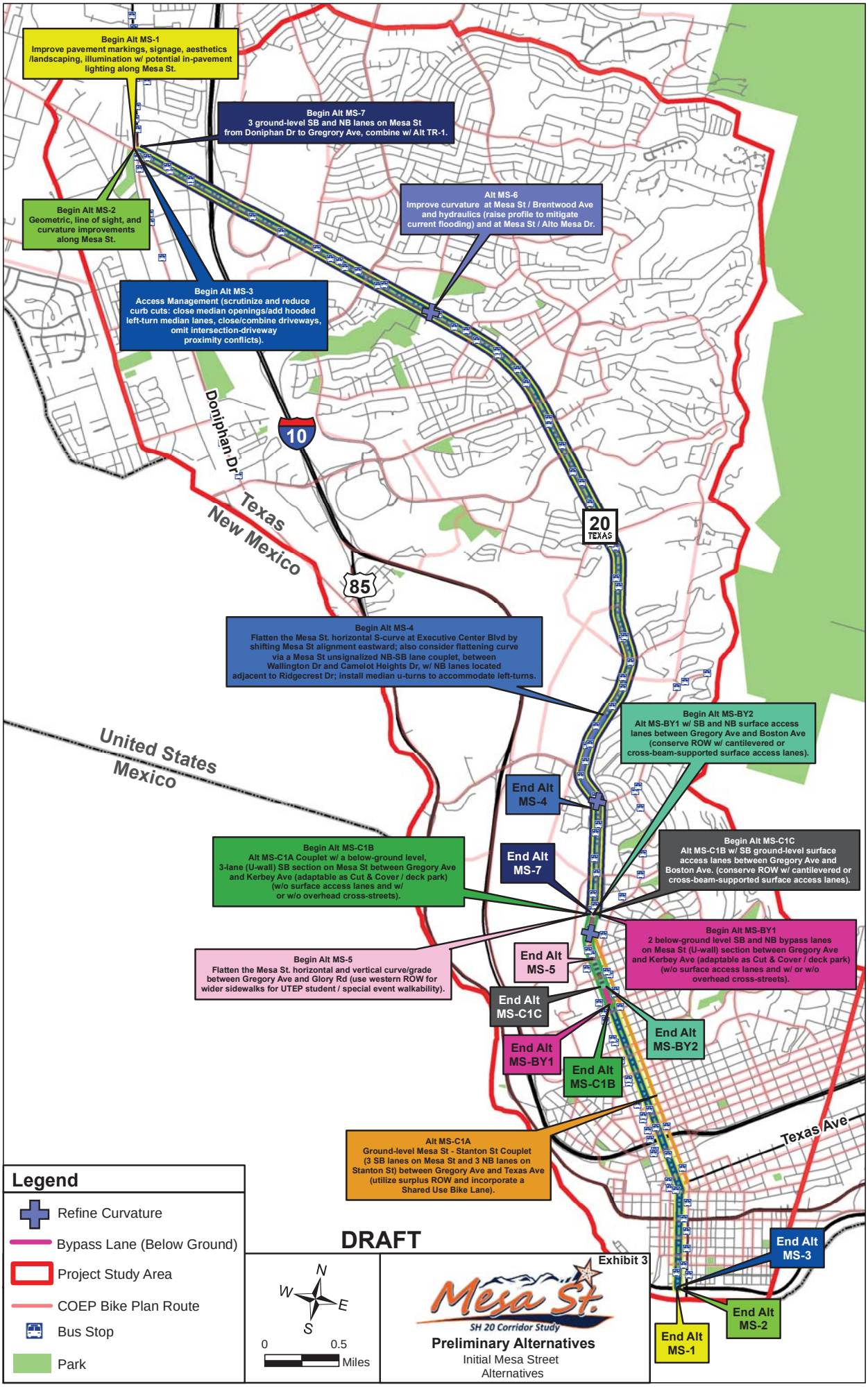
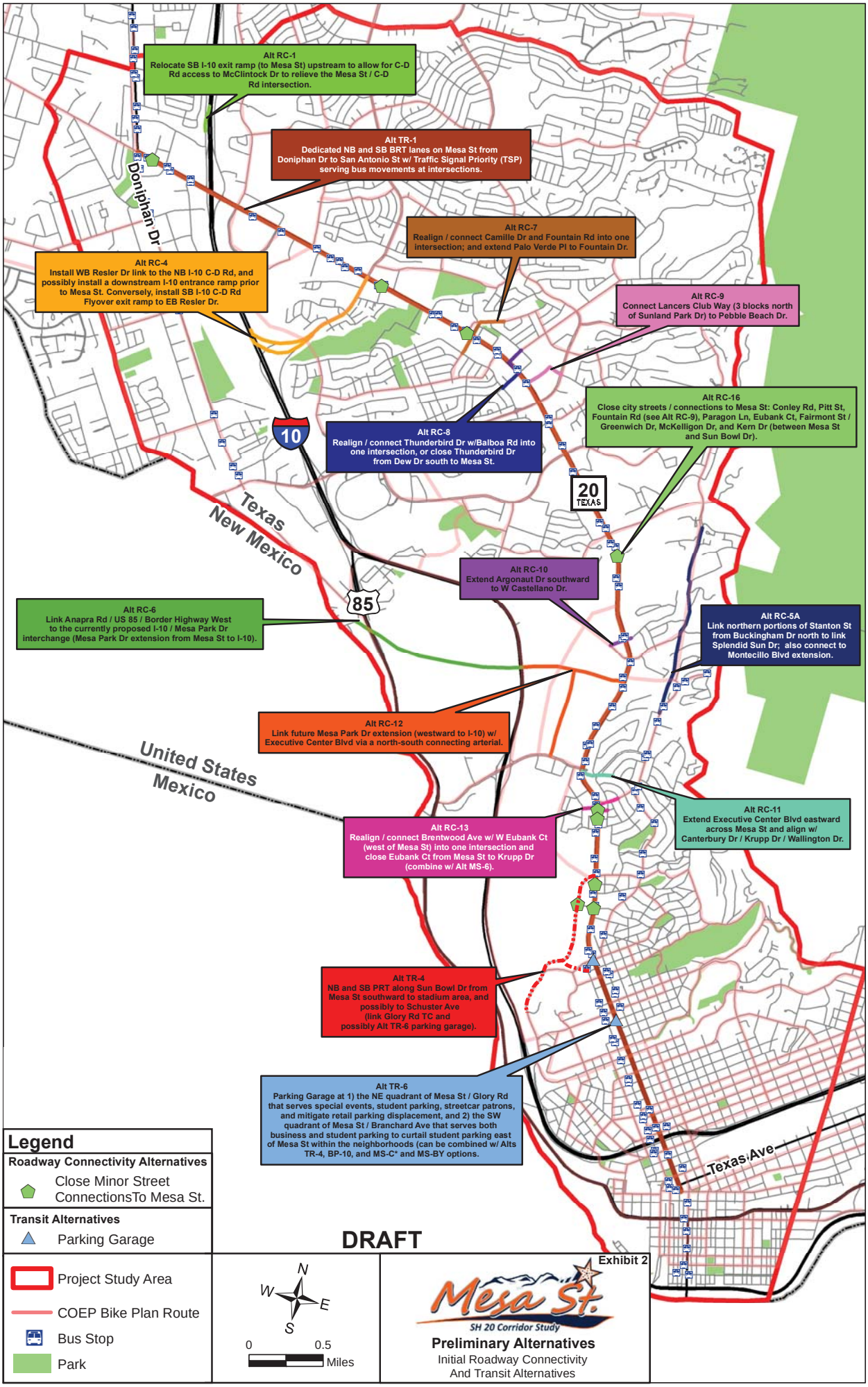
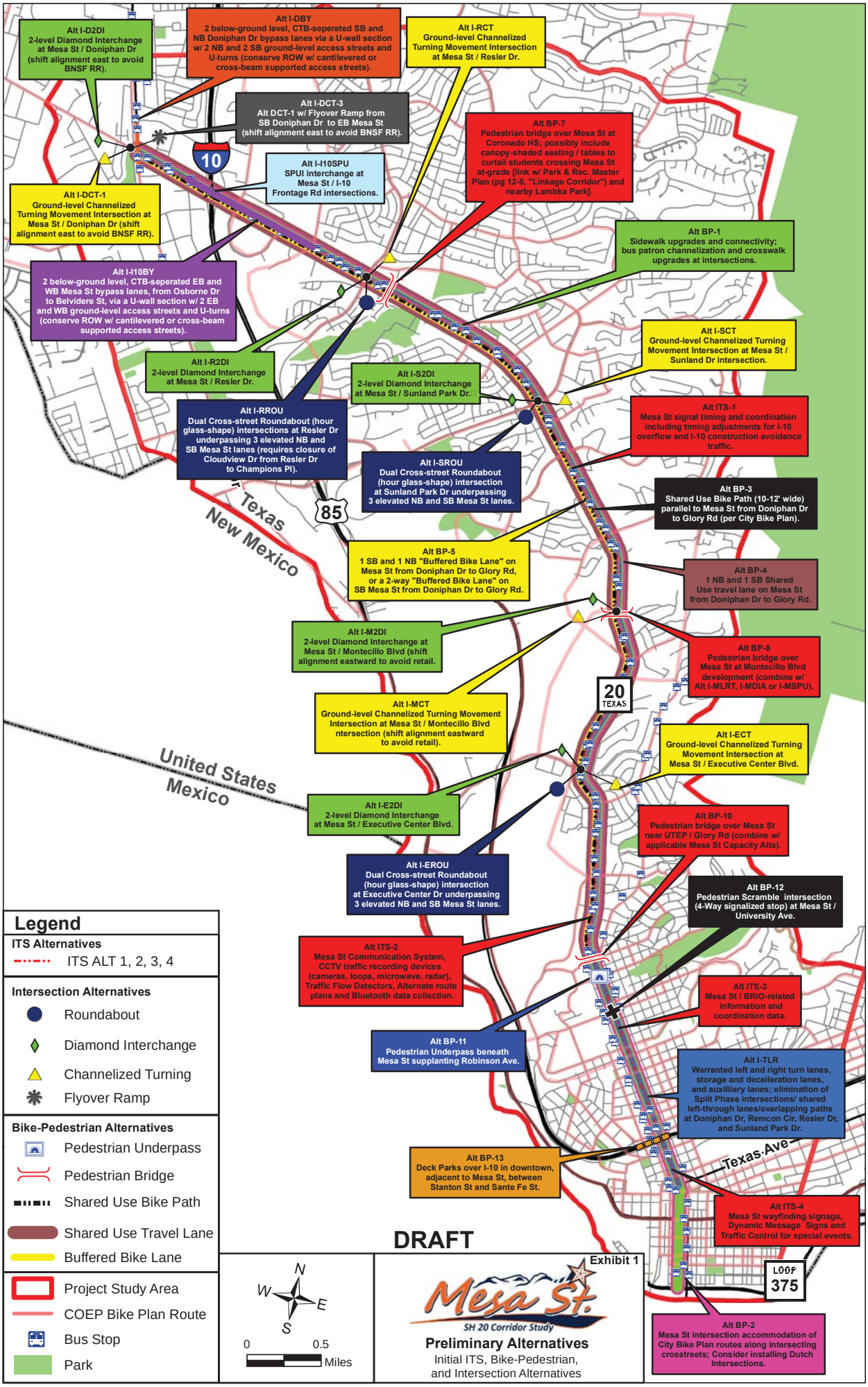

Begin Alt MS-1
Improve pavement markings, signage, aesthetics /landscaping, illumination w/ potential in-pavement lighting along Mesa St.
Begin Alt MS-7
3 ground-level SB and NB lanes on Mesa St from Doniphan Dr to Gregrory Ave, combine w/ Alt TR-1.
Begin Alt MS-2
Geometric, line of sight, and curvature improvements along Mesa St.
Alt MS-6
Improve curvature at Mesa St / Brentwood Ave and hydraulics (raise profile to mitigate current flooding) and at Mesa St / Alto Mesa Dr.
Begin Alt MS-3
Access Management (scrutinize and reduce curb cuts: close median openings/add hooded left-turn median lanes, close/combine driveways, omit intersection-driveway proximity conflicts).
Doniphan Dr
10
Texas
New Mexico
20
TEXAS
85
Begin Alt MS-4
Flatten the Mesa St. horizontal S-curve at Executive Center Blvd by shifting Mesa St alignment eastward; also consider flattening curve via a Mesa St unsignalized NB-SB lane couplet, between Wallington Dr and Camelot Heights Dr, w/ NB lanes located adjacent to Ridgecrest Dr; install median u-turns to accommodate left-turns.
Begin Alt MS-BY2
Alt MS-BY1 w/ SB and NB surface access lanes between Gregory Ave and Boston Ave (conserve ROW w/ cantilevered or cross-beam-supported surface access lanes).
United States
Mexico
End Alt MS-4
Begin Alt MS-C1B
Alt MS-C1A Couplet w/ a below-ground level, 3-lane (U-wall) SB section on Mesa St between Gregory Ave and Kerbey Ave (adaptable as Cut & Cover / deck park) (w/o surface access lanes and w/ or w/o overhead cross-streets).
End Alt MS-7
Begin Alt MS-C1C
Alt MS-C1B w/ SB ground-level surface access lanes between Gregory Ave and Boston Ave. (conserve ROW w/ cantilevered or cross-beam-supported surface access lanes).
Begin Alt MS-BY1
2 below-ground level SB and NB bypass lanes on Mesa St (U-wall) section between Gregory Ave and Kerbey Ave (adaptable as Cut & Cover / deck park) (w/o surface access lanes and w/ or w/o overhead cross-streets).
Begin Alt MS-5
Flatten the Mesa St. horizontal and vertical curve/grade between Gregory Ave and Glory Rd (use western ROW for wider sidewalks for UTEP student / special event walkability).
End Alt MS-5
End Alt MS-C1C
End Alt MS-BY1
End Alt MS-BY2
End Alt MS-C1B
Texas Ave
Alt MS-C1A
Ground-level Mesa St - Stanton St Couplet (3 SB lanes on Mesa St and 3 NB lanes on Stanton St) between Gregory Ave and Texas Ave (utilize surplus ROW and incorporate a Shared Use Bike Lane).
Legend
Refine Curvature
Bypass Lane (Below Ground)
Project Study Area
COEP Bike Plan Route
Bus Stop
Park
DRAFT
N
W
E
S
0
0.5
Miles
Exhibit 3
Mesa St.
SH 20 Corridor Study
Preliminary Alternatives
Initial Mesa Street Alternatives
End Alt MS-3
End Alt MS-2
End Alt MS-1


Alt RC-1
Relocate SB I-10 exit ramp (to Mesa St) upstream to allow for C-D Rd access to McClintock Dr to relieve the Mesa St / C-D Rd intersection.
Alt TR-1
Dedicated NB and SB BRT lanes on Mesa St from Doniphan Dr to San Antonio St w/ Traffic Signal Priority (TSP) serving bus movements at intersections.
Doniphan Dr
Alt RC-7
Realign / connect Camille Dr and Fountain Rd into one intersection; and extend Palo Verde Pl to Fountain Dr.
Alt RC-4
Install WB Resler Dr link to the NB I-10 C-D Rd, and possibly install a downstream I-10 entrance ramp prior to Mesa St. Conversely, install SB I-10 C-D Rd Flyover exit ramp to EB Resler Dr.
Alt RC-9
Connect Lancers Club Way (3 blocks north of Sunland Park Dr) to Pebble Beach Dr.
Alt RC-16
Close city streets / connections to Mesa St: Conley Rd, Pitt St, Fountain Rd (see Alt RC-9), Paragon Ln, Eubank Ct, Fairmont St / Greenwich Dr, McKelligon Dr, and Kern Dr (between Mesa St and Sun Bowl Dr).
10
Alt RC-8
Realign / connect Thunderbird Dr w/Balboa Rd into one intersection, or close Thunderbird Dr from Dew Dr south to Mesa St.
20
TEXAS
Texas
New Mexico
Alt RC-10
Extend Argonaut Dr southward to W Castellano Dr.
85
Alt RC-6
Link Anapra Rd / US 85 / Border Highway West to the currently proposed I-10 / Mesa Park Dr interchange (Mesa Park Dr extension from Mesa St to I-10).
Alt RC-5A
Link northern portions of Stanton St from Buckingham Dr north to link Splendid Sun Dr; also connect to Montecillo Blvd extension.
Alt RC-12
Link future Mesa Park Dr extension (westward to I-10) w/ Executive Center Blvd via a north-south connecting arterial.
United States
Mexico
Alt RC-11
Extend Executive Center Blvd eastward across Mesa St and align w/ Canterbury Dr / Krupp Dr / Wallington Dr.
Alt RC-13
Realign / connect Brentwood Ave w/ W Eubank Ct (west of Mesa St) into one intersection and close Eubank Ct from Mesa St to Krupp Dr (combine w/ Alt MS-6).
Alt TR-4
NB and SB PRT along Sun Bowl Dr from Mesa St southward to stadium area, and possibly to Schuster Ave (link Glory Rd TC and possibly Alt TR-6 parking garage).
Alt TR-6
Parking Garage at 1) the NE quadrant of Mesa St / Glory Rd that serves special events, student parking, streetcar patrons, and mitigate retail parking displacement, and 2) the SW quadrant of Mesa St / Branchard Ave that serves both business and student parking to curtail student parking east of Mesa St within the neighborhoods (can be combined w/ Alts TR-4, BP-10, and MS-C* and MS-BY options.
Texas Ave
Legend
Roadway Connectivity Alternatives
Close Minor Street ConnectionsTo Mesa St.
Transit Alternatives
Parking Garage
DRAFT
Project Study Area
COEP Bike Plan Route
Bus Stop
Park
N
W
E
S
0
0.5
Miles
Exhibit 2
Mesa St.
SH 20 Corridor Study
Preliminary Alternatives
Initial Roadway Connectivity
And Transit Alternatives


Alt I-D2DI
2-level Diamond Interchange at Mesa St / Doniphan Dr (shift alignment east to avoid BNSF RR).
Alt I-DBY
2 below-ground level, CTB-seperated SB and NB Doniphan Dr bypass lanes via a U-wall section w/ 2 NB and 2 SB ground-level access streets and U-turns (conserve ROW w/ cantilevered or cross-beam supported access streets).
Alt I-RCT
Ground-level Channelized Turning Movement Intersection at Mesa St / Resler Dr.
Alt I-DCT-3
Alt DCT-1 w/ Flyover Ramp from SB Doniphan Dr to EB Mesa St (shift alignment east to avoid BNSF RR).
Alt BP-7
Pedestrian bridge over Mesa St at Coronado HS; possibly include canopy-shaded seating / tables to curtail students crossing Mesa St at-grade [link w/ Park & Rec. Master Plan (pg 12-8, "Linkage Corridor") and nearby Lambka Park].
10
Alt I-I10SPU
SPUI interchange at Mesa St / I-10 Frontage Rd intersections.
Alt I-DCT-1
Ground-level Channelized Turning Movement Intersection at Mesa St / Doniphan Dr (shift alignment east to avoid BNSF RR).
Alt BP-1
Sidewalk upgrades and connectivity; bus patron channelization and crosswalk upgrades at intersections.
Alt I-I10BY
2 below-ground level, CTB-seperated EB and WB Mesa St bypass lanes, from Osborne Dr to Belvidere St, via a U-wall section w/ 2 EB and WB ground-level access streets and U-turns (conserve ROW w/ cantilevered or cross-beam supported access streets).
Alt I-SCT
Ground-level Channelized Turning Movement Intersection at Mesa St / Sunland Dr intersection.
Alt I-R2DI
2-level Diamond Interchange at Mesa St / Resler Dr.
Alt I-S2DI
2-level Diamond Interchange at Mesa St / Sunland Park Dr.
Alt I-RROU
Dual Cross-street Roundabout (hour glass-shape) intersections at Resler Dr underpassing 3 elevated NB and SB Mesa St lanes (requires closure of Cloudview Dr from Resler Dr to Champions Pl).
Alt ITS-1
Mesa St signal timing and coordination including timing adjustments for I-10 overflow and I-10 construction avoidance traffic.
Alt I-SROU
Dual Cross-street Roundabout (hour glass-shape) intersection at Sunland Park Dr underpassing 3 elevated NB and SB Mesa St lanes.
Alt BP-3
Shared Use Bike Path (10-12' wide) parallel to Mesa St from Doniphan Dr to Glory Rd (per City Bike Plan).
Texas
New Mexico
85
Alt BP-5
1 SB and 1 NB "Buffered Bike Lane" on Mesa St from Doniphan Dr to Glory Rd, or a 2-way "Buffered Bike Lane" on SB Mesa St from Doniphan Dr to Glory Rd.
Alt BP-4
1 NB and 1 SB Shared Use travel lane on Mesa St from Doniphan Dr to Glory Rd.
Alt I-M2DI
2-level Diamond Interchange at Mesa St / Montecillo Blvd (shift alignment eastward to avoid retail.
Alt BP-8
Pedestrian bridge over Mesa St at Montecillo Blvd development (combine w/ Alt I-MLRT, I-MDIA or I-MSPU).
20
TEXAS
Alt I-MCT
Ground-level Channelized Turning Movement Intersection at Mesa St / Montecillo Blvd ntersection (shift alignment eastward to avoid retail).
Alt I-ECT
Ground-level Channelized Turning Movement Intersection at Mesa St / Executive Center Blvd.
United States
Mexico
Alt I-E2DI
2-level Diamond Interchange at Mesa St / Executive Center Blvd.
Alt BP-10
Pedestrian bridge over Mesa St near UTEP / Glory Rd (combine w/ applicable Mesa St Capacity Alts).
Alt I-EROU
Dual Cross-street Roundabout (hour glass-shape) intersection at Executive Center Dr underpassing 3 elevated NB and SB Mesa St lanes.
Alt BP-12
Pedestrian Scramble intersection (4-Way signalized stop) at Mesa St / University Ave.
Alt ITS-2
Mesa St Communication System, CCTV traffic recording devices (cameras, loops, microwave, radar), Traffic Flow Detectors, Alternate route plans and Bluetooth data collection.
Alt ITS-3
Mesa St / BRIO-related information and coordination data.
Alt BP-11
Pedestrian Underpass beneath Mesa St supplanting Robinson Ave.
Alt I-TLR
Warranted left and right turn lanes, storage and decelleration lanes, and auxilliary lanes; elimination of Split Phase intersections/ shared left-through lanes/overlapping paths at Doniphan Dr, Remcon Cir, Resler Dr, and Sunland Park Dr.
Alt BP-13
Deck Parks over I-10 in downtown, adjacent to Mesa St, between Stanton St and Sante Fe St.
Texas Ave
Alt ITS-4
Mesa St wayfinding signage, Dynamic Message Signs and Traffic Control for special events.
LOOP
375
Alt BP-2
Mesa St intersection accommodation of City Bike Plan routes along intersecting crosstreets; Consider installing Dutch Intersections.
Legend
ITS Alternatives
ITS ALT 1, 2, 3, 4
Intersection Alternatives
Roundabout
Diamond Interchange
Channelized Turning
Flyover Ramp
Bike-Pedestrian Alternatives
Pedestrian Underpass
Pedestrian Bridge
Shared Use Bike Path
Shared Use Travel Lane
Buffered Bike Lane
Project Study Area
COEP Bike Plan Route
Bus Stop
Park
DRAFT
N
W
E
S
0
0.5
Miles
Exhibit 1
Mesa St.
SH 20 Corridor Study
Preliminary Alternatives
Initial ITS, Bike-Pedestrian, and Intersection Alternatives

Universe of Alternatives Summary Matrix
Level 1 Screening for Need and Purpose
(Qualitative - Fatal Flaw Analysis)

	Safety		Congestion Relief				Transportation Reliability	
Need	Frequency of vehicular, bike and pedestrian crashes along the Mesa St (SH20) corridor.		High vehicular traffic volumes along the Mesa St. (SH 20) corridor and at the corridor's signalized intersections. Compromised traffic flow due to numerous driveway and median opening locations. Lack of optimum, multi-modal elements along the Mesa St. (SH 20) corridor.				Unreliable, unpredictable, and inconsistent travel times along the Mesa St. (SH 20) corridor.	Meets Study Purpose / Carry Forward? (Y/N)
Purpose	Improve safety and decrease fatalities along the corridor, particularly at crash-prone locations. Integrate multi-modal solutions and features that are safe, alternative modes of transportation.		Improve the Level of Service (LOS) along the corridor for projected 2040 volumes. Optimize driveway and median openings along the corridor. Create and integrate multi-modal transportation elements.				Create and / or incorporate transit, TSM and other time-saving improvements.	
	Measure		Measure				Measure	
Alt No.[1]	Does the alternative include, accommodate or upgrade roadway-related safety features?	Does the alternative incorporate or accommodate a safer means to move transit, pedestrians and bicyclists?	Mesa St. and Intersection LOS	Does the alternative support or compliment Mesa St access management control measures?	Is the alternative transit supportive; does not overall negatively impact Local Bus and BRT operations?	Is the alternative consistent with, or likely to be supported by or integrated into local planning agency documents / plans: City Thoroughfare Plan, City Bike Plan, MTP[4], etc.)?	Does the alternative increase capacity and average speed, lessen queue lengths and delays, and / or improve LOS?	
	Y/N	Y/N	Rating (++, +, O, -, --)	Y/N	Y/N	Y/N	Y/N	
No-Build Alternatives								
No-Build 1[2]	N	N	--	N	N	N	N	Y[5] ✓
No-Build 2[3]	N	N	--	N	N	N	N	N ✗
ITS Alternatives								
Alt ITS-1	Y	Y	+	N	Y	Y	Y	Y ✓
Alt ITS-2	Y	Y	+	N	Y	Y	Y	Y ✓
Alt ITS-3	Y	Y	+	N	Y	Y	Y	Y ✓
Alt ITS-4	Y	Y	O	Y	Y	Y	Y	Y ✓
Bike-Pedestrian Alternatives								
Alt BP-1	Y	Y	O	N	Y	Y	N	Y ✓
Alt BP-2	Y	Y	O	N	Y	Y	Y	Y ✓
Alt BP-3	Y	N	O	N	Y	N	Y	Y ✓
Alt BP-4	Y	N	-	N	Y	Y	N	Y ✓
Alt BP-5	Y	Y	O	N	Y	Y	Y	Y ✓
Alt BP-6	Y	Y	O	N	Y	Y	N	N ✗
Alt BP-7	Y	Y	+	N	Y	Y	Y	Y ✓
Alt BP-8	Y	Y	+	N	Y	Y	Y	N ✗
Alt BP-9	N	N	O	N	N	O	Y	N ✗
Alt BP-10	Y	Y	+	N	Y	Y	Y	Y ✓
Alt BP-11	Y	N	+	Y	Y	Y	Y	Y ✓
Alt BP-12	Y	Y	O	N	Y	Y	N	Y ✓
Alt BP-13	Y	Y	O	N	Y	Y	N	Y ✓
Alt BP-14	Y	Y	+	N	Y	Y	N	Y ✓
Alt BP-15	Y	Y	-	Y	Y	N	N	Y ✓
Intersection Alternatives								
Alt I-TLR	Y	Y	++	Y	Y	Y	Y	Y ✓
Alt I-ROU	N	N	--	Y	Y	N	N	N ✗
Alt I-CFI	N	N	+	Y	N	N	Y	N ✗
Alt I-DRO1	N	Y	++	Y	N	Y	Y	N ✗
Alt I-DCT-1	Y	Y	+	Y	N	Y	Y	Y ✓
Alt I-DCT-2	Y	Y	+	Y	Y	N	Y	N ✗
Alt I-DCT-3	Y	Y	+	Y	Y	Y	Y	Y ✓
Alt I-D2DI	Y	Y	++	Y	Y	Y	Y	Y ✓
Alt I-DRO2	Y	Y	++	Y	Y	N	Y	N ✗
Alt I-DBY	Y	Y	++	Y	Y	Y	Y	Y ✓
Alt I-I10BY	Y	Y	++	Y	Y	Y	Y	Y ✓
Alt I-I10SPU	Y	Y	++	Y	Y	Y	Y	Y ✓
Alt I-RCT	Y	Y	+	Y	N	Y	Y	Y ✓
Alt I-R2DI	Y	Y	++	Y	N	Y	Y	Y ✓
Alt I-RROU	Y	Y	++	Y	N	Y	Y	Y ✓
Alt I-SCT	Y	Y	+	Y	N	Y	Y	Y ✓
Alt I-S2DI	Y	Y	++	Y	N	Y	Y	Y ✓
Alt I-SROU	Y	Y	++	Y	N	Y	Y	Y ✓
Alt I-MCT	Y	Y	+	Y	N	Y	Y	Y ✓
Alt I-M2DI	Y	Y	++	Y	N	Y	Y	Y ✓
Alt I-MBY	N	Y	++	Y	Y	Y	Y	N ✗
Alt I-ECT	Y	Y	+	Y	N	Y	Y	Y ✓
Alt I-E2DI	Y	Y	++	Y	N	Y	Y	Y ✓
Alt I-EROU	Y	Y	++	Y	N	Y	Y	Y ✓
Alt I-ETRU	Y	Y	++	Y	Y	Y	Y	Y ✓
Alt I-EGT	Y	Y	++	Y	Y	Y	Y	Y ✓
Alt I-EUTN	Y	Y	-	Y	Y	Y	N	Y ✓
Alt I-SAROU	Y	Y	O	Y	Y	Y	N	Y ✓
Alt I-9ROU	Y	Y	+	Y	Y	Y	N	Y ✓
Roadway Connectivity Alternatives								
Alt RC-1	Y	Y	+	N	Y	Y	Y	Y ✓
Alt RC-2	N	Y	+	N	Y	Y	Y	N ✗
Alt RC-3	Y	Y	++	N	Y	Y	Y	N ✗
Alt RC-4	Y	Y	+	N	Y	Y	Y	Y ✓
Alt RC-5A	Y	Y	+	N	Y	Y	Y	Y ✓
Alt RC-5B	Y	Y	+	N	Y	N	Y	N ✗
Alt RC-5C	Y	Y	+	N	Y	N	Y	N ✗
Alt RC-6	N	Y	O	N	Y	Y	N	N ✗
Alt RC-7	Y	Y	O	Y	Y	Y	Y	Y ✓
Alt RC-8	Y	Y	O	Y	Y	Y	Y	Y ✓
Alt RC-9	Y	Y	O	N	Y	Y	N	Y ✓
Alt RC-10	N	Y	+	N	Y	Y	N	N ✗
Alt RC-11	N	Y	+	N	Y	N	N	N ✗
Alt RC-12	Y	Y	+	N	Y	Y	Y	Y ✓
Alt RC-13	Y	Y	O	Y	Y	Y	Y	Y ✓
Alt RC-14	N	N	O	N	N	Y	Y	N ✗
Alt RC-15	Y	Y	O	N	N	N	N	N ✗
Alt RC-16	Y	Y	+	Y	Y	Y	Y	Y ✓
Alt RC-17	Y	N	+	N	Y	Y	Y	Y ✓
Alt RC-18	Y	N	+	N	Y	N	Y	Y ✓
Transit Alternatives								
Alt TR-1	Y	Y	-	N	Y	Y	Y	Y ✓
Alt TR-2	N	N	-	Y	Y	Y	Y	N ✗
Alt TR-3	N	Y	O	N	Y	Y	N	N ✗
Alt TR-4	N	Y	O	N	Y	Y	Y	Y ✓
Alt TR-5	N	N	O	N	Y	Y	N	N ✗
Alt TR-6	Y	Y	O	N	Y	Y	N	Y ✓
Alt TR-7	Y	Y	O	N	Y	Y	N	Y ✓
SH 20 / Mesa Street Alternatives								
Alt MS-1	Y	Y	O	Y	Y	Y	Y	Y ✓
Alt MS-2	Y	Y	O	Y	Y	Y	Y	Y ✓
Alt MS-3	Y	Y	+	Y	Y	Y	Y	Y ✓
Alt MS-4	Y	Y	O	Y	Y	Y	Y	Y ✓
Alt MS-5	Y	Y	O	Y	Y	Y	Y	Y ✓
Alt MS-6	Y	Y	O	Y	Y	Y	Y	Y ✓
Alt MS-7	Y	Y	+	Y	Y	Y	Y	Y ✓
Alt MS-C1A	Y	Y	+	Y	Y	Y	Y	Y ✓
Alt MS-C1B	Y	Y	++	Y	N	Y	Y	Y ✓
Alt MS-C1C	Y	Y	++	Y	Y	Y	Y	Y ✓
Alt MS-C2	N	Y	+	Y	Y	N	Y	N ✗
Alt MS-BY1	Y	Y	+	Y	N	Y	Y	Y ✓
Alt MS-BY2	Y	Y	+	Y	Y	Y	Y	Y ✓
Alt MS-ELE	Y	Y	++	Y	Y	N	Y	N ✗
Alt MS-REV	N	N	O	Y	Y	N	Y	N ✗

NOTES:

This **Level 1** Screening phase identifies alternatives that pass the fatal flaw evaluation. Qualitative fatal flaw criteria was utilized to evaluate and screen the Universe of Alternatives against the Purpose and Need. Alternatives determined to meet the Purpose and Need were carried forward to the **Level 2** Screening as Preliminary Alternatives for further development and Qualitative evaluation. In the subsequent **Level 3** Screening, the Preliminary Alternatives carried forward from **Level 2** were combined and evaluated in greater detail as Reasonable / Combined Build Alternatives and rated with Quantitative criteria, measures, and data to validate each Reasonable / Combined Build Alternative.

[1] Alts. do not include detailed options such as illumination, pavement markings, signage, crosswalk/sidewalk/bus stop locations, posted speeds, and landscaping and utility pole location issues that will instead be addressed in the Master Plan.

[2] Baseline condition in the study area; no additional improvements are implemented other than those already programmed (fiscally constrained in Horizon 2040 MTP).

[3] Baseline condition in the study area; no additional improvements are implemented other than those already programmed (fiscally constrained in Horizon 2040 MTP with tolls only applied to the Border Hwy West).

[4] The current Horizon 2040 MTP is a planning document that can be amended to adopt local planning proposals such as the Mesa St. - SH 20 Corridor Study final recommendations.

[5] Carry forward for comparison purposes.

Universe of Alternatives Details Matrix
Level 1 Screening for Need and Purpose
(Qualitative - Fatal Flaw Analysis)

	Safety	Congestion Relief	Transportation Reliability	Meets Study Purpose / Carry Forward? (Y/N)
Need	Frequency of vehicular, bike and pedestrian crashes along the Mesa St (SH 20) corridor.	High vehicular traffic volumes along the Mesa St. (SH 20) corridor and at the corridor's signalized intersections. Compromised traffic flow due to numerous driveway and median opening locations. Lack of optimum, multi-modal elements along the Mesa St. (SH 20) corridor.	Unreliable, unpredictable, and inconsistent travel times along the Mesa St. (SH 20) corridor.	
Purpose	Improve safety and decrease fatalities along the corridor, particularly at crash-prone locations. Integrate multi-modal solutions and features that are safe, alternative modes of transportation.	Improve the Level of Service (LOS) along the corridor for projected 2040 volumes. Optimize driveway and median openings along the corridor. Create and intregate multi-modal transportation elements.	Incorporate transit and TSM improvements that compliment roadway capacity improvements.	
Universe of Alternatives[1]	**Measure**	**Measure**	**Measure**	

Alt No.	Alternative Description	Does the alternative include, accommodate or upgrade roadway-related safety features? Y/N	Evaluation	Does the alternative incorporate or accommodate a safer means to move pedestrians and bicyclists? Y/N	Evaluation	Anticipated Mesa St. and Intersection LOS Rating (++,+,0,-,--)	Evaluation	Does the alternative support or compliment Mesa St access management control measures? Y/N	Evaluation	Is the alternative transit supportive; does not overall negatively impact Local Bus and BRT operations? Y/N	Evaluation	Is the alternative consistent with, or likely to be supported by or integrated into local planning (agency documents / plans: City Thoroughfare Plan, City Bike Plan, MTP[2], etc.)? Y/N	Evaluation	Does the alternative increase capacity and average speed, lessen queue lengths and delays, and / or improve LOS? Y/N	Evaluation	
No-Build Alternatives																
No-Build 1	All current planned transportation improvements in the MPO Horizon 2040 Travel Demand Model.	N	This alternative is not anticipated to significantly lessen crashes specific to the Mesa St corridor.	N	This alternative is not anticipated to significantly improve walkability and bikeability specific to the Mesa St corridor.	--	This alternative is not anticipated to improve the LOSs within the Mesa St corridor, particularly when taking into account the forecast Mesa St traffic growth between 2016 and 2040.	N	This alternative does not address or improve Mesa St access management concerns or issues.	N	This alternative is not considered optimally transit supportive to the Mesa St corridor bus / BRT operations.	N	Since this alternative does not significantly improve travel conditions along Mesa St, this alternative is not anticipated to be supported by local planning (City) efforts.	N	This alternative does not improve current and future LOS conditions along Mesa St.	Y[3] ✓
No-Build 2	All current planned transportation improvements in the MPO Horizon 2040 Travel Demand Model w/ tolls only applied to the Border West Hwy	N	This alternative is not anticipated to significantly lessen crashes specific to the Mesa St corridor.	N	This alternative is not anticipated to significantly improve walkability and bikeability specific to the Mesa St corridor.	--	This alternative is not anticipated to improve the LOSs within the Mesa St corridor, particularly when taking into account the forecast Mesa St traffic growth between 2016 and 2040.	N	This alternative does not address or improve Mesa St access management concerns or issues.	N	This alternative is not considered optimally transit supportive to the Mesa St corridor bus / BRT operations.	N	Since this alternative does not significantly improve travel conditions along Mesa St, this alternative is not anticipated to be supported by local planning (City) efforts.	N	This alternative does not improve current and future LOS conditions along Mesa St.	N ✗
ITS Alternatives																
Alt ITS-1	Mesa St signal timing and coordination including timing adjustments for I-10 overflow and I-10 construction avoidance traffic	Y	This alternative would adjust the signal timing to provide a safe means to navigate each Mesa St intersection.	Y	Depending on Mesa St vehicular travel demand, this alternative may or may not ultimately adjust the signal timing for optimum pedestrian and bicyclists and school crosswalk crossings.	+	This alternative would optimally move traffic through each Mesa St intersection, depending on each intersection's traffic volume demand. Resler Dr traffic demand may be a concern.	N	This alternative is not directly support or compliment access management control.	Y	This alternative is anticipated to directly or indirectly benefit and support bus / BRT operations.	Y	This alternative is anticipated to be supported by local planning (City) efforts. Sun Metro currently uses Opticom line-of-sight emitters/detectors for TSP, switching to a GPS-based system would improve BRT operations for TSP.	Y	This alternative is anticipated to enhance, and have an overall positive effect, on travel movements within the Mesa St corridor.	Y ✓
Alt ITS-2	Mesa St Communication System, CCTV traffic recording devices (cameras, loops, microwave, radar), Traffic Flow Detectors, Alternate route plans and Bluetooth data collection	Y	Dynamic messaging associated with this alternative can improve traveler awareness and safety for all modes within the Mesa St corridor.	Y	Since this alternative involves congestion relief, via real time traveler info, and couple w/ bicycle detection, may reduce congestion for the benefit pedestrians and bicyclists.	+	This alternative would possibly manage traffic movements w/ real time traffic info / messaging that allows Mesa St travelers to optimally plan their trips along Mesa St by avoiding peak hour congestion zones.	N	This alternative is not directly support or compliment access management control.	Y	This alternative is anticipated to directly or indirectly benefit and support bus / BRT operations.	Y	This alternative is anticipated to be supported by local planning (City) efforts. Sun Metro currently uses Opticom line-of-sight emitters/detectors for TSP, switching to a GPS-based system would improve BRT operations for TSP.	Y	This alternative is anticipated to enhance, and have an overall positive effect, on travel movements within the Mesa St corridor.	Y ✓
Alt ITS-3	Mesa St / BRTO-related information and coordination data	Y	This alternative would compliment travel safety along Mesa St, particulary bus patron walkability / loading / unloading.	Y	This alternative is anticipated to compliment travel safety, particulary bus patron walkability / loading / unloading.	+	When combined w/ the other ITS Alts, this alternative is anticipated to improve the Mesa St LOS.	N	This alternative is not directly support or compliment access management control.	Y	This alternative is anticipated to directly or indirectly benefit and support bus / BRT operations.	Y	This alternative is anticipated to be supported by local planning (City) efforts. Sun Metro currently uses Opticom line-of-sight emitters/detectors for TSP, switching to a GPS-based system would improve BRT operations for TSP.	Y	This alternative is anticipated to enhance, and have an overall positive effect, on travel movements within the Mesa St corridor.	Y ✓
Alt ITS-4	Mesa St wayfinding signage, Dynamic Message Signs, and Traffic Control for special events	Y	This alternative would provide safety-signage and signalization in combination w/ special event traffic management measures carried out by local law enforcement.	Y	Improved signage and traffic control would directly and indirectly improve pedestrian and bicyclist safety.	O	When combined w/ the other ITS Alts, this alternative may improve the Mesa St LOS.	Y	Signage upgrades associated with this alternative would benefit travel across movements / turns along Mesa St that may be associated w/ access management control measures.	Y	This alternative is anticipated to directly or indirectly benefit and support bus / BRT operations.	Y	This alternative is anticipated to be supported by local planning (City) efforts. Sun Metro currently uses Opticom line-of-sight emitters/detectors for TSP, switching to a GPS-based system would improve BRT operations for TSP.	Y	This alternative is anticipated to enhance, and have an overall positive effect, on travel movements within the Mesa St corridor.	Y ✓
Bike-Pedestrian Alternatives																
Alt BP-1	Sidewalk upgrades and connectivity, bus patron channelization and crosswalk upgrades at intersections	Y	This alternative is anticipated to increase non-vehicular travel safety along or across Mesa St.	Y	This alternative would accommodate pedestrian movements along Mesa St and its intersections.	O	This alternative is not anticipated to have a significant effect on the Mesa St. LOSs.	N	This alternative does not address or improve Mesa St access management control measures.	Y	This alternative's accommodation of the bus patron movements at bus stations can compliment and support the bus / BRT operations.	Y	This alternative is anticipated to be supported by local planning (City) efforts.	N	This alternative is not anticipated to improve the Mesa St LOS.	Y ✓
Alt BP-2	Mesa St intersection accommodation of City Bike Plan routes along intersecting crosstreets; Consider installing Dutch intersections	Y	This alternative is anticipated to increase non-vehicular travel safety along or across Mesa St.	Y	This alternative would accommodate bicyclist movements / routes across designated Mesa St intersections.	O	This alternative is not anticipated to have a significant effect on the Mesa St. LOSs.	N	This alternative does not address or improve Mesa St access management control measures.	Y	This alternative's accommodation of the Bike Plan routes can compliment and support the bus / BRT stations and patrons along Mesa St.	Y	Since this alternative is based on the local (City) Bike Plan, it is anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to have an overall positive effect on the bikability of the Mesa St corridor and encourage non-vehicular travel and therefore possibly improve the Mesa St LOS.	Y ✓
Alt BP-3	"Shared Use" Bike Path (10-12' wide) parallel to Mesa St from Doniphan Dr to Glory Rd (per City Bike Plan) (If ROW is constrained, consider Shared Street/Bus Lane)	Y	This alternative may be regarded as a safety feature.	N	This alternative may present a safety concern since the paths users, particulary bicyclists, must traverse dozens of driveways and streets that intersect Mesa St.	O	This alternative is not anticipated to have a significant effect on the Mesa St. LOSs.	N	This alternative does not address or improve Mesa St access management control measures.	Y	This alternative's accommodation of the Bike Plan routes can compliment and support the bus / BRT stations and bus stop patrons along Mesa St.	N	Since this alternative is based on the local (City) Bike Plan, it is anticipated to be supported by local planning (City) efforts. However, multiple property impacts are foreseen in order to install the path. Carry forward as an option to accommodate bicyclists.	Y	This alternative is anticipated to have an overall positive effect on the bikability of the Mesa St corridor and encourage non-vehicular travel.	Y ✓
Alt BP-4	1 NB and 1 SB Shared Use travel lane on Mesa St from Doniphan Dr to Glory Rd	Y	This alternative may increase bicyclist travel safety along Mesa St by providing a 14ft outside Shared Use lane adjacent to the street curb.	N	This alternative may increase bicyclist travel safety along Mesa St by providing a 14ft outside Shared Use lane adjacent to the street curb. However, this may be compromised by drivers unfamiliar w/ sharing travel lanes.	-	This alternative may have a negative Mesa St LOS impact as drivers in the outside Shared Use lane slow down to avoid bicyclists in the same lane.	N	This alternative does not address or improve Mesa St access management control measures.	Y	This alternative may compliment and support bus / BRT stations and patron travel along the Mesa St corridor.	Y	This biking option may be supported by local planning (City) efforts, although a Mesa St shared lane will likely only be used by Type A cyclists; Types B and C will likely not use it.	N	This alternative may have a somewhat positive effect on bikability along Mesa St and encourage non-vehicular travel, however Mesa St LOS for vehicles traveling in the shared use lane may compromised by slower moving bicyclists particularly on inclined road segments.	Y ✓
Alt BP-5	1 SB and 1 NB "Buffered Bike Lane" on Mesa St from Doniphan Dr to Glory Rd, or a 2-way "Buffered Bike Lane" on SB Mesa St from Doniphan Dr to Glory Rd	Y	This alternative may increase bicyclist travel safety along Mesa St by providing a Buffered Bike Lane along Mesa St that is seperated from the vehicular lanes.	Y	This alternative may increase bicyclist travel safety along Mesa St by providing a Buffered Bike Lane along Mesa St that is seperated from the vehicular lanes.	O	This alternative is not anticipated to have a significant effect on the Mesa St. LOSs.	N	This alternative does not address or improve Mesa St access management control measures.	Y	This alternative can compliment and support bus / BRT stations and patron travel along the Mesa St corridor.	Y	Since the City Bike Plan currently earmarks a Shared Use bike path parallel to Mesa St, this biking option alternative is anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to have an overall positive effect on the bikability of the Mesa St corridor and encourage non-vehicular travel and therefore possibly improve the Mesa St LOS.	Y ✓
Alt BP-6	Bike Lane along the Desert Pass St extension (combine w/ Alt RC-3) (per City Bike Plan)	Y	This alternative may enahnce travel safety along Mesa St by providing bicyclists a route that avoids traveling on Mesa St.	Y	This alternative may increase bicyclist travel safety by providing bicyclists a route that avoids traveling on Mesa St.	O	This alternative is not anticipated to have a significant effect on the Mesa St. LOSs.	N	This alternative does not address or improve Mesa St access management control measures.	Y	This Bike Lane alternative can compliment and support bus / BRT stations and patron travel along the Mesa St corridor, particulary regarding the Bike Lane's access to the Westside Transfer Center.	N	Since this alternative originates from the City Bike Plan, it is anticipated to be supported by local planning (City) efforts.	N	This alternative is anticipated to have a somewhat significant effect on the bikability across the Mesa St corridor (at the Mesa St / Belvidere St intersection) but does not significantly improve the Mesa St LOS. However, since Alt RC-3 was not carried forward this Alt will not be carried forward.	N ✗
Alt BP-7	Pedestrian bridge over Mesa St at Coronado HS; possibly include canopy-shaded seating; tables to curtail students from crossing Mesa St at ground level [link w/ CCISP Park & Rec. Master Plan (pg 12-8, "Linkage Corridor"); and nearby Lambka Park]	Y	This alternative may lessen foot and bike traffic across Mesa St. and therefore have an overall positive effect on lessening bike / pedestrian / vehicular crashes on Mesa St.	Y	This alternative would safely separate and route bike and pedestrian movements over Mesa St, particularly for lunch hour students who patronize businesses on the west side of Mesa St.	+	This alternative may lessen the Mesa St crosswalk / green time for pedestrian movements and thereby increase the Mesa St LOS.	N	This alternative does not address or improve Mesa St access management control measures.	Y	This Pedestrian Bridge alternative may compliment and support the bus / BRT stations and patron travel along the Mesa St corridor, particulary regarding patron access to and from Coronado HS.	Y	This alternative may possibly be supported by local planning (City) efforts, although HS and ISP School District feedback and input would need to be pursued.	Y	This alternative is anticipated to have an overall positive effect on reducing bike / pedestrian / vehicular movements across Mesa St, therefore improving the Mesa St LOS via less crosswalk / green time.	Y ✓
Alt BP-8	Pedestrian bridge over Mesa St at Montecillo Blvd development (combine w/ Alt I-MLRT, I-MDA or I-MSPU)	N	This alternative may lessen the foot and bike traffic across Mesa St. and therefore have a positive effect on lessening bike / pedestrian / vehicular crashes on Mesa St. However, based on 2016 pedestrian and bicyclists at the intersection: the need for this bridge is minimal.	Y	This alternative would safely separate and route bike and pedestrian movements over Mesa St, particulary regarding the new, planned development west and east of Mesa St.	+	This alternative may lessen the Mesa St crosswalk / green time for pedestrian movements and thereby increase the Mesa St LOSs.	N	This alternative does not address or improve Mesa St access management control measures.	Y	This Pedestrian Bridge alternative would compliment and support bus / BRT stations and patron travel along the Mesa St corridor, particulary regarding patron access to the Montecillo development.	Y	This alternative may possibly be supported by local planning (City) efforts, although City / Montecillo feedback and input would need to be pursued.	Y	This alternative is anticipated to have an overall positive effect on reducing bike / pedestrian / vehicular movements across Mesa St, therefore improving the Mesa St LOS via less crosswalk / green time.	N ✗
Alt BP-9	2-way Cycle Track on Stanton St. and Shared Lane on Oregon St. from Glory Rd to Texas Ave (Per City Bike Plan; possibly combine w/ Alt MS-C options)	N	This alternative does not directly effect safety features along Mesa St.	N	This alternative would increase travel safety along Mesa St by providing bicyclists an alternate bike route not involving Mesa St. However, bicyclists safety along Stanton and Oregon Sts, and the space to install the track may be compromised by the streetcar and if Stanton St is converted to a 1-way, 3-lane street couplet (see Alt MS-C1A.	O	This alternative is not anticipated to have any significant effect on the Mesa St. LOS.	N	This alternative does not address or improve Mesa St access management control measures.	N	This Cycle Track alternative can compliment and support bus / BRT stations and patron travel along the Stanton St and Oregon St corridors. However, installment of the track may hinder the streetcar operation along Stanton and Oregon Sts.	O	This alternative may or may not be supported by local planning (City) efforts when taking into account the streetcar operation.	Y	This alternative is anticipated to have an overall positive effect on reducing bike / pedestrian / vehicular movements along Mesa St, thereby improving the Mesa St LOS.	N ✗
Alt BP-10	Pedestrian bridge over Mesa St near UTEP / Glory Rd (combine w/ applicable Mesa St Capacity Alts)	Y	This alternative may lessen the foot and bike traffic across Mesa St. and therefore have an overall positive effect on lessening bike / pedestrian / vehicular crashes on Mesa St.	Y	This alternative would safely separate and route bike and pedestrian movements over Mesa St.	+	This alternative may lessen the Mesa St crosswalk / intersection green time for pedestrian movements and thereby increase the Mesa St / intersection LOSs.	N	This alternative does not address or improve Mesa St access management control measures.	Y	This Pedestrian Bridge alternative may compliment and support bus / BRT stations and patron travel along the Mesa St corridor, particulary for UTEP daily students and UTEP special events.	Y	This alternative may possibly be supported by local planning (City) efforts, although City / UTEP feedback and input would need to be pursued.	Y	This alternative is anticipated to have an overall positive effect on reducing bike / pedestrian / vehicular movements across Mesa St, therefore improving the Mesa St LOS via less crosswalk / green time.	Y ✓
Alt BP-11	Pedestrian Underpass beneath Mesa St supplanting Robinson Ave	Y	This alternative may lessen the foot and bike traffic across Mesa St. and therefore have an overall positive effect on lessening bike / pedestrian / vehicular crashes on Mesa St. as well as prevent mid-block jaywalking.	N	This alternative would safely separate and route bike and pedestrian movements beneath Mesa St., particularly during UTEP special events and rideliffe activities, although safety / security may be a concern, requiring police monitoring to deter crime.	+	This alternative may lessen the Mesa St crosswalk / intersection green time for pedestrian movements and thereby increase the Mesa St / intersection LOSs.	Y	This alternative would eliminate the Mesa St / Robinson Ave intersection.	Y	This Pedestrian Underpass alternative would compliment and support bus / BRT operations by eliminating the Robinson Ave intersection.	Y	This alternative may possibly be supported by local planning (City) efforts, although City / UTEP feedback and input would need to be pursued.	Y	This alternative is anticipated to have an overall positive effect on reducing bike / pedestrian / vehicular movements across Mesa St, therefore improving the Mesa St LOS via less crosswalk / green time.	Y ✓
Alt BP-12	"Pedestrian Scramble" intersection (4-Way signalized stop) at Mesa St / University Ave and Mesa St / River St	Y	This alternative would serve daily foot and bike traffic at this UTEP gateway and therefore have an overall positive effect on lessening bike and pedestrian crashes at this location, as well as prevent mid-block jaywalking.	Y	This alternative provides a safe 4-way stop of all approaches vehicles, thereby allowing bicyclists and pedestrians various options to cross Mesa St. parallel, perpedicular or diagonally.	O	Since this alternative would reduce vehicular signal green time, it is not currently anticipated to have a significant effect on improving the Mesa St / University Ave LOS.	N	This alternative does not address or improve Mesa St access management control measures.	Y	This Pedestrian Scramble alternative may compliment and support bus / BRT patron travel along the Mesa St corridor, particulary regarding patron access to and from University Ave.	Y	This alternative may possibly be supported by local planning (City) efforts, although City / UTEP feedback and input would need to be pursued.	N	This alternative is not currently anticipated to enhance, and have an overall positive effect on, improving the Mesa St average speed and LOS and lessening delays.	Y ✓
Alt BP-13	Deck Parks over I-10 in downtown, adjacent to Mesa St, between Stanton St and Santa Fe St	Y	This alternative would serve the daily foot and bike traffic near downtown and therefore may have an overall positive effect on lessening bike and pedestrian crashes along Mesa St.	Y	This alternative would safely separate and route downtown bike and pedestrian movements away from Mesa St.	O	This alternative is not anticipated to have a significant effect on the Mesa St / I-10 vicinity LOS, although if the park usage increases, Mesa St and adjacent streets may be impacted by increased traffic volumes at various times.	N	This alternative does not address or improve Mesa St access management control measures.	Y	This Deck Park alternative may compliment and support bus / BRT operations by increasing patron travel to and from the park and downtown region.	Y	This alternative would likely be supported by local planning (City) efforts.	N	This alternative is not currently anticipated to enhance, and have an overall positive effect on, improving the Mesa St average speed and LOS and lessening delays.	Y ✓
Alt BP-14	Remove "Pedestrian Scramble" intersection timing at Mesa St / San Antonio Ave	Y	This alternative would continue to serve the predominate daily foot traffic near downtown w/o negatively impacting the ped movements across Mesa St or San Antonio Ave.	Y	This alternative would continue to safely separate the ped and vehicular movements.	+	This alternative is anticipated to improve the Mesa St / San Antonio Ave intersection LOS, although limited ROW for additional travel lanes will ultimately degrade the LOS.	N	This alternative does not address or improve Mesa St access management control measures.	Y	The improved signal timing would support bus / BRT operations at the intersection and along Mesa St.	Y	This alternative would likely be supported by local planning (City) efforts.	N	This alternative is not currently anticipated to enhance, and have an overall positive effect on, improving the Mesa St average speed and LOS and lessening delays.	Y ✓
Alt BP-15	Close the Mesa St / San Antonio Ave intersection and portions of each street beyond the intersection and convert the streets to a pedestrian mall with possibly transit-only integration.	Y	This alternative would predominately serve/prioritize daily foot traffic near downtown.	Y	This alternative would predominately serve/prioritize ped and bike traffic near downtown.	-	This alternative is anticipated to somewhat negatively impact the LOS along Mesa St, San Antonio Ave and nearby parallel streets.	Y	This alternative is considered to improve access management control measures.	Y	The alternative could allows for bus / BRT operations along Mesa St or San Antonio Ave.	N	This alternative is not likely to be supported by local planning (City) efforts.	N	This alternative is anticipated to not enhance or have an overall positive effect on, improving the Mesa St average speed and LOS and lessening delays.	N ✗
Intersection Alternatives																
Alt I-TLR	Widened left and right turn lanes, storage and decelleration lanes, and auxiliary lanes; elimination of Split Phase intersections/ shared left-through lanes/overlapping paths at Doniphan Dr, Remcon Cir, Resler Dr, and Sunland Park Dr.	Y	This alternative would upgrade the Mesa St intersections w/ travel lane capacity improvements that adhere to current design and safety standards.	Y	This alternative would include bike and pedestrian accommodation upgrades at the Mesa St intersections to adhere to current design, safety and ADA standards.	++	This alternative would have a significant impact on improving the LOS at each Mesa St intersection via travel lane / capacity improvements.	Y	This alternative would include access management control measures near each intersection, for example, scrutiny of driveway / intersection proximity / conflict.	Y	This alternative is considered transit supportative since the buses / BRT operations must navigate each intersection.	Y	This alternative would likely be supported by local planning (City) efforts	Y	This alternative would increase the Mesa St capacity and average speed, lessen queue lengths and delays, and improve the LOS.	Y ✓
Alt I-ROU	Ground-level, at-grade Roundabout at Mesa St intersections that include Remcon Circle, Resler Dr, Sunland Dr, Mesa Hills Dr, Executive Center Blvd, and Sun Bowl Dr (w/o signalization)	N	This alternative would install Roundabouts that adhere to current design and safety standards, however accomodating a minimum 3 NB and SB Mesa St lanes presents a safety concern, notably the proximity of upstream and downstream Mesa St signalized intersections.	N	This alternative would include pedestrian accomodation at the perimeters of the Roundabouts although 3 Mesa St lanes in each direction would need to be crossed, the same as the current corridor crosswalk conditions. Merging a bike lane or bicyclists into the Roundabout lanes presents a concern.	--	Installing Roundabouts that accomodate a minimum 3 Mesa St lanes in each direction is a capacity concern. The proximity of Mesa St upstream and downstream intersections to each Roundabout is also LOS and queing concern.	Y	This alternative would include access management control measures near the Roundabout, for example, scrutiny of driveway / Roundabout, and median opening / Roundabout, proximity conflicts.	Y	Due to potential Roundabout traffic volumes and queuing, this alternative would not compliment and support the bus / BRT operations that must navigate each Roundabout.	N	Due to safety, LOS and queing concerns, this alternative would not likely be supported by local planning (City) efforts	N	This alternative is anticipated to overall decrease the Mesa St average speed, increase queue lengths and delays, and not improve the LOS.	N ✗
Alt I-CFI	Continous Flow Interchanges, including Doniphan Dr, Remcon Circle, Resler Dr, Sunland Dr, Mesa Hills Dr, Executive Center Blvd, and Sun Bowl Dr (w/o signalization; shift Doniphan Dr alignment east to avoid BNSF RR)	N	This alternative would install CFIs that adhere to current design and safety standards, however accomodating these multi-lane CFIs requires expansive ROW and a greater degree of driver familiarity. Typically, CFIs are located in suburban areas w/ expansive ROW.	N	This alternative may safely accommodate bike and pedestrian movements at the intersections although the multiple lanes, multiple crossings with multiple signal phases, and unfamiliar layout presents safety concerns.	+	This alternative is expected to efficiently manage the dual left-turning vehicle lanes, thereby allowing more through movement green time at the intersection.	Y	This alternative would include access management control measures near each CFI, for example, scrutiny of driveway - CFI proximity conflicts.	N	This alternative is considered transit supportative since the buses / BRT would efficiently navigate the left turn movements through the intersection. BRT station impacts may be a concern.	N	Due to safety, bike and pedestrian accommodation concerns, and ROW impacts, this alternative would not likely be supported by local planning (City) efforts	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	N ✗
Alt I-DRO1	Dual Cross-street Roundabout (teardrop shape) intersection underpassing 3 elevated NB and SB Doniphan Dr lanes (w/o signalization; shift Doniphan Dr alignment east to avoid BNSF RR)	N	This alternative would install a Roundabout at the intersection that would adhere to current design and safety standards. The Roundabout would manage the lower volume cross-street traffic volumes beneath elevated NB and SB Doniphan Dr lanes that safely overpass the roundabout. However, roundabout queing may encroach on the RR tracks and present a safety concern.	Y	This alternative would include pedestrian accomodation at the perimeter of the Roundabout that safely underpass the elevated, higher volume NB and SB Doniphan Dr lanes.	++	The Roundabout is anticipated to accomodate the Mesa St traffic volumes. The proximity of upstream and downstream Mesa St signalized intersections needs to be verified to avoid creating LOS and queing concerns.	Y	This alternative would include access management control measures near the Roundabout, for example, scrutiny of driveway - Roundabout proximity conflicts.	N	This alternative is considered transit supportative since the buses / BRT would efficiently navigate the left turn movements through the intersection. BRT station impacts may be a concern.	Y	This alternative is anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	N ✗
Alt I-DCT-1	Ground-level Channelized Turning Movement intersection at Mesa St / Doniphan Dr (shift alignment east to avoid BNSF RR)	Y	This alternative would reconfigure this Mesa St intersection w/ current design and safety standards.	Y	This alternative would include safe bike and pedestrian accomodations at the intersection.	+	This alternative is anticipated to minimally achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	Y	This alternative is considered transit supportative since the buses / BRT would efficiently navigate the left turn movements through the intersection. BRT station impacts may be a concern.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	Y ✓
Alt I-DCT-2	Ground-level Channelized Turning Movement intersection at Mesa St / Doniphan Dr via a Chief Ann St / Doniphan Dr Couplet; bridge SB Chief Ann St over BNSF RR north of Mulberry Ave, interact Mesa St, and bridge back over the BNSF RR south of Mesa St near Crossroads Dr	Y	This alternative would reconfigure this Mesa St intersection w/ current design and safety standards.	Y	This alternative would include safe bike and pedestrian accomodations at the intersection.	+	This alternative is anticipated to minimally achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	Y	This alternative is considered transit supportative since the buses / BRT would efficiently navigate the left turn movements through the intersection.	N	This alternative is not currently anticipated to be supported by local planning (City) efforts due to the lack of existing Chief Ann St ROW with which to insert the 2 SB lanes along Chief Ann St.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	N ✗
Alt I-DCT-3	Alt DCT-1 w/ Flyover Ramp from SB Doniphan Dr to EB Mesa St (shift alignment east to avoid BNSF RR)	Y	This alternative would reconfigure this Mesa St intersection w/ current design and safety standards and separate the high-volume SB to EB left-turn movement from the at-grade intersection/crosswalks.	Y	This alternative would include safe bike and pedestrian accomodations at the intersection.	+	This alternative is anticipated to minimally achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	Y	This alternative is considered transit supportative since the buses / BRT would efficiently navigate the left turn movements through the intersection.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	Y ✓
Alt I-DGSI	Grade-separated Intersection at Mesa St / Doniphan Dr (shift alignment east to avoid BNSF RR)	Y	This alternative would reconfigure this Mesa St intersection w/ current design and safety standards and separate the high-volume SB and NB Doniphan Dr through movements from the at-grade intersection/crosswalks.	Y	This alternative would include safe bike and pedestrian accomodations at the intersection.	++	This alternative is anticipated to achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	Y	This alternative is considered transit supportative since the buses / BRT would efficiently navigate the left turn movements through the intersection.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	Y ✓
Alt I-DRO2	Elevated Mesa St / Country Club Rd Roundabout w/ 3 underpassing, at-grade Doniphan Dr lanes (shift alignment east to avoid BNSF RR)	Y	This alternative would reconfigure this Mesa St intersection w/ current design and safety standards and remove the Mesa St through and turning movements from the at-grade intersection/crosswalks.	Y	This alternative would include safe bike and pedestrian accomodations at the intersection.	++	This alternative is anticipated to achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures near the Roundabout, for example, scrutiny of driveway - Roundabout proximity conflicts.	Y	This alternative is considered transit supportative since the buses / BRT would efficiently navigate the left turn movements through the intersection.	N	This alternative may or may not be supported by local planning (City) efforts. The change in the Country Club Rd profile required to overpass the RR and link the elevated roundabout is a concern, as well as maintaining access to Vista Grande Cir.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	N ✗
Alt I-DBY (U-Wall)	2 below-ground level, CTB-seperated SB and NB Doniphan Dr bypass lanes via a U-wall section w/ 2 NB and 2 SB ground-level access streets and U-turns (conserve ROW w/ cantilevered or straddle bent-supported access streets)	Y	This alternative would reconfigure this Mesa St intersection w/ current design and safety standards and seperate the high-volume SB and NB Doniphan Dr through movement volumes from the at-grade intersection/crosswalks. Hydraulic / drainage would be required.	Y	This alternative would include safe bike and pedestrian accomodations at the intersection.	++	This alternative is anticipated to achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	Y	This alternative is considered transit supportative since the buses / BRT would efficiently navigate the left turn movements through the intersection.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	Y ✓
Alt I-DBY (Bypass)	2 below-ground level, CTB-seperated EB and WB Mesa St bypass lanes, from Osborne Dr to Belvidere St w/ 2 EB and WB ground-level access streets and U-turns (conserve ROW w/ cantilevered or straddle bent-supported access streets)	Y	This alternative would reconfigure this Mesa St intersection w/ current design and safety standards and separate the high-volume EB and WB Mesa St through movement volumes from the at-grade intersections/crosswalks. Hydraulic / drainage would be required.	Y	This alternative would include safe bike and pedestrian accomodations at the intersection.	++	This alternative is anticipated to achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	Y	This alternative is considered transit supportative since the buses / BRT would efficiently navigate the left turn movements through the intersection.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	Y ✓
Alt I-I10SPU	SPUI interchange at Mesa St / I-10 Frontage Rd intersections	Y	This alternative would reconfigure these Mesa St intersection w/ current design and safety standards.	Y	This alternative would include safe bike and pedestrian accomodations at each intersection.	+	This alternative is anticipated to achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	Y	This alternative is considered transit supportative since the buses / BRT would efficiently navigate the left turn movements through the intersection.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	Y ✓
Alt I-DCT	Ground-level Channelized Turning Movement	Y	This alternative would reconfigure this Mesa St intersection w/ current design and safety	Y	This alternative would include safe bike and pedestrian accomodations at the	+	This alternative is anticipated to minimally achieve satisfactory LOSs,	Y	This alternative would include access management control measures, for example,	Y	This alternative is considered transit supportative since the buses / BRT would efficiently navigate the left turn movements	Y	This alternative is currently anticipated to be	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue	Y

Alt I-RCT	Intersection at Mesa St / Resler Dr	Y	intersection w/ current design and safety standards.	Y	pedestrian accomodations at the intersection.	+	minimally achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	scrutiny of driveway - intersection right turn-lane proximity conflicts.	N	efficiently navigate the left turn movements through the intersection. BRT station impacts may be a concern.	Y	supported by local planning (City) efforts.	Y	Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	**Y** ✓
Alt I-R2DI	2-level Diamond Interchange at Mesa St / Resler Dr or SPUI	Y	This alternative would reconfigure this Mesa St intersection w/ current design and safety standards and separate the high-volume SB and NB Mesa St through movement volumes from the at-grade intersection/crosswalks.	Y	This alternative would include safe bike and pedestrian accomodations at the intersection.	++	This alternative is anticipated to achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	N	This alternative is considered transit supportative since the buses / BRT would efficiently navigate the left turn movements through the intersection. BRT station impacts may be a concern.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	**Y** ✓
Alt I-RROU	Dual Cross-street Roundabout (teardrop shape) intersections at Resler Dr underpassing 3 elevated NB and SB Mesa St lanes (requires closure of Cloudview Dr from Resler Dr to Champions Pl)	Y	This alternative would reconfigure this Mesa St intersection w/ current design and safety standards and remove the high-volume SB and NB Mesa St Dr through movement volumes from the at-grade intersection/crosswalks.	Y	This alternative would include safe bike and pedestrian accomodations at the intersection.	++	This alternative is anticipated to achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	N	This alternative is considered transit supportative since the buses / BRT would efficiently navigate both the Mesa St. through lanes and the unsignalized roundabouts. BRT station impacts may be a concern.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts. Closure of Cloudview Ln may be a concern.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	**Y** ✓
Alt I-SCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Sunland Dr intersection	Y	This alternative would reconfigure this Mesa St intersection w/ current design and safety standards.	Y	This alternative would include safe bike and pedestrian accomodations at the intersection.	+	This alternative is anticipated to minimally achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	N	This alternative is considered transit supportative since the buses / BRT would efficiently navigate the left turn movements through the intersection. BRT station impacts may be a concern.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	**Y** ✓
Alt I-SGSI	Grade-seperated Intersection at Mesa St / Sunland Park Dr or SPUI	Y	This alternative would reconfigure this Mesa St intersection w/ current design and safety standards and remove the high-volume SB and NB Mesa St through movement volumes from the at-grade intersection/crosswalks.	Y	This alternative would include safe bike and pedestrian accomodations at the intersection.	++	This alternative is anticipated to achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	N	This alternative is considered transit supportative since the buses / BRT would efficiently navigate the left turn movements through the intersection. BRT station impacts may be a concern.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	**Y** ✓
Alt I-SROU	Dual Cross-street Roundabout (tear drop shape) intersection at Sunland Park Dr underpassing 3 elevated NB and SB Mesa St lanes	Y	This alternative would reconfigure this Mesa St intersection w/ current design and safety standards and remove the high-volume SB and NB Mesa St Dr through movement volumes from the at-grade intersection/crosswalks.	Y	This alternative would include safe bike and pedestrian accomodations at the intersection.	++	This alternative is anticipated to achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	N	This alternative is considered transit supportative since the buses / BRT would efficiently navigate both the Mesa St. through lanes and the unsignalized roundabouts. BRT station impacts may be a concern.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	**Y** ✓
Alt I-MCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Montecillo Blvd intersection (shift alignment eastward to avoid retail)	Y	This alternative would reconfigure this Mesa St intersection w/ current design and safety standards.	Y	This alternative would include safe bike and pedestrian accomodations at the intersection.	+	This alternative is anticipated to minimally achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	N	This alternative is considered transit supportative since the buses / BRT would efficiently navigate the left turn movements through the intersection. BRT station impacts may be a concern.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	**Y** ✓
Alt I-MGSI	Grade-seperated Intersection at Mesa St / Montecillo Blvd (shift alignment eastward to avoid retail)	Y	This alternative would reconfigure this Mesa St intersection w/ current design and safety standards and remove the high-volume SB and NB Mesa St through movement volumes from the at-grade intersection/crosswalks.	Y	This alternative would include safe bike and pedestrian accomodations at the intersection.	++	This alternative is anticipated to achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	N	This alternative is considered transit supportative since the buses / BRT would efficiently navigate the left turn movements through the intersection. BRT station impacts may be a concern.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	**Y** ✓
Alt I-MBY (Bypass)	3 below-ground level, CTB-seperated SB and NB Mesa St bypass lanes beneath Montecillo Blvd w/ 2 NB and SB ground-level access streets (shift alignment eastward to avoid retail; conserve ROW w/ cantilivered or straddle bent-supported access streets)	N	This alternative would reconfigure this Mesa St intersection w/ current design and safety standards and remove the high-volume EB and WB Mesa St through movement volumes from the at-grade intersection/crosswalks. Hydraulic / drainage / flooding mitigation appears unachievable to to terrain.	Y	This alternative would include safe bike and pedestrian accomodations at the intersection.	++	This alternative is anticipated to achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	Y	This alternative is considered transit supportative since the buses / BRT would efficiently navigate the left turn movements through the intersection.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts, although the property impacts presents a concern.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	**N** ✗
Alt I-ECT	Ground-level Channelized Turning Movement Intersection at Mesa St / Executive Center Blvd	Y	This alternative would reconfigure this Mesa St intersection w/ current design and safety standards.	Y	This alternative would include safe bike and pedestrian accomodations at the intersection.	+	This alternative is anticipated to minimally achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	N	This alternative is considered transit supportative since the buses / BRT would efficiently navigate the left turn movements through the intersection. BRT station impacts may be a concern.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	**Y** ✓
Alt I-EGSI	Grade-seperated Intersection (Conventional diamond, SPUI, or half SPUI) at Mesa St / Executive Center Blvd	Y	This alternative would reconfigure this Mesa St intersection w/ current design and safety standards and remove the high-volume SB and NB Mesa St through movement volumes from the at-grade intersection/crosswalks.	Y	This alternative would include safe bike and pedestrian accomodations at the intersection.	++	This alternative is anticipated to achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	N	This alternative is considered transit supportative since the buses / BRT would efficiently navigate the left turn movements through the intersection. BRT station impacts may be a concern.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	**Y** ✓
Alt I-EROU	Dual Cross-street Roundabout (teardrop shape) intersection at Executive Center Blvd underpassing 3 elevated NB and SB Mesa St lanes	Y	This alternative would reconfigure this Mesa St intersection w/ current design and safety standards and remove the high-volume SB and NB Mesa St Dr through movement volumes from the at-grade intersection/crosswalks.	Y	This alternative would include safe bike and pedestrian accomodations at the intersection.	++	This alternative is not anticipated to achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	N	This alternative is considered transit supportative since the buses / BRT would efficiently navigate both the Mesa St. through lanes and the unsignalized roundabouts. BRT station impacts may be a concern.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	**Y** ✓
Alt I-ETRU	Trumpet Interchange at Mesa St / Executive Center Blvd	Y	This alternative would reconfigure this Mesa St intersection and elimimate the traffic signal.	Y	This alternative would include safe bike and pedestrian accomodations at the intersection.	-	This alternative is not anticipated to achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	Y	This alternative is considered transit supportative since the buses / BRT would efficiently navigate both the unsignalized interchange.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts, although the property impacts presents a concern.	Y	This alternative would increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	**Y** ✓
Alt I-EGT	Green T Intersection at Mesa St / Executive Center Blvd	Y	This alternative would reconfigure this Mesa St intersection and technically elimimate the NB Mesa St traffic signal.	Y	This alternative would allow for safe bike and pedestrian accomodations around the intersection via flattening of the horz. curve that provides space for the insertion of a Shared Use Path adjacent to SB Mesa St.	++	This alternative is anticipated to achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	Y	This alternative is considered transit supportative since the buses / BRT would efficiently navigate both the unsignalized interchange.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts, although the property impacts east of Mesa St presents a concern.	Y	This alternative would increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	**Y** ✓
Alt I-EUTN	U-turn (Michigan Lefts) at Mesa St / Executive Center Blvd	Y	This alternative would reconfigure this Mesa St intersection and partially elimimate signalized Mesa St movements.	Y	This alternative would allow for safe bike and pedestrian accomodations at or near the intersection.	-	This alternative is not anticipated to achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	Y	This alternative is considered transit supportative since the buses / BRT would efficiently navigate both the unsignalized interchange.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts, although the property impacts east of Mesa St presents a concern.	N	This alternative would increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	**N** ✗
Alt I-SAROU	Roundabout at Mesa St / San Antonio Ave	Y	This alternative would reconfigure this Mesa St intersection and totally elimimate a Mesa St traffic signal at the intersection.	Y	This alternative would allow for safe bike and pedestrian accomodations at or near the intersection.	O	This alternative is anticipated to achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	Y	This alternative is considered transit supportative since the buses / BRT would efficiently navigate both the unsignalized intersection.	Y	This alternative is not currently anticipated to be supported by local planning (City) efforts.	N	This alternative would increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	**N** ✗
Alt I-9ROU	Mini-Roundabout at Mesa St / San Antonio Ave	Y	This alternative would reconfigure this Mesa St intersection and eliminate the stop sign control at the intersection when applied in combination with the Border West Hwy planned improvements at the same location.	Y	This alternative would allow for safe bike and pedestrian accomodations at or near the intersection.	+	This alternative is anticipated to achieve satisfactory LOSs, depending on ultimate 2040 travel demand.	Y	This alternative would include access management control measures, for example, scrutiny of driveway - intersection right turn-lane proximity conflicts.	Y	This alternative is considered transit supportative since the buses / BRT would efficiently navigate both the unsignalized intersection.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	N	This alternative would increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	**Y** ✓

Roadway Connectivity Alternatives

Alt RC-1	Relocate SB I-10 exit ramp (to Mesa St) upstream to allow for C-D Rd access to McClintock Dr to relieve the Mesa St / C-D Rd intersection	Y	This alternative would remove vehicles from the Mesa St intersection and thereby increase overall safety.	Y	This alternative would remove vehicles from the Mesa St intersection and thereby increase pedestrian and bicyslist safety.	+	This alternative is anticipated to improve the Mesa St / C-D Rd intersection LOSs.	N	This alternative does not address or improve Mesa St access management control measures.	Y	This alternative is considered transit supportative by removing vehicles from Mesa St / C-D Rd intersections and thus allow buses / BRT to better navigate the intersection via more signal green time.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to decrease the Mesa St and C-D Rd queue lengths and delays, and improve the LOS.	**Y** ✓
Alt RC-2	Extend Sunny Sands Dr westward to the NB I-10 C-D Rd (N Desert Blvd)	N	This alternative does not directly effect safety features along Mesa St.	Y	This alternative may reduce vehicle counts within the Mesa St / Remcon Circle intersections and thus allow a safer means for bicyclists and pedestrians to cross Mesa St.	+	This alternative is anticipated to improve the Mesa St / Remcon Circle / I-10 C-D Rd intersection LOSs.	N	This alternative does not address or improve Mesa St access management control measures.	Y	This alternative is considered transit supportative by removing vehicles from Mesa St / Remcon Circle / I-10 C-D Rd intersections and thus allow buses / BRT to better navigate each intersection via more signal green time.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to decrease the Mesa St / Remcon Circle intersection queue lengths and delays, and improve the LOS. However, the LOS intersection benefits of Alt I-I10BY is anticipated to render this Alt unnecessary. Earmark as potential future long term option.	**N** ✗
Alt RC-3	Flyover Ramp from SB I-10 C-D Rd to Desert Pass St. east of I-10 and, per City Thoroughfare Plan, extend Desert Pass St eastward to Mesa St / Belvidere St intersection Conversely, link WB Desert Pass St to NB I-10 C-D Rd and if possible install downsteam I-10 entrance ramp prior to Mesa St	Y	This alternative would reduce bus and non-bus vehicle counts on Mesa St between I-10 and Belvidere St, thus providing safer travel on a portion of Mesa St.	Y	This alternative would reduce vehicle counts along Mesa St and at the Remcon Circle intersections and thus allow a safer means for bicyclists and pedestrians to cross Mesa St.	++	This alternative is anticipated to improve the Mesa St intersection LOS between I-10 and Belvidere St.	N	This alternative does not address or improve Mesa St access management control measures.	Y	This alternative is considered transit supportative by catering to New Mexico buses SB on I-10 that are destined for the Westside Transfer Center, therefore avoiding Mesa St signalized intersections in order to access the Center.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS, particularly between I-10 and Belvidere St, and possibly reduce the demand at the downstream Mesa St / Resler Dr intersection that is accesses a SB I-10 exit ramp. However, the LOS intersection benefits of Alt I-I10BY is anticipated to render this Alt unnecessary. Earmark as a future long-term option.	**N** ✗
Alt RC-4	Install WB Resler Dr link to the NB I-10 C-D Rd, and possibly install a downstream I-10 entrance ramp prior to Mesa St Conversely, install SB I-10 C-D Rd Flyover exit ramp to EB Resler Dr	Y	This alternative would likely reduce vehicle counts along Mesa St between I-10 and Resler Dr, thus providing safer travel on a portion of Mesa St.	Y	This alternative would reduce vehicle counts along Mesa St and thus allow a safer means for bicyclists and pedestrians to cross Mesa St.	+	This alternative is anticipated to improve the Mesa St intersection LOSs between I-10 and Resler Dr.	N	This alternative does not address or improve Mesa St access management control measures.	Y	This alternative is considered transit supportative by removing vehicles from the Mesa St intersections between I-10 and resler Dr and thus allow buses / BRT to better navigate the intersections via more signal green time.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the intersection LOSs between I-10 and Resler Dr, and possibly reduce the demand at the Mesa St / Sunland Dr intersection that is accessed via a downstream I-10 exit ramp.	**Y** ✓
Alt RC-5A	Link northern portions of Stanton St from Buckingham Dr north to link Splendid Sun Dr; also connect to Montecillo Blvd extension	Y	This alternative route for Mesa St travelers would likely reduce vehicle counts along Mesa St, thus providing safer travel on Mesa St.	Y	This alternative would reduce vehicle counts along Mesa St and therefore allow a safer means for bicyclists and pedestrians to cross Mesa St.	+	This alternative is anticipated to improve the Mesa St and intersection LOSs.	N	This alternative does not address or improve Mesa St access management control measures.	Y	This alternative is considered transit supportative by removing vehicles from the Mesa St intersections and thus allow buses / BRT to better navigate the intersections via more green time. Stanton St is also a Sun Metro bus route.	Y	This alternative is currently anticipated to be supported by some local planning (City) efforts, although it impacts private property sites (ROW).	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the intersection LOSs.	**Y** ✓
Alt RC-5B	Extend current Stanton St north terminus at 1000 Steps Trail northeastward over the Franklin Mountain arroyos to link Splendid Sun Dr	Y	This alternative route for Mesa St travelers would likely reduce vehicle counts along Mesa St, thus providing safer travel on Mesa St.	Y	This alternative would reduce vehicle counts along Mesa St and thus allow a safer means for bicyclists and pedestrians to cross Mesa St.	+	This alternative is anticipated to improve the Mesa St and intersection LOSs.	N	This alternative does not address or improve Mesa St access management control measures.	Y	This alternative is considered transit supportative by removing vehicles from the Mesa St intersections and thus allow buses / BRT to better navigate the intersections via more green time. Stanton St is also a Sun Metro bus route.	N	This alternative is currently anticipated to be supported by some local planning (City) efforts. However, the alternative routes travelers to the northeast, and directly or indirectly could impact the environmentally-sensitive Franklin Mountains.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the intersection LOSs.	**N** ✗
Alt RC-5C	Extend current Stanton St north terminus at 1000 Steps Trail northeastward over the Franklin Mountain arroyos and link new Montecillo Development roadway that links Mesa St (north of Kingspoint Dr) (per City Thoroughfare Plan)	Y	This alternative route for Mesa St travelers would likely reduce vehicle counts along Mesa St, thus providing safer travel on Mesa St.	Y	This alternative would reduce vehicle counts along Mesa St and thus allow a safer means for bicyclists and pedestrians to cross Mesa St.	+	This alternative is anticipated to improve the Mesa St and intersection LOSs.	N	This alternative would not include any Mesa St access management control measures.	Y	This alternative is considered transit supportative by removing vehicles from the Mesa St intersections and thus allow buses / BRT to better navigate the intersections via more green time. Stanton St is also a Sun Metro bus route.	N	This alternative is currently anticipated to be supported by some local planning (City) efforts. However, the alternative routes travelers to the northeast, and directly or indirectly could impact the environmentally-sensitive Franklin Mountains.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the intersection LOSs.	**N** ✗
Alt RC-6	Link Anapra Rd / US 85 / Border Highway West to the currently proposed I-10 / Mesa Park Dr interchange (Mesa Park Dr extension from Mesa St to I-10)	N	This alternative would not reduce vehicle counts along Mesa St due to Mase St serving short distance travelers as opposed to long trip travelers which this option would serves.	Y	This alternative may reduce vehicle counts along Mesa St and thus allow a safer means for bicyclists and pedestrians to cross Mesa St.	O	This alternative would not improve the Mesa St LOSs.	N	This alternative would not include any Mesa St access management control measures.	Y	This alternative is considered transit supportative by removing vehicles from the Mesa St intersections between I-10 and resler Dr and thus allow buses / BRT to better navigate the intersections via more signal green time.	Y	This alternative may or may not be supported by local planning (City) efforts.	N	This alternative is not anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the intersection LOSs, and possibly reduce the demand at the upstream Mesa St / Sunland Dr and the downstream Mesa St / Executive Center Blvd intersections that each are accessed via an I-10 exit ramp.	**N** ✗
Alt RC-7	Realign / connect Camille Dr and Fountain Rd into one intersection; and extend Palo Verde Pl to Fountain Dr	Y	This alternative would likely provide safer travel along a portion of Mesa St by eliminating a Mesa St intersection.	Y	This alternative would eliminate a Mesa St intersection / crosswalk and thus allow a safer means for bicyclists and pedestrians to navigate Mesa St.	O	This alternative is not anticipated to improve the Mesa St LOS.	Y	This alternative is a Mesa St access management control measure via the elimination of an intersection.	Y	This alternative is considered transit supportative by removing a Mesa St intersecting street that allows buses / BRT to better navigate Mesa St w/ fewer merging movements.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts. This alternative efficiently links two major arterials.	N	This alternative is not anticipated to increase the Mesa St average speed and improve the intersection LOS.	**Y** ✓
Alt RC-8	Realign / connect Thunderbird Dr w/ Balboa Rd into one intersection, or close Thunderbird Drive from Dew Dr south to Mesa St.	Y	This alternative would likely provide safer travel along a portion of Mesa St by eliminating a Mesa St signalized intersection.	Y	This alternative would eliminate a Mesa St signalized intersection / crosswalk and thus allow a safer means for bicyclists and pedestrians to navigate Mesa St.	O	This alternative is not anticipated to improve the Mesa St LOS.	Y	This alternative is a Mesa St access management control measure via the elimination of an intersection.	Y	This alternative is considered transit supportative by removing a Mesa St signalized intersection that allows buses / BRT to better navigate Mesa St w/ fewer merging movements and more signal green time.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	N	This alternative is not anticipated to increase the Mesa St average speed and improve the intersection LOS.	**Y** ✓
Alt RC-9	Connect Lancers Club Way (3 blocks north of Sunland Park Dr) to Pebble Beach Dr	Y	This alternative would likely reduce vehicle counts at the Mesa St / Sunland Park Dr intersection, thus providing safer travel near the intersection.	Y	This alternative would reduce vehicle counts at the Mesa St / Sunland Dr intersection and thus allow a safer means for bicyclists and pedestrians to cross Mesa St.	O	This alternative may minimally mitigate the Mesa St / Sunland Dr intersection LOS when taking into account the future high-rise development at the intersections northeast quadrant.	N	This alternative would not include any Mesa St access management control measures.	Y	This alternative is considered transit supportative by removing vehicles from the Mesa St / Sunland Dr intersection and thus allow buses / BRT to better navigate the intersection via more signal green time.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	N	This alternative is not anticipated to increase the Mesa St average speed and improve the intersection LOS.	**Y** ✓
Alt RC-10	Extend Argonaut Dr southward to W Castellano Dr	N	This alternative would not reduce vehicle counts along Mesa St due to Mase St serving short distance travelers as opposed to long trip travelers which this option would serves.	Y	This alternative would lessen traffic counts at one intersection or the other and thus allow a safer means for bicyclists and pedestrians to better navigate Mesa St and the intersections.	+	This alternative may improve the operation and efficiency of the Montecillo Blvd, Argonaut Dr and Castellano Dr intersections when taking into account the future / ongoing Montecillo area development.	N	This alternative would not include any Mesa St access management control measures.	Y	This alternative is considered transit supportative by dispersing travel demand over the three intersections, thus allowing buses / BRT to better navigate the intersections via more green time.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	N	This alternative is not anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the intersection LOS.	**N** ✗
Alt RC-11	Extend Executive Center Blvd eastward across Mesa St and align w/ Canterbury Dr / Krupp Dr / Wallington Dr (w/ or w/o a Canterbury Dr Roundabout)	N	This alternative would not reduce vehicle counts along Mesa St due to Mase St serving short distance travelers as opposed to long trip travelers which this option would serves.	Y	This alternative may reduce Mesa St traffic counts and thus allow a safer means for bicyclists and pedestrians to cross Mesa St.	+	This alternative may improve the Mesa St / Executive Center Dr intersection LOS by providing Mesa St travelers a less circuitous link to Stanton St which is considered an alternate / relief route to Mesa St.	N	This alternative would not include any Mesa St access management control measures.	Y	This alternative is considered transit supportative by possibly removing vehicles from the Mesa St / Executive Center Dr intersection and thus allow buses / BRT to better navigate the intersection via more signal green time.	N	This alternative may or may not be supported by local planning (City) efforts if the neighborhood roads can not accommodate the resulting traffic volumes.	N	This alternative is not anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the intersection LOS.	**N** ✗
Alt RC-12	Link future Mesa Park Dr extension (westward to I-10) w/ Executive Center Blvd via a north-south connecting arterial	Y	This alternative would likely reduce or more evenly distribute the vehicle counts between the Mesa St / proposed Mesa Park Dr and Mesa St / Executive Center Dr intersections, thus providing safer traversal of the intersection.	Y	This alternative would reduce a portion of the Mesa St traffic counts and thus allow a safer means for bicyclists and pedestrians to cross Mesa St and navigate the Mesa St / Executive Center Dr intersections.	+	This alternative would improve the Mesa St / Executive Center Dr intersection LOS.	N	This alternative would not include any Mesa St access management control measures.	Y	This alternative is considered transit supportative by possibly removing vehicles from the Mesa St / Executive Center Dr intersection and thus allow buses / BRT to better navigate the intersection via more signal green time.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the intersection LOS.	**Y** ✓
Alt RC-13	Realign / connect Brentwood Ave w/ W Eubank Ct (west of Mesa St) into one intersection and close Eubank Ct from Mesa St to Krupp Dr (combine w/ Alt MS-6)	Y	This alternative would likely provide safer travel along a portion of Mesa St by eliminating a Mesa St intersection within a horizontal curve.	Y	This alternative would eliminate a Mesa St intersection / crosswalk and thus allow a safer means for bicyclists and pedestrians to navigate Mesa St.	O	This alternative is not anticipated to improve the Mesa St LOS.	Y	This alternative is a Mesa St access management control measure via the elimination of an intersection.	Y	This alternative is considered transit supportative by removing a Mesa St intersection and thus allows buses / BRT to better navigate Mesa St w/ fewer merging movements.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative not anticipated to increase the Mesa St average speed and improve the intersection LOS.	**Y** ✓
Alt RC-14	Realign / connect W Waymore Dr and Waymore Dr into one intersection	N	This alternative may or may not provide safer travel along a portion of Mesa St.	N	This alternative may or may not allow a safer means for bicyclists and pedestrians to navigate Mesa St.	O	This alternative is not anticipated to improve the Mesa St LOS.	N	This alternative is considered an uneccessary Mesa St access management control measure since the median opening may be recommended for closure by this Mesa St Study.	N	This alternative may or may not be considered transit supportative by removing a Mesa St intersecting street that allows buses / BRT to better navigate Mesa St w/ fewer merging movements.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts. This alternative efficiently links two arterials.	Y	This alternative not anticipated to increase the Mesa St average speed and improve the intersection LOS.	**N** ✗
Alt RC-15	Glory Rd-Baltimore Dr / Cincinnati Ave Couplet	Y	This alternative would likely provide safer 1-way travel movements.	Y	This alternative would provide a safer means for bicyclists and pedestrians to navigate each street.	O	This alternative may improve the Mesa St LOS.	N	This alternative would not include any Mesa St access management control measures.	N	This alternative is not considered transit supportive since it may hinder buses / BRT operations at the nearby Glory Road Transfer Center.	N	This alternative is currently anticipated not to be supported by local planning (City/Sun Metro/UTEP) efforts.	N	This alternative may or may not increase the Mesa St average speed and improve the intersection LOS.	**N** ✗
Alt RC-16	Close city streets / connections to Mesa St: Conley Rd, Pitt St, Fountain Rd (see Alt RC-9), Paragon Ln, Eubank Ct, Fairmont St / Greenwich Dr, McKelligon Dr, and Kern Dr (between Mesa St and Sun Bowl Dr)	Y	This alternative would likely provide safer travel along a portion of Mesa St by eliminating Mesa St intersections, particularly intersections / street tie-ins located within a horizontal curve.	Y	This alternative would eliminate Mesa St intersections and required crosswalks to pass the intersections and thus allow a safer means for bicyclists and pedestrians to navigate Mesa St.	+	This alternative would improve the Mesa St LOS.	Y	This alternative is a Mesa St access management control measure.	Y	This alternative is considered transit supportative by removing Mesa St intersections and merging cross-street movements and thus allows buses / BRT to better navigate Mesa St.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the intersection LOS.	**Y** ✓
Alt RC-17	Link Stanton St w/ Castellano Dr (east of Mesa St), and link Argonaut Dr to Montecillo development (per Montecillo Dev. Regulating Plan)	Y	This alternative would likely provide safer travel along a portion of Mesa St by alleviating the Montecillo Blvd / Mesa St intersection travel demand.	N	This alternative may or may not allow a safer means for bicyclists and pedestrians to navigate Mesa St.	+	This alternative would possibly improve the Mesa St LOS.	N	This alternative does not directly address Mesa St access management.	Y	This alternative may or may not be considered transit supportative by alleviating the Mesa St / Montecillo Blvd intersection demand.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative may or may not increase the Mesa St average speed, decrease queue lengths and delays, and improve the intersection LOS.	**Y** ✓
Alt RC-18	Extend Desert Pass St to the Mesa St / Belvidere St intersection	Y	This alternative would likely provide safer travel along a portion of Mesa St by alleviating the Remcon Circle / Mesa St intersections travel demand.	N	This alternative may or may not allow a safer means for bicyclists and pedestrians to navigate Mesa St.	+	This alternative would possibly improve the Mesa St LOS.	N	This alternative does not directly address Mesa St access management.	Y	This alternative may or may not be considered transit supportative by alleviating the Mesa St / Belvidere St intersection demand and providing another means for buses to access the Westside Transfer Center.	N	This alternative is currently not anticipated to be supported by local planning (City) efforts.	Y	This alternative may or may not increase the Mesa St average speed, decrease queue lengths and delays, and improve the intersection LOS.	**Y** ✓

Transit Alternatives

Alt TR-1	Dedicated NB and SB BRT lanes on Mesa St from Doniphan Dr to Texas Ave w/ Traffic Signal Priority (TSP) serving bus movements at intersections; also consider bus lanes only for Peak Hours (can be combined w/ Alt MS-C and Alt MS-B options)	Y	This alternative is anticipated to compliment travel safety along Mesa St by avoiding the need for lane-changing bus pull-out lanes. Right-turning vehicles at each intersection is a concern.	Y	This alternative would cater bus patrons loading / unloading at each bus stop.	-	This alternative may or may not achieve satisfactory LOSs, depending on travel demand for non-bus lanes.	N	This alternative is not anticipated to have a signficant effect on access management control, pro or con.	Y	This alternative is considered transit supportative.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	Depending on ridership, this alternative may increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	**Y** ✓
Alt TR-2	Dedicated NB and SB BRT center-running lanes in the Mesa St median from Doniphan Dr to Texas Ave w/ center (median) stations that are a split or non-split configuration; w/ Traffic Signal Priority (TSP) serving bus movement at intersections	N	This alternative may impact the safety of left-turning vehicles at each signalized Mesa St intersection.	N	This alternative may impact the safety of loading / unloading bus patrons via crosswalks across the Mesa St travel lanes.	-	This alternative may or may not achieve satisfactory LOSs, depending on travel demand for non-bus lanes and the operation of each intersection crossed by the median buses. Some non-bus vehicular left turns may be hindered or require removal. Typically, this center-running bus lanes are used adjacent to 2 or 4 lane streets.	Y	This alternative would supplant the median openings / breaks within the corridor.	Y	This alternative is considered transit supportative.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	Depending on ridership, this alternative may increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	**N** ✗
Alt TR-3	NB and SB LRT or Monorail along Mesa St or elevated within the Mesa St median	N	This alternative does not directly provide safety	Y	This alternative would remove a portion bicyclists, pedestrians and special event patrons from the Mesa St corridor via a safer	O	This alternative may achieve satisfactory LOSs, depending on ridership, although historic Mesa St traffic volumes do not currently indicate that LRT ridership would be	N	This alternative is not anticipated to have a signficant effect on access	Y	This alternative is considered transit	Y	This alternative may or may not be supported by local planning (City) efforts. ROW impacts	N	Prior studies indicate that El Paso does not have, nor is projected to have, the density required to support LRT or Heavy Rail. Due to this lack of density (and resulting ridership)	**N**

Alt TR-3	(from Westside Transfer Center to Glory Rd TC)	N	features to the Mesa St corridor.	Y	alternative route and means to access the UTEP facilities	O	achieved to warrant the LRT or Monorail, although the alternative would benefit UTEP special events and commuting students.	N	management control, pro or con.	Y	supportive.	Y	and UTEP coordination may effect support.	N	this alternative is not anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	N ✗
Alt TR-4	NB and SB Personal Rapid Transit (PRT) podcar system along Sun Bowl Dr from Mesa St southward to stadium area, and possibly to Schuster Ave (link Glory Rd TC and possibly Alt TR-6 parking garage)	N	This alternative is not anticipated to directly provide safety features to the Mesa St corridor	Y	This alternative would remove a portion bicyclists, pedestrians and special event patrons from the Mesa St corridor via a safer alternative route and means to access the UTEP facilities	O	This alternative may achieve satisfactory LOSs, depending on ridership, although historic Mesa St traffic volumes do not currently indicate that LRT ridership would be achieved to warrant the LRT or Monorail, although the alternative would benefit UTEP special events and commuting students.	N	This alternative is not anticipated to have a significant effect on access management control, pro or con.	Y	This alternative is considered transit supportative.	Y	This alternative may or may not be supported by local planning (City) efforts. Potential ROW impacts and UTEP coordination may effect support, as well as ridership. However, this non-vehicular Alt would serve new UTEP facilities along Sun Bell Dr and special event traffic, and potentially increase Bus/BRT ridership and usage of the Glory Rd transfer center.	N	Due to unknown density / ridership, this alternative may or may not increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS when taken into account the ultimate UTEP build-out plan and its potential traffic effect on Mesa St and Sun Bowl Dr.	N ✗
Alt TR-5	Parking Garage at Westside Transfer Center and / or add park-and-ride lot to adjacent property sites	N	This alternative is not anticipated to directly provide safety features to the Mesa St corridor	N	This alternative does not directly provide a safer means to move bicyclists and pedestrians along Mesa St.	O	This alternative may achieve satisfactory LOSs by removing SOV travelers from the Mesa St corridor and increasing bus travel.	N	This alternative is not anticipated to have a significant effect on access management control, pro or con.	Y	This alternative is considered transit supportative.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts, although City feedback and input would need to be pursued.	N	This alternative is not anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS. See Alt RC-3 Measure response.	N ✗
Alt TR-6	Parking Garage at 1) the NE quadrant of Mesa St / Glory Rd that serves special events, student parking, streetcar patrons, and mitigate retail parking displacement, and 2) the SW quadrant of Mesa St / Branchard Ave that serves both business and student parking to curtail student parking east of Mesa St within the neighborhoods (can be combined w/ Alts TR-4, BP-10, and RS-C* and MS-BY options)	Y	This alternative would locate students and patrons to one centralized intersection as opposed to current day student dispersal at multiple intersections along the Mesa St / UTEP corridor. Ideally, combine w/ a pedestrian bridge (see Alt BP-10).	Y	This alternative is anticipated to provide safer student and retail patron walkability, and in the case of Blanchard Ave, reduce students crossing Mesa St from the Stanton St neighborhoods to access the UTEP campus.	O	This alternative may achieve satisfactory LOSs, depending on ingress and egress to the garage and the ultimate Mesa St / Glory Rd intersection configuration.	N	This alternative is not anticipated to have a significant effect on access management control, pro or con.	Y	This alternative is considered transit supportative and would compliment Alts TR-3 and 4.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts, although City / UTEP feedback and input would need to be pursued.	N	This alternative is not anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	N ✗
Alt TR-7	Bus Queue Jump (right turn) Lanes at identified Mesa St intersections And Bus Pull-out lanes at regular and Brio Bus Stops	Y	This alternative is anticipated to improve and hinder safety features along the Mesa St corridor.	Y	This alternative may directly or indirectly provide a safer means to move bicyclists and pedestrians along Mesa St.	O	This alternative may achieve satisfactory LOSs by removing SOV travelers from the Mesa St corridor and increasing bus travel.	N	This alternative is not anticipated to have a significant effect on access management control, pro or con.	Y	This alternative is considered transit supportative.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts, although City feedback and Sun Metro input would need to be pursued.	N	This alternative is anticipated to somewhat increase the bus average speed, decrease queue lengths and delays, and improve the LOS and bus trip times.	Y ✓
SH 20 / Mesa Street Alternatives																	
Alt MS-1	Improve pavement markings, signage, aesthetics / landscaping, illumination w/ potential in-pavement lighting along Mesa St	Y	This alternative would directly improve safety along Mesa St.	Y	This alternative would directly provide a safer means to move bicyclists and pedestrians along Mesa St.	O	This alternative would likely improve various LOSs along Mesa St.	Y	This alternative is not anticipated to have a significant effect on access management control, pro or con.	Y	This alternative is considered transit supportative.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative is not anticipated to increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	Y ✓
Alt MS-2	Geometric, line of sight, and curvature improvements along Mesa St	Y	This alternative would directly improve safety along Mesa St.	Y	This alternative would directly provide a safer means to move bicyclists and pedestrians along Mesa St.	O	This alternative would likely improve various LOSs along Mesa St.	Y	This alternative would likely compliment access management control measures.	Y	This alternative is considered transit supportative.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative may increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	Y ✓
Alt MS-3	Access Management (scrutinize and reduce curb cuts: close median openings/add hooded left-turn median lanes, close/combine driveways, omit intersection-driveway proximity conflicts)	Y	This alternative would directly improve safety along Mesa St.	Y	This alternative would directly provide a safer means to move bicyclists and pedestrians along Mesa St.	+	This alternative would likely improve various LOSs along Mesa St.	Y	This alternative would likely compliment access management control measures.	Y	This alternative is considered transit supportative.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative would increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	Y ✓
Alt MS-4	Flatten the Mesa St. horizontal S-curve at Executive Center Blvd by shifting Mesa St alignment eastward; also consider flattening curve via a Mesa St unsignalized NB-SB lane couplet, between Wallington Dr and Cantelot Heights Dr, w/ NB lanes located adjacent to Ridgecrest Dr; install median u-turns to accommodate left-turns	Y	The couplet portion of this alternative may improve safety along Mesa St. Left-turning vehicles may be a concern. The flattened curvature portion would be a safety feature.	Y	This alternative would directly provide a safer means to move bicyclists and pedestrians along Mesa St.	O	This alternative would likely improve various LOSs along Mesa St.	Y	The alternative would compliment access management control measures since the couplet portion of this alternative would eliminate a signalized intersection and multiple median breaks.	Y	This alternative is considered transit supportative.	Y	This alternative may or may not be supported by local planning (City) efforts.	Y	This alternative may increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	Y ✓
Alt MS-5	Flatten the Mesa St. horizontal and vertical curve/grade between Gregory Ave and Glory Rd (use western ROW for wider sidewalks for UTEP student / special event walkability)	Y	This alternative would directly improve safety along Mesa St.	Y	This alternative would directly provide a safer means to move bicyclists and pedestrians along Mesa St.	O	This alternative would likely improve various LOSs along Mesa St.	Y	This alternative would likely compliment access management control measures.	Y	This alternative is considered transit supportative.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative may increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	Y ✓
Alt MS-6	Improve curvature at Mesa St / Brentwood Ave and hydraulics (raise profile to mitigate current flooding) and at Mesa St / Alto Mesa Dr	Y	This alternative would directly improve safety along Mesa St.	Y	This alternative would directly provide a safer means to move bicyclists and pedestrians along Mesa St.	O	This alternative would likely improve various LOSs along Mesa St.	Y	This alternative would likely compliment access management control measures.	Y	This alternative is considered transit supportative.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative may increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	Y ✓
Alt MS-7	3 ground-level SB and NB lanes on Mesa St from Doniphan Dr to Glory Rd (combine w/ Alt TR-1 if possible)	Y	This alternative would likely improve safety along Mesa St by eliminating traffic congestion / queing.	Y	This alternative is anticipated to provide a safer means for bicyclists and pedestrians to navigate Mesa St.	+	This alternative would improve various LOSs along Mesa St.	Y	This alternative would compliment access management control measures.	Y	This alternative is considered transit supportative by providing a dedicated bus / BRT lane.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative would increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	Y ✓
Alt MS-C1A	Ground-level Mesa St - Stanton St couplet (3 SB lanes on Mesa St and 3 NB lanes on Stanton St) between Gregory Ave and San Antonio Ave (utilize surplus ROW and incorporate a Shared Use Bike Lane)	Y	This alternative would likely provide safer 1-way travel movements on Mesa St and Stanton St.	Y	This alternative would provide a safer means for bicyclists and pedestrians to navigate each 1-way street and in the case of Mesa St. allows for wider sidewalks by eliminating one travel lane.	+	This alternative would improve various LOSs along Mesa St.	Y	This alternative would compliment access management control measures.	Y	This alternative is considered transit supportative by allowing buses / BRT to more efficiently navigate Mesa St and each signalized intersection via more green time. Streetcar on Stanton Rd may hinder LOS and bus operation.	Y	This alternative is currently anticipated to be supported by local planning (City) efforts.	Y	This alternative would increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	Y ✓
Alt MS-C1B (Bypass)	Alt MS-C1A Couplet w/ a below-ground level, 3-lane SB section on Mesa St between Gregory Ave and Kerbey Ave (adaptable as Cut & Cover / deck park) (w/o surface access lanes and w/ or w/o overhead cross-streets)	Y	This alternative would directly improve safety along Mesa St and the overhead cross-streets. Hydraulic / drainage would be required.	Y	This alternative would directly provide a safer means to move bicyclists and pedestrians via the relocation of the Mesa St lanes below ground level.	++	This alternative would improve various LOSs along Mesa St.	Y	This alternative would compliment access management control measures.	N	This alternative is considered transit supportative by allowing buses / BRT to more efficiently navigate Mesa St by underpassing / avoiding signalized intersections, but does not include SB bus access to Glory Rd / Glory Rd Transfer Center.	Y	This alternative may or may not be supported by local planning (City) efforts. Business access impacts are a concern.	Y	This alternative would increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	Y ✓
Alt MS-C1C (Bypass)	Alt MS-C1B w/ SB ground-level surface access lanes between Gregory Ave and Boston Ave. (conserve ROW w/ cantilevered or straddle bent-supported surface access lanes)	Y	This alternative would directly improve safety along Mesa St and the overhead cross-streets. Hydraulic / drainage would be required.	Y	This alternative would directly provide a safer means to move bicyclists and pedestrians via the relocation of the Mesa St lanes below ground level.	++	This alternative would improve various LOSs along Mesa St.	Y	This alternative would compliment access management control measures.	Y	This alternative is considered transit supportative by allowing buses / BRT to more efficiently navigate Mesa St by underpassing / avoiding signalized intersections w/ access to the Glory Rd Transfer Center.	Y	This alternative may or may not be supported by local planning (City and UTEP) efforts.	Y	This alternative would increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	Y ✓
Alt MS-C2	Ground-level Mesa St - Oregon St couplet (3 SB lanes on Oregon St and 3 NB lanes on Mesa St) between Glory Rd and San Antonio Ave	N	This alternative may not provide safer 1-way travel movements on Mesa St and Oregon St due to SB s-curve required to transition from Mesa St to Oregon St south of Glory Rd.	Y	This alternative would provide a safer means for bicyclists and pedestrians to navigate each 1-way street and in the case of Mesa St. allows for wider sidewalks by eliminating one travel lane.	+	This alternative would improve various LOSs along Mesa St.	Y	This alternative would compliment access management control measures.	Y	This alternative is considered transit supportative by allowing buses / BRT to more efficiently navigate Mesa St and each signalized intersection via more green time.	N	This alternative is not anticipated to be supported by local planning (City and UTEP) efforts due to its potential UTEP campus and building impacts, particularly the north tie-in / merge to Mesa St near Cincinnati Ave that requires multiple ROW displacements.	Y	This alternative would increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	N ✗
Alt MS-BY1 (Bypass)	2 below-ground level SB and NB bypass lanes on Mesa St section between Gregory Ave and Kerbey Ave (adaptable as Cut & Cover / deck park) (w/o surface access lanes and w/ or w/o overhead cross-streets)	Y	This alternative would directly improve safety along Mesa St and the overhead cross-streets. Hydraulic / drainage would be required.	Y	This alternative would directly provide a safer means to move bicyclists and pedestrians via the relocation of the Mesa St lanes below ground level.	+	This alternative would improve various LOSs along Mesa St.	Y	This alternative would compliment access management control measures.	N	This alternative is considered transit supportative by allowing buses / BRT to more efficiently navigate Mesa St by underpassing / avoiding signalized intersections, and includes SB and NB Mesa St bus access to Glory Rd / Glory Rd Transfer Center.	Y	This alternative may or may not be supported by local planning (City and UTEP) efforts.	Y	This alternative would increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS by eliminating the traversal of signalized intersections.	Y ✓
Alt MS-BY2 (Bypass)	Alt MS-BY1 w/ SB and NB surface access lanes between Gregory Ave and Boston Ave (conserve ROW w/ cantilevered or straddle bent-supported surface access lanes)	Y	This alternative would directly improve safety along Mesa St and the overhead cross-streets. Hydraulic / drainage would be required.	Y	This alternative would directly provide a safer means to move bicyclists and pedestrians via the relocation of the Mesa St lanes below ground level.	+	This alternative would improve various LOSs along Mesa St.	Y	This alternative would compliment access management control measures.	Y	This alternative is considered transit supportative by allowing buses / BRT to more efficiently navigate Mesa St by underpassing / avoiding signalized intersections w/ access to the Glory Rd Transfer Center.	Y	This alternative may or may not be supported by local planning (City and UTEP) efforts.	Y	This alternative would increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS by eliminating the traversal of signalized intersections.	Y ✓
Alt MS-ELE	2 NB and SB Mesa St elevated (bridged) lanes from Mississippi Ave to Blacker Ave	Y	This alternative would directly improve safety along Mesa St by seperating the Mesa St through lanes from the other travel modes and from the cross-streets.	Y	This alternative would directly provide a safer means to move bicyclists and pedestrians via underneath the Mesa St lanes.	++	This alternative would improve the LOS for the Mesa St through lanes, as well as the underneath cross-streets.	Y	This alternative would compliment access management control measures.	Y	This alternative is considered transit supportative by allowing buses / BRT to more efficiently navigate Mesa St by overpassing / avoiding the signalized cross-street intersections.	N	This alternative is not currently anticipated to be supported by local planning (City and UTEP) efforts due to noise impacts associated w/ the expansive bridges and the refuse / shade zone that can result beneath the bridges.	Y	This alternative would increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	N ✗
Alt MS-REV	Reverse NB Mesa St lane(s) to SB and vice versa during peak traffic hours	N	This alternative is not expected to improve safety along Mesa St due to driver intansitiarity w/ reversible or contra-flow lanes that are typically used on freeways as HOV lanes via movable barriers / barricades cones to properly route travelers during morning and evening peak hour via field / traffic control and everchanging sign-changes to ensure safety; strong-way safety is also a concern at the 40+ Mesa St intersections.	N	This alternative is not expected to provide a safer means to move bicyclists and pedestrians across the everchanging, reversible Mesa St lanes.	O	This alternative may improve various LOSs along Mesa St.	Y	This alternative may compliment access management control measures.	Y	This alternative is considered transit supportative by allowing buses / BRT to more efficiently navigate Mesa St by providing another travel lane in the peak hour direction.	N	This alternative is not currently anticipated to be supported by local planning (City and UTEP) efforts due to safety concerns and the intrusive nature of the freeway-type barriers and signage required.	Y	This alternative may increase the Mesa St average speed, decrease queue lengths and delays, and improve the LOS.	N ✗

NOTES:

This **Level 1** Screening phase identifies those alternatives that pass the fatal flaw evaluation. Qualitative fatal flaw criteria is utilized to evaluate and screen the Universe of Alternatives against the Purpose and Need. Alternatives determined to meet the Purpose and Need are carried forward to the **Level 2** Screening as Preliminary Alternatives for further development and Qualitative evaluation. In the subsequent **Level 3** Screening, the Preliminary Alternatives carried forward from **Level 2** are combined and evaluated in greater detail as Reasonable / Combined Build Alternatives and rated with Quantitative criteria, measures, and data to validate each Reasonable / Combined Build Alternative.

[1] Alternative-related issues and aspects such as illumination, pavement markings, signage, sidewalk/crosswalk/bus stop locations, posted speeds and landscaping and utility pole location issues will be addressed in the Master Plan.

[2] The current Horizon 2040 MTP is a planning document that can be amended to adopt local planning proposals such as the Mesa St. - SH 20 Corridor Study final recommendations.

[3] Carry forward for comparison purposes.

Preliminary Alternatives Summary Matrix
Level 2 Screening for Benefits and Impacts
(Qualitative Analysis)

Level 2 Screening for Benefits and Impacts
(Qualitative)

Criteria	Mobility and Engineering							Environmental															Cost Feasibility[1]						Safety	Public Input		Agency Input		Overall Category Ratings						Meets Study Purpose / Carry Forward? (Y/N)
								Community Impacts			Cultural Resource Impacts		Natural Resource Impacts					Other Impacts																						
	Transit, Bicyclist and Pedestrian Mode Integration	No Overall Negative Bus / BRT Impacts	Supports Access Management	Level of Service	Travel Times / Avg. Speed	2040 Travel Demand Accommodation	UTEP Access/ Circulation Accommodation	Neighborhood Character	Context Sensitive Solutions	Social, Economic, and Environmental	Archeological Sites	Historic Resources	Park Land	Water Resources	Drainage Features	Biological Resources	Agricultural Resources	Land and / or Building Acquisition	Hazardous Material Sites	Air Quality	Traffic Noise	Lessen Vehicular Trips	Construction Cost	Right-of-Way Cost	Utility Cost	Utilities and Infrastructure Impacts	Economic Development Accommodation / Support	Financing and Cost-sharing Opportunities	Lessens Potential Crashes via Current Design Standards	Addresses Aug 2-4, 2016 Public Meeting Input	Compatible w/ programmed improvements	Agency Working Group Meeting Input	Compatibility w/ Agency Plans	Mobility and Engineering	Environ.	Cost Feasibility[1]	Safety	Public Input	Agency Input	
No-Build Alternative																																								
No-Build [2]	O	O	--	--	--	--	--	-	O	-	+	+	+	+	-	+	++	+	+	-	-	-	--	O	O	++	--	++	--	--	--	--	--	--	O		--	--	--	Y[1] ✓
ITS Alternative																																								
Alt ITS-1	+	+	--	+	+	-	O	+	+	+	+	+	+	+	+	+	++	+	+	++	+	+	O	O	O	+	O	+	O	+	+	+	+	O	+		O	+	+	Y ✓
Alt ITS-2	O	O	--	+	+	-	O	+	+	+	+	+	+	+	+	+	++	+	+	++	+	+	O	O	O	+	O	+	O	+	+	+	+	O	+		O	+	+	Y ✓
Alt ITS-3	+	+	--	+	+	-	O	+	+	+	+	+	+	+	+	+	++	+	+	++	+	+	O	O	O	+	O	+	O	+	+	+	+	O	+		O	+	+	Y ✓
Alt ITS-4	+	O	--	+	+	-	O	+	+	+	+	+	+	+	+	+	++	+	+	O	+	O	O	O	O	+	O	+	O	+	+	+	+	O	+		O	+	+	Y ✓
Bike-Pedestrian Alternatives																																								
Alt BP-1	++	+	--	--	--	--	O	++	++	+	+	+	+	+	+	+	++	+	+	+	+	++	-	-	--	+	O	+	+	++	++	++	++	O	+		+	++	++	Y ✓
Alt BP-2	++	O	--	O	O	O	O	++	++	+	+	+	+	+	+	+	++	+	+	+	+	++	-	O	--	+	O	+	+	++	++	++	++	O	+		+	++	++	N ✗
Alt BP-3	++	+	--	O	O	O	O	+	+	+	+	+	+	+	+	+	++	+	+	+	+	++	-	-	--	+	O	+	++	+	++	+	++	O	+		++	++	++	Y ✓
Alt BP-4	O	O	--	O	O	O	O	++	++	+	+	+	+	+	+	+	++	+	+	+	+	++	-	O	O	++	O	+	-	+	O	O	--	O	+		-	O	-	N ✗
Alt BP-5	+	O	--	O	O	O	O	++	++	+	+	+	+	+	+	+	++	+	+	+	+	++	--	O	O	++	O	+	+	++	O	O	--	O	+		+	+	-	N ✗
Alt BP-7	+	-	--	--	--	--	--	+	++	O	+	+	--	+	+	-	++	+	+	+	++	++	--	-	-	+	O	+	+	+	O	--	O	--	-		+	O	-	N ✗
Alt BP-10	+	+	--	O	-	--	+	+	++	O	+	+	+	+	+	+	++	+	+	+	++	++	--	-	-	+	O	+	+	+	O	+	O	-	+		+	O	O	N ✗
Alt BP-11	+	-	--	O	--	--	++	+	+	O	+	+	+	+	+	+	++	+	+	+	++	++	--	-	-	+	O	+	++	+	O	+	O	-	+		++	O	O	N ✗
Alt BP-12	+	-	--	--	--	--	+	+	+	+	+	+	+	+	++	++	++	++	+	+	O	++	O	O	O	++	O	+	++	+	O	+	O	--	+		++	O	O	Y ✓
Alt BP-13	+	-	--	--	--	--	--	++	++	+	+	+	+	+	+	+	++	+	+	+	++	++	--	-	-	+	O	+	O	+	O	+	O	--	+		O	O	O	N ✗
Alt BP-14	++	-	--	+	+	+	--	O	O	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	O	O	O	+	+	-	+	-	+		+	O	O	Y ✓
Alt BP-15	+	O	++	-	--	--	--	+	O	+	+	-	+	+	+	+	+	+	+	+	-	+	+	+	+	+	O	O	++	+	+	+	+	-	+		++	+	-	N ✗
Intersection Alternatives																																								
Alt I1-TUR	+	+	+	+	+	+	O	O	O	O	+	O	+	+	+	+	++	-	+	+	+	+	-	O	-	O	O	+	+	++	+	++	++	+	+		+	+	++	Y ✓
Alt I1-DCT-L	+	+	+	+	+	+	--	O	O	O	+	O	+	+	+	+	++	--	+	+	+	+	-	O	O	O	O	+	+	++	+	++	++	+	+		+	+	++	Y ✓
Alt I1-DCT-3	+	++	+	O	+	+	--	O	O	O	+	O	+	+	+	+	++	--	+	+	+	+	-	-	-	-	O	+	+	O	O	+	O	+	+		+	O	+	N ✗
Alt I-0GSI	++	++	++	++	++	++	--	-	O	O	+	O	+	+	+	+	++	--	+	+	+	+	--	-	-	-	O	+	++	+	O	O	O	++	+		++	O	O	N ✗
Alt I-0BY	++	++	++	++	++	++	--	+	+	O	+	O	+	+	+	+	++	--	+	+	+	+	--	-	--	--	O	+	++	+	O	-	O	++	+		++	O	O	N ✗
Alt I-11BY	++	++	++	++	++	++	--	++	+	O	+	O	+	+	+	+	++	--	+	+	+	+	--	-	--	--	O	+	++	+	O	+	O	++	+		++	O	O	Y ✓
Alt I-11SPU	++	++	++	++	++	++	--	-	O	O	+	O	+	+	+	+	++	--	+	+	+	+	-	-	-	-	O	+	++	O	O	O	O	++	+		++	O	O	Y ✓
Alt I-RCT	+	+	+	+	+	+	--	O	O	O	+	O	+	+	+	+	++	--	+	+	+	+	-	O	O	O	O	+	+	++	+	++	++	+	+		+	+	++	N ✗
Alt I-RGSI	++	++	++	--	++	++	--	-	O	O	+	O	+	+	+	+	++	--	+	+	+	+	--	-	-	-	O	+	++	O	O	O	O	++	+		++	O	O	Y ✓
Alt I-RNOU	+	++	++	--	++	++	--	O	O	O	+	O	+	+	+	+	++	--	+	+	+	+	--	-	-	-	O	+	+	O	O	O	O	++	+		+	O	O	N ✗
Alt I-SCT	+	+	+	--	-	-	--	O	O	O	+	O	+	+	+	+	++	--	+	+	+	+	-	O	O	O	O	+	+	++	+	++	+	+	+		+	+	+	N ✗
Alt I-GGSI	++	++	++	++	++	++	--	-	O	O	+	O	+	+	+	+	++	--	+	+	+	+	--	-	-	-	O	+	++	O	O	O	O	++	+		++	O	O	Y ✓
Alt I-SNOU	+	++	++	-	-	-	--	O	O	O	+	O	+	+	+	+	++	--	+	+	+	+	--	-	-	-	O	+	+	O	O	O	O	++	+		+	O	O	N ✗
Alt I-MCT	+	+	+	+	+	+	--	O	O	O	+	O	+	+	+	+	++	--	+	+	+	+	-	O	O	-	O	+	+	++	+	++	+	+	+		+	+	+	N ✗
Alt I-MGSI	++	++	++	--	++	++	--	-	O	O	+	O	+	+	+	+	++	--	+	+	+	+	--	-	-	-	O	+	++	O	O	O	O	++	+		++	O	O	N ✗
Alt I-ECT	+	+	+	--	-	-	--	O	O	O	+	O	+	+	+	+	++	--	+	+	+	+	-	O	O	O	O	+	+	++	+	++	+	+	+		+	+	+	N ✗
Alt I-EGSI	++	++	++	++	++	++	--	-	O	O	+	O	+	+	+	+	++	--	+	+	+	+	--	-	-	-	O	+	++	O	O	O	O	++	+		++	O	O	N ✗
Alt I-ENOU	+	++	++	-	-	-	--	O	O	O	+	O	+	+	+	+	++	--	+	+	+	+	--	-	-	-	O	+	+	O	O	O	O	++	+		+	O	O	N ✗
Alt I-ETU	+	++	++	-	++	++	--	-	O	O	+	O	+	+	+	+	++	--	+	+	O	+	--	-	-	-	O	+	++	O	O	O	O	++	+		+	O	O	N ✗
Alt I-0GT	+	++	++	++	++	++	--	O	O	O	+	O	+	+	+	+	++	--	O	+	+	O	+	-	-	-	O	+	+	O	O	O	O	++	+		+	O	O	Y ✓
Alt I-SAROU	+	O	++	O	O	O	--	--	O	O	+	O	+	+	+	+	++	--	O	+	+	O	+	-	-	-	O	+	+	O	O	O	O	++	+		+	O	O	N ✗
Alt I-9NOU	+	++	O	++	+	+	--	+	O	O	+	O	+	+	+	+	++	--	O	+	+	O	+	++	++	++	++	-	O	O	O	O	-	-	+	+		O	-	-	N ✗
Roadway Connectivity Alternatives																																								
Alt RC-1	O	+	--	+	O	O	--	O	O	++	++	++	++	++	++	++	++	++	++	O	-	O	-	O	O	O	+	+	-	O	O	+	+	O	++		-	O	+	Y ✓
Alt RC-4	--	+	--	+	+	+	--	-	O	++	++	++	++	++	++	++	++	--	++	O	--	O	--	-	--	-	O	+	-	++	O	+	O	-	++		-	+	O	N ✗
Alt RC-5A	+	+	--	+	+	+	--	-	O	--	++	++	++	++	+	++	++	--	++	O	--	+	-	-	-	-	-	+	--	+	O	+	+	+	+		--	+	O	N ✗
Alt RC-7	O	+	++	O	O	-	--	O	O	+	++	++	++	++	++	++	++	--	++	O	O	+	-	-	-	-	O	+	O	O	O	O	O	+	++		O	O	O	N ✗
Alt RC-8	-	+	++	+	+	O	--	O	O	+	++	++	++	++	++	++	++	++	++	O	O	+	-	-	-	-	O	+	O	O	O	O	O	O	++		O	O	O	N ✗
Alt RC-9	O	+	--	+	O	O	--	O	O	+	++	++	++	++	++	++	++	-	++	O	-	+	-	-	O	-	O	+	O	O	O	O	O	O	++		O	O	O	N ✗
Alt RC-12	O	+	--	+	+	O	--	O	O	O	++	++	++	++	++	++	++	-	++	O	O	+	-	-	-	-	O	+	O	O	O	O	O	+	++		O	O	O	Y ✓
Alt RC-13	O	+	++	+	O	O	--	-	-	O	++	++	++	++	++	++	++	++	++	O	O	+	-	-	-	-	+	+	O	O	O	O	O	+	++		O	O	O	N ✗
Alt RC-16	O	+	++	+	+	O	--	O	O	O	++	++	++	++	++	++	++	++	++	O	O	+	O	O	O	O	+	+	O	O	O	O	O	+	++		O	O	O	N ✗
Alt RC-17	O	+	--	+	+	O	--	O	+	O	++	++	++	++	O	+	++	--	++	O	-	+	-	-	O	O	+	+	O	O	O	O	O	O	+		O	O	O	N ✗
Alt RC-18	+	+	--	O	+	+	--	O	O	O	++	++	++	O	O	+	++	--	++	O	O	+	-	O	O	O	+	+	O	O	O	O	-	O	+		O	O	-	Y ✓
Transit Alternatives																																								
Alt TR-1	+	++	--	+	+	+	+	+	+	O	O	O	O	O	O	O	O	--	O	+	O	+	--	--	--	-	O	+	O	++	+	+	-	+	O		O	+	-	N ✗
Alt TR-4	+	++	--	++	+	+	++	+	+	O	O	O	O	O	O	O	O	--	O	+	O	+	++	-	--	-	+	--	+	O	O	O	O	+	O		+	O	O	N ✗
Alt TR-6	+	++	--	O	O	O	+	-	+	O	O	O	O	O	O	O	O	--	O	+	O	+	-	-	-	-	O	+	O	O	O	O	O	O	O		O	O	O	N ✗
Alt TR-7	O	+	--	++	+	+	+	+	+	-	O	O	O	O	O	O	O	-	O	+	O	+	-	O	O	-	O	+	O	O	+	+	+	+	O		O	+	+	Y ✓
SH 20 / Mesa Street Alternatives																																								
Alt MS-1	+	+	--	O	O	-	+	++	+	+	++	++	++	++	++	++	++	+	++	++	++	++	-	O	O	O	O	+	+	++	++	++	++	+	++		+	++	++	Y ✓
Alt MS-2	++	++	+	+	+	O	O	O	O	+	+	+	+	+	+	+	+	+	++	++	+	++	-	-	-	-	O	+	+	+	O	+	O	+	+		+	O	O	Y ✓
Alt MS-3	++	++	++	+	+	+	+	+	+	+	++	++	++	++	++	++	++	-	++	++	+	+	-	O	O	O	-	+	+	+	O	+	O	+	++		+	O	O	Y ✓
Alt MS-4	+	+	+	+	+	O	--	O	O	+	+	+	+	+	+	+	+	--	++	++	+	+	-	-	-	-	-	+	+	+	O	+	O	+	+		+	O	O	Y ✓
Alt MS-5	+	+	+	+	+	O	+	+	+	+	+	+	+	+	+	+	+	-	++	++	+	++	-	-	-	-	-	+	+	+	O	+	O	+	+		+	O	O	Y ✓
Alt MS-6	+	-	+	O	O	-	--	O	+	+	+	+	+	+	+	+	+	+	++	++	++	++	--	O	O	O	O	+	+	O	O	+	+	O	+		+	O	+	Y ✓
Alt MS-7	++	++	++	+	+	+	O	O	+	+	+	+	+	+	+	+	+	--	++	++	++	++	--	--	--	-	O	+	O	+	+	++	+	+	+		O	+	+	Y ✓
Alt MS-C1A	++	++	+	++	++	++	O	O	O	+	+	+	+	+	+	+	+	--	++	++	O	O	-	O	O	O	-	+	+	+	O	-	O	++	+		+	O	-	N ✗
Alt MS-C1B	++	--	++	++	++	++	--	+	O	+	+	+	+	+	+	+	+	--	++	++	+	-	--	O	O	--	-	+	++	O	O	-	O	++	+		++	O	-	N ✗

Alt MS-C1 C	++	++	+	++	++	+	O	+	+	+	+	+	+	+	+	+	+	--	++	++	+	O	--	-	-	--	O	+	+	+	O	-	O	++	+		+	O	-	N ✗
Alt MS-BY1	++	--	++	+	+	O	++	O	O	+	+	+	+	+	+	+	+	-	++	++	+	-	--	O	O	--	-	+	++	O	O	O	O	+	+		++	O	--	N ✗
Alt MS-BY2	++	++	+	+	+	+	O	+	+	+	+	+	+	+	+	+	+	-	++	++	+	+	--	-	-	-	O	+	+	+	O	+	O	+	+		+	O	O	Y ✓

NO KS:

[1]For information and comparison purposes only; as instructed by TxDOT, will not be used to carry forward or drop an Alt. during this Level 2 (brainstorm all options) Screening.

[2] Baseline condition in the study area; no additional improvements are implemented other than those already programmed (fiscally constrained in Horizon 2040 MTP).

Preliminary Alternatives Details Matrix
Level 2 - Mobility and Engineering Screening for Benefits and Impacts
(Qualitative Analysis)

Study Goals		Multi-Modal		Transit Supportive		Improve access and lessen access conflicts		Congestion queing reduction		Reliability		Accommodate 2040 Travel Demand		UTEP special event accommodation	
Criteria		Transit, Bicyclist and Pedestrian Mode Integration		No Overall Negative Bus / BRT Impacts		Supports Access Management		Level of Service		Travel Times / Avg. Speed		Travel Demand Model Accommodation		UTEP Access / Circulation Accommodation	
Measure		Accommodates and serves transit, pedestrian and cyclist modes		Potential increase to transit ridership, access and safety		Accomodates driveway and median opening reductions		Anticipated Mesa St / Intersection LOS		Time, speed, delay, queue lengths		Comparison of Model results		Accommodates typical special event routes / circulation	
		Rating	Evaluation	Rating	Evaluation	Rating	Evaluation	Rating	Evaluation	Rating	Evaluation	Rating	Evaluation	Rating	Evaluation
Preliminary Alternatives															
No-Build Alternative															
No-Build 1[1]	All current planned transportation improvements in the MPO Horizon 2040 Travel Demand Model.	O	Does does not appear to significantly accommodate or improve all Mesa St modes.	O	Does not appear to increase transit along Mesa St.	--	Does not contain access management solutions specific to Mesa St.	--	Does not improve Mesa St LOS.	--	Does not improve the reliability of Mesa St.	--	Does not optimally mitigate 2040 Mesa St travel demand or address specific Mesa St travel issues.	--	Does not accommodate UTEP special events.
ITS Alternatives															
Alt ITS-1	Mesa St signal timing and coordination including timing adjustments for I-10 overflow and I-10 construction avoidance traffic	+	Would significantly serve transit modes.	+	May increase transit along Mesa St.	--	Does not contain access management solutions specific to Mesa St.	+	Would improve Mesa St LOS.	+	Would improve the reliability of Mesa St.	-	Would mitigate the 2040 Mesa St. travel demand.	O	May help mitigate the effects of the UTEP special events.
Alt ITS-2	Mesa St Communication System, CCTV traffic recording devices (cameras, loops, microwave, radar), Traffic Flow Detectors, Alternate route plans and Bluetooth data collection	O	May or may not significantly serve various modes.	O	May or may not increase transit along Mesa St.	--	Does not contain access management solutions specific to Mesa St.	+	Would improve Mesa St LOS.	+	Would improve the reliability of Mesa St.	-	Would mitigate the 2040 Mesa St. travel demand.	O	May help mitigate the effects of the UTEP special events.
Alt ITS-3	Mesa St / BRIO-related information and coordination data	+	Would significantly serve transit modes.	+	May increase transit along Mesa St.	--	Does not contain access management solutions specific to Mesa St.	+	Would improve the Mesa St LOS.	+	Would improve the reliability of Mesa St.	-	Would mitigate the 2040 Mesa St. travel demand.	O	May help mitigate the effects of the UTEP special events.
Alt ITS-4	Mesa St wayfinding signage, Dynamic Message Signs and Traffic Control for special events	+	Would significantly serve transit modes.	O	May or may not increase transit along Mesa St.	--	Does not contain access management solutions specific to Mesa St.	+	Would improve the Mesa St LOS.	+	Would improve the reliability of Mesa St.	-	Would mitigate the 2040 Mesa St. travel demand.	O	May help mitigate the effects of the UTEP special events.
Bike-Pedestrian Alternatives															
Alt BP-1	Sidewalk upgrades and connectivity; bus patron channelization and crosswalk upgrades at intersections	++	Would significantly serve bike and pedestrian modes.	+	Is considered transit supportative.	--	Does not contain access management solutions specific to Mesa St.	--	Would not improve the Mesa St LOS.	--	Would not improve the reliability of Mesa St.	--	Would not mitigate the 2040 Mesa St. travel demand.	O	May help mitigate the effects of the UTEP special events.
Alt BP-2	Mesa St intersection accommodation of City Bike Plan routes along intersecting crossreets; Consider installing Dutch Intersections	++	Would significantly serve bike and pedestrian modes.	O	Dependent on bicyclists using the bus / BRT.	--	Does not contain access management solutions specific to Mesa St.	O	May somewhat improve the Mesa St LOS.	O	May somewhat improve the reliability of Mesa St.	O	May somewhat mitgate the 2040 Mesa St travel demand.	O	May help mitigate the effects of the UTEP special events.
Alt BP-3	"Shared Use" bike path (10-12' wide) parallel to Mesa St from Doniphan Dr to Glory Rd (per City Bike Plan) (If ROW is constrained, consider Shared Bike/Bus Lane)	++	Would significantly serve bike and pedestrian modes.	+	Is considered transit supportative.	--	Does not contain access management solutions specific to Mesa St.	O	May somewhat improve the Mesa St LOS.	O	May somewhat improve the reliability of Mesa St.	O	May somewhat mitgate the 2040 Mesa St travel demand.	O	May help mitigate the effects of the UTEP special events.
Alt BP-4	1 NB and 1 SB Shared Use travel lane on Mesa St from Doniphan Dr to Glory Rd	O	Depending on bicyclist useage (sharing lane w/ vehicles), would somewhat serve bicyclists along Mesa St.	O	Dependent on bicyclists using the bus / BRT via bus stations and Transfer Centers.	--	Does not contain access management solutions specific to Mesa St.	O	May somewhat improve the Mesa St LOS.	O	May somewhat improve the reliability of Mesa St.	O	May somewhat mitgate the 2040 Mesa St travel demand.	O	May help mitigate the effects of the UTEP special events.
Alt BP-5	1 SB and 1 NB "Buffered Bike Lane" on Mesa St from Doniphan Dr to Glory Rd, or a 2-way "Buffered Bike Lane" on SB Mesa St from Doniphan Dr to Glory Rd	+	Depending on bicyclist useage, would somewhat serve bicyclists along Mesa St.	O	Dependent on bicyclists using the bus / BRT via bus stations and Transfer Centers.	--	Does not contain access management solutions specific to Mesa St.	O	May somewhat improve the Mesa St LOS.	O	May somewhat improve the reliability of Mesa St.	O	May somewhat mitgate the 2040 Mesa St travel demand.	O	May help mitigate the effects of the UTEP special events.
Alt BP-7	Pedestrian bridge over Mesa St at Coronado HS; possibly include canopy-shaded seating / tables to curtail students crossing Mesa St at-grade [link w/ Park & Rec. Master Plan (pg 12-8, "Linkage Corridor") and nearby Lambka Park]	+	Would serve the pedestrian mode.	-	Unlikely to support transit ridership.	--	Does not contain access management solutions specific to Mesa St.	--	Would not improve the Mesa St LOS.	--	Would not improve the reliability of Mesa St.	--	Would not mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt BP-10	Pedestrian bridge over Mesa St near UTEP / Glory Rd (combine w/ applicable Mesa St Capacity Alts)	+	Would serve the bicyclist mode.	+	Likely to support transit ridership due to proximity of the Glory Rd Transfer Center, and if combined w/ other transit and Mesa St related Alternatives in the same vicinity.	--	Does not contain access management solutions specific to Mesa St.	O	May improve the Mesa St LOS.	-	May improve the reliability of Mesa St.	--	Would not mitigate the 2040 Mesa St. travel demand.	+	May mitigate the effects of the UTEP special events.
Alt BP-11	Pedestrian Underpass beneath Mesa St supplanting Robinson Ave	+	Would serve the pedestrian mode.	-	Unlikely to support transit ridership.	--	Does not contain access management solutions specific to Mesa St.	O	May improve the Mesa St LOS.	--	Would not improve the reliability of Mesa St.	--	Would not mitigate the 2040 Mesa St. travel demand.	++	Would not mitigate the effects of the UTEP special events.
Alt BP-12	"Pedestrian Scramble" intersection (4-Way signalized stop) at Mesa St / University Ave and Mesa St / River St	+	Would serve the pedestrian mode.	-	Unlikely to support transit ridership.	--	Does not contain access management solutions specific to Mesa St.	--	May negatively effect (decrease) the Mesa St LOS.	--	May negatively effect (decrease) the reliability of Mesa St.	--	May negatively effect (increase) the 2040 Mesa St. travel demand.	+	May help mitigate the effects of the UTEP special events.
Alt BP-13	Deck Parks over I-10 in downtown, adjacent to Mesa St, between Stanton St and Sante Fe St	+	Would serve the pedestrian mode.	-	Unlikely to support transit ridership.	--	Does not contain access management solutions specific to Mesa St.	--	Would not improve the Mesa St LOS.	--	Would not improve the reliability of Mesa St.	--	Would not mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt BP-14	Remove "Pedestrian Scramble" intersection timing at Mesa St / San Antonio Ave	++	Would serve all modes.	-	Unlikely to support transit ridership.	--	Does not contain access management solutions specific to Mesa St.	+	Would improve the Mesa St LOS.	+	Would improve the reliability of Mesa St.	+	Would likely mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.

Alt BP-15	Close the Mesa St / San Antonio Ave intersection and portions of each street beyond the intersection and convert the streets to a pedestrian mall with possibly transit-only integration.	+	Would serve the pedestrian and transit modes.	O	May or may not support transit ridership.	++	Does contain access management solutions specific to Mesa St via roadway closure(s)	-	May negatively effect (decrease) the Mesa St and San Antonio Ave LOS.	--	Would not improve the reliability of Mesa St.	--	Would not mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Intersection Alternatives															
Alt I-TLR	Warranted left and right turn lanes, storage and decelleration lanes, and auxilliary lanes; elimination of Split Phase intersections/ shared left-through lanes/overlapping paths at Doniphan Dr, Remcon Cir, Resler Dr, and Sunland Park Dr.	+	Would serve all modes.	+	Is considered transit supportative.	+	May contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway.	+	Would improve the Mesa St LOS.	+	Would improve the Mesa St reliability.	+	Would mitigate the 2040 Mesa St. travel demand.	O	May mitigate the effects of the UTEP special events.
Alt I-DCT-1	Ground-level Channelized Turning Movement Intersection at Mesa St / Doniphan Dr (shift alignment east to avoid BNSF RR)	+	Would serve all modes.	+	Is considered transit supportative.	+	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway.	+	Would improve the Mesa St LOS via an at-grade lane expansion of the intersection in combination with the Doniphan dr Study additional lanes on Doniphan Dr.	+	Would improve the Mesa St reliability via an at-grade lane expansion of the intersection in combination with the Doniphan dr Study additional lanes on Doniphan Dr.	+	Would improve the Mesa St 2040 Mesa St. travel demand via an at-grade lane expansion of the intersection in combination with the Doniphan dr Study additional lanes on Doniphan Dr.	--	Would not mitigate the effects of the UTEP special events.
Alt I-DCT-3	Alt DCT-1 w/ Flyover Ramp from SB Doniphan Dr to EB Mesa St (shift alignment east to avoid BNSF RR)	+	Would serve the vehicular and transit modes and indirectly bike and pedestrian modes by removing vehicles from the intersection crosswalks.	++	Is considered transit supportative.	+	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway.	O	Would improve the Mesa St LOS for isolated m	+	Would improve the Mesa St reliability.	+	Would mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt I-DGSI	Grade-seperated Intersection at Mesa St / Doniphan Dr (shift alignment east to avoid BNSF RR)	++	Would serve all modes.	++	Is considered transit supportative.	++	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway.	++	Would improve the Mesa St LOS, but not considered necessary due to the satisfactory LOS provided by the at-grade Alt.	++	Would improve the Mesa St reliability.	++	Would mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt I-DBY **(Bypass)**	2 below-ground level, CTB-seperated SB and NB Doniphan Dr bypass lanes w/ 2 NB and 2 SB ground-level access streets and U-turns (conserve ROW w/ cantilivered or cross-beam supported access streets)	++	Would serve all modes.	++	Is considered transit supportative.	++	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway and median openings.	++	Would improve the Mesa St LOS.	++	Would improve the Mesa St reliability.	++	Would mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt I-I10BY **(Bypass)**	2 below-ground level, CTB-seperated EB and WB Mesa St bypass lanes, from Osborne Dr to Belvidere St w/ 2 EB and WB ground-level access streets and U-turns (conserve ROW w/ cantilevered or straddle-bent supported access streets)	++	Would serve all modes.	++	Is considered transit supportative.	++	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway and median openings.	++	Would improve the Mesa St LOS.	++	Would improve the Mesa St reliability.	++	Would mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt I-I10SPU	SPUI interchange at Mesa St / I-10 Frontage Rd intersections	++	Would serve all modes.	++	Is considered transit supportative.	++	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway.	++	Would improve the Mesa St LOS.	++	Would improve the Mesa St reliability.	++	Would mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt I-RCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Resler Dr	+	Would serve all modes.	+	Is considered transit supportative.	+	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway.	+	Would improve the Mesa St LOS.	+	Would improve the Mesa St reliability.	+	Would mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt I-RGSI	Grade-seperated Intersection at Mesa St / Resler Dr or SPUI	++	Would serve all modes.	++	Is considered transit supportative.	++	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway.	--	Would improve the Mesa St LOS. However, Level 2 analysis determines this grade-seperation as unnecessary, based on moderate traffic volumes/demand at the intersection.	++	Would improve the Mesa St reliability.	++	Would mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt I-RROU	Dual Cross-street Roundabout (teardrop shape) intersections at Resler Dr underpassing 3 elevated NB and SB Mesa St lanes (requires closure of Cloudview Dr from Resler Dr to Champions Pl)	+	Would serve all modes.	++	Is considered transit supportative.	++	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway.	--	Would improve the Mesa St LOS. However, Level 2 analysis determines this grade-seperation as unnecessary, based on moderate traffic volumes/demand at the intersection.	++	Would improve the Mesa St reliability.	++	Would mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt I-SCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Sunland Dr intersection	+	Would serve all modes.	+	Is considered transit supportative.	+	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway.	--	Would not improve the Mesa St LOS, based on Level 2 screening analysis.	-	Would not improve the Mesa St reliability.	-	Would not mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt I-SGSI	Grade-seperated Intersection at Mesa St / Sunland Park Dr or SPUI	++	Would serve all modes.	++	Is considered transit supportative.	++	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway.	++	Would improve the Mesa St LOS.	++	Would improve the Mesa St reliability.	++	Would mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt I-SROU	Dual Cross-street Roundabout (teardrop shape) intersection at Sunland Park Dr underpassing 3 elevated NB and SB Mesa St lanes	+	Would serve all modes.	++	Is considered transit supportative.	++	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway.	-	Would not improve the overall Mesa St LOS at the intersection.	-	Would not improve the overall Mesa St reliability at the intersection.	-	Would not mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt I-MCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Montecillo Blvd intersection (shift alignment eastward to avoid retail)	+	Would serve all modes.	+	Is considered transit supportative.	+	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway.	+	Would improve the Mesa St LOS, however no added turn lane upgrades are warranted.	+	Would improve the Mesa St reliability.	+	Would mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt I-MGSI	Grade-seperated Intersection at Mesa St / Montecillo Blvd (shift alignment eastward to avoid retail)	++	Would serve all modes.	++	Is considered transit supportative.	++	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway.	--	Would improve the Mesa St LOS. However, Level 2 analysis determines this grade-seperation as unnecessary, based on moderate traffic volumes/demand at the intersection.	++	Would improve the Mesa St reliability.	++	Would mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt I-ECT	Ground-level Channelized Turning Movement Intersection at Mesa St / Executive Center Blvd	+	Would serve all modes.	+	Is considered transit supportative.	+	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway.	--	Would not improve the Mesa St LOS, based on Level 2 screening analysis.	-	Would not improve the Mesa St reliability.	-	Would not mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt I-FGSI	Grade-seperated Intersection at	++	Would serve all modes.	++	Is considered transit supportative.	++	Would contain access management solutions regarding proper seperation of	++	Would improve the Mesa St LOS, but not necessary when compared to at-grade Green T	++	Would improve the Mesa St reliability.	++	Would mitigate the 2040 Mesa St. travel	--	Would not mitigate the effects of the

Alt I-EGS	Mesa St / Executive Center Blvd	+	Would serve all modes.	++	Is considered transit supportative.	++	intersection left turn lane and adjacent driveway.	-	Necessary when compared to at grade Alt.	++	Would improve the Mesa St reliability.	++	demand.	--	UTEP special events.
Alt I-EROU	Dual Cross-street Roundabout (teardrop shape) intersection at Executive Center Dr underpassing 3 elevated NB and SB Mesa St lanes	+	Would serve all modes.	++	Is considered transit supportative.	++	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway.	-	Would not improve the overall Mesa St LOS at the intersection.	-	Would not improve the overall Mesa St reliability at the intersection.	-	Would not mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt I-ETRU	Trumpet Interchange at Mesa St / Executive Center Dr	+	Would serve all modes.	++	Is considered transit supportative.	++	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway.	-	Would not improve the Mesa St LOS.	++	Would improve the Mesa St reliability.	++	Would mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt I-EGT	Green T Intersection at Mesa St / Executive Center Blvd	+	Would serve all modes.	++	Is considered transit supportative.	++	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway.	++	Would improve the Mesa St LOS.	++	Would improve the Mesa St reliability.	++	Would mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt I-EUTN	U-turn (Michigan Lefts) at Mesa St / Executive Center Blvd	+	Would serve all modes.	++	Is considered transit supportative.	++	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway.	-	Likely will not improve the Mesa St LOS.	-	Likely will not improve the Mesa St reliability.	-	Likely will not mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt I-SAROU	Roundabout at Mesa St / San Antonio Ave	+	Would serve all modes.	O	Is somewhat considered transit supportative.	++	Would contain access management solutions regarding proper seperation of intersection left turn lane and adjacent driveway.	O	May or may not improve the overall Mesa St LOS beyond the roundabout.	O	May or may not improve the overall Mesa St reliability beyond the roundabout.	O	May or may not mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt I-9ROU	Mini-Roundabout at Mesa St / San Antonio Ave	+	Would serve all modes.	++	Is considered transit supportative.	O	N/A	++	Would improve the Mesa St LOS.	+	Would improve the Mesa St reliability.	+	Would mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Roadway Connectivity Alternatives															
Alt RC-1	Relocate SB I-10 exit ramp (to Mesa St) upstream to allow for C-D Rd access to McClintock Dr to relieve the Mesa St / C-D Rd intersection	O	May somewhat serve all modes by lessening travel demand at the intersection.	+	Is considered transit supportative.	--	Does not contain access management solutions specific to Mesa St.	+	May improve the intersection LOS.	O	May improve the Mesa St reliability.	O	Would somewhat mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt RC-4	Install WB Resler Dr link to the NB I-10 C-D Rd, and possibly install a downstream I-10 entrance ramp prior to Mesa St Conversely, install SB I-10 C-D Rd Flyover exit ramp to EB Resler Dr	++	Would serve vehicular and transit modes.	+	Is considered transit supportative.	--	Does not contain access management solutions specific to Mesa St.	+	Would improve the Mesa St LOS.	+	Would improve the Mesa St reliability.	+	Would mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt RC-5A	Link northern portions of Stanton St from Buckingham Dr north to link Splendid Sun Dr; also connect to Montecillo Blvd extension	+	Would serve vehicular and transit modes.	+	Is considered transit supportative.	--	Does not contain access management solutions specific to Mesa St.	+	Would improve the Mesa St LOS.	+	Would improve the Mesa St reliability.	+	Would mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt RC-7	Realign / connect Camille Dr and Fountain Rd into one intersection; and extend Palo Verde Pl to Fountain Dr	O	May somewhat serve various modes by eliminating a Mesa St access point.	+	Is considered transit supportative by eliminating a Mesa St access point.	++	Is a specific access management solution.	O	May improve the intersection LOS.	O	May improve the Mesa St reliability.	-	Would unlikely mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt RC-8	Realign / connect Thunderbird Dr w/ Balboa Rd into one intersection, or close Thunderbird Drive from Dew Dr south to Mesa St.	+	May somewhat serve various modes by eliminating a Mesa St access point and signal light.	+	Is considered transit supportative by eliminating a Mesa St access point.	++	Is a specific access management solution.	+	Would improve the intersection LOS.	+	Would improve the Mesa St reliability.	O	Would likely mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt RC-9	Connect Lancers Club Way (3 blocks north of Sunland Park Dr) to Pebble Beach Dr	O	May somewhat serve various modes by lessening travel demand at the Mesa St / Sunland Park Dr intersection.	+	Is considered transit supportative.	--	Does not contain access management solutions specific to Mesa St.	+	May improve the intersection LOS.	O	May improve the Mesa St reliability.	O	May mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt RC-12	Link future Mesa Park Dr extension (westward to I-10) w/ Executive Center Blvd via a north-south connecting arterial	O	May somewhat serve various modes by lessening travel demand at the Mesa St / Montecillo Blvd intersection.	+	Is considered transit supportative.	--	Does not contain access management solutions specific to Mesa St.	+	May improve the intersection LOS.	+	May improve the Mesa St reliability.	O	May mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt RC-13	Realign / connect Brentwood Ave w/ W Eubank Ct (west of Mesa St) into one intersection and close Eubank Ct from Mesa St to Krupp Dr (combine w/ Alt MS-5)	O	May somewhat serve various modes by eliminating a Mesa St access point.	+	Is considered transit supportative by eliminating a Mesa St access point.	++	Is a specific access management solution.	+	May or may not improve the Mesa St LOS near the Mesa St / Brentwood curve.	O	May improve the Mesa St reliability.	O	May mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt RC-16	Close city streets / connections to Mesa St: Conley Rd, Pitt St, Fountain Rd (see Alt RC-9), Paragon Ln, Eubank Ct, Fairmont St / Greenwich Dr, McKelligon Dr, and Kern Dr (between Mesa St and Sun Bowl Dr)	O	May somewhat serve various modes by eliminating Mesa St access points.	+	Is considered transit supportative by eliminating a Mesa St access points.	++	Is a specific access management solution.	+	May improve the Mesa St LOS.	+	May improve the Mesa St reliability.	O	May mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt RC-17	Link Stanton St w/ Castellano Dr (east of Mesa St), and link Argonaut Dr to Montecillo development (per Montecillo Dev. Regulating Plan)	O	May somewhat serve various modes by eliminating Mesa St access points.	+	Is considered transit supportative by alleviating the Mesa St / Montecillo Blvd / Festival / Castellano intersections.	--	Does not contain access management solutions specific to Mesa St.	+	May improve the Mesa St LOS.	+	May improve the Mesa St reliability.	O	May mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt RC-18	Extend Desert Pass St to the Mesa St / Belvidere St intersection	+	May somewhat serve various modes.	+	This alternative may or may not be considered transit supportative by alleviating the Mesa St / Belvidere St intersection demand and providing another means for buses to access the Westside Transfer Center.	--	Does not contain access management solutions specific to Mesa St.	+	May improve the Mesa St LOS.	+	May improve the Mesa St reliability.	O	May mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Transit Alternatives															
Alt TR-1	Dedicated NB and SB BRT lanes on Mesa St from Doniphan Dr to Texas Ave w/ Traffic Signal Priority (TSP) serving bus movements at intersections; also consider bus	+	Would directly and indirectly serve or	++	Is transit supportative	--	Does not contain access management	+	May or may not improve the Mesa St LOS depending on if a non-bus lane is converted to	+	May or may not improve the Mesa St reliability depending on if a non-bus lane is converted to	+	May or may not improve the Mesa St 2040 Mesa St. travel demand depending on if a non-	+	Would mitigate the effects of the UTEP special

Alt TR-1	lanes only for Peak Hours (can be combined w/ Alt MS-C and Alt MS-B options)	+	benefit all modes.	++	is transit supportative.		solutions specific to Mesa St.		supporting on if which bus lane is converted to a bus lane.		supporting on if which bus lane is converted to a bus lane.		Would not meet demand supporting on if which bus lane is converted to a bus lane.	+	events.
Alt TR-4	NB and SB PRT along Sun Bowl Dr from Mesa St southward to stadium area, and possibly to Schuster Ave (link Glory Rd TC and possibly Alt TR-6 parking garage)	+	Would directly and indirectly serve or benefit all modes.	++	Is transit supportative; would supplement and work in tandem w/ the bus / Glory Rd Transfer Center / streetcar operations.	--	Does not contain access management solutions specific to Mesa St.	++	Would improve the Mesa St LOS, particulary the travel demand at Sun Bowl Dr and Glory Rd.	+	Would improve the Mesa St reliability.	+	Would mitigate the 2040 Mesa St. travel demand.	++	Would mitigate the effects of the UTEP special events.
Alt TR-6	Parking Garage at 1) the NE quadrant of Mesa St / Glory Rd that serves special events, student parking, streetcar patrons, and mitigate retail parking displacement, and 2) the SW quadrant of Mesa St / Branchard Ave that serves both business and student parking to curtail student parking east of Mesa St within the neighborhoods (can be combined w/ Alts TR-4, BP-10, and MS-C* and MS-BY options.	+	Would directly and indirectly serve or benefit all modes.	++	Is transit supportative; Glory Rd would supplement and work in tandem w/ the bus / Glory Rd Transfer Center / streetcar operations.	--	Does not contain access management solutions specific to Mesa St.	O	May improve the Mesa St LOS by encouraging parking (removing vehicles from street).	O	May improve the Mesa St reliability by encouraging parking (removing vehicles from street).	O	May mitigate the 2040 Mesa St. travel demand.	+	Would mitigate the effects of the UTEP special events.
Alt TR-7	Bus Queue Jump (right turn) Lanes at identified Mesa St intersections And Bus Pull-out lanes at regular and Brio Bus Stops.	O	May or may not directly and indirectly serve or benefit all modes.	+	Queue jumps are transit supportative. Pull-out	--	Does not contain access management solutions specific to Mesa St.	++	Would improve the Mesa St intersection LOSs at the queue jump locations.	+	Would improve the Mesa St intersection reliability at the queue jump locations.	+	Would mitigate the 2040 Mesa St. travel demand.	+	Would, to some degree, mitigate the effects of the UTEP special events.
SH 20 / Mesa Street Alternatives															
Alt MS-1	Improve pavement markings, signage, aesthetics / landscaping, illumination w/ potential in-pavement lighting along Mesa St	+	Would directly and indirectly serve or benefit all modes.	+	May or may not be considered transit supportative, directly or indirectly.	--	Does not contain access management solutions specific to Mesa St.	O	Unlikely to improve the Mesa St LOS.	O	Unlikely to improve the Mesa St reliability.	-	Would not mitigate the 2040 Mesa St. travel demand.	+	May mitigate the effects of the UTEP special events.
Alt MS-2	Geometric, line of sight, and curvature improvements along Mesa St	++	Would directly and indirectly serve or benefit all modes.	+	May or may not be considered transit supportative, directly or indirectly.	+	May contain access management solutions specific to Mesa St.	+	May improve the Mesa St LOS.	+	May improve the Mesa St reliability.	O	May help mitigate the 2040 Mesa St. travel demand.	O	May somewhat mitigate the effects of the UTEP special events.
Alt MS-3	Access Management (scrutinize and reduce curb cuts: close median openings/add hooded left-turn median lanes, close/combine driveways, omit intersection-driveway proximity conflicts)	++	Would directly and indirectly serve or benefit all modes.	++	May be considered transit supportative, directly or indirectly.	++	Is a specific access management solution.	+	May improve the Mesa St LOS.	+	May improve the Mesa St reliability.	+	May help mitigate the 2040 Mesa St. travel demand.	+	May somewhat mitigate the effects of the UTEP special events.
Alt MS-4	Flatten the Mesa St. horizontal S-curve at Executive Center Blvd by shifting Mesa St alignment eastward; also consider flattening curve via a Mesa St unsignalized NB-SB lane couplet, between Wallington Dr and Camelot Heights Dr, w/ NB lanes located adjacent to Ridgecrest Dr; install median u-turns to accommodate left-turns	+	Would directly and indirectly serve or benefit all modes.	+	May or may not be considered transit supportative, directly or indirectly.	+	May contain access management solutions specific to Mesa St.	+	May improve the Mesa St LOS, particularly at the Mesa St / Executive Center Blvd intersection.	+	May improve the Mesa St reliability.	O	May help mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt MS-5	Flatten the Mesa St. horizontal and vertical curve/grade between Gregory Ave and Glory Rd (use western ROW for wider sidewalks for UTEP student / special event walkability)	+	Would directly and indirectly serve or benefit all modes.	+	May or may not be considered transit supportative, directly or indirectly.	+	May contain access management solutions specific to Mesa St.	+	May improve the Mesa St LOS.	+	May improve the Mesa St reliability.	O	May help mitigate the 2040 Mesa St. travel demand.	+	May somewhat mitigate the effects of the UTEP special events.
Alt MS-6	Improve curvature at Mesa St / Brentwood Ave and hydraulics (raise profile to mitigate current flooding) and at Mesa St / Alto Mesa Dr	+	Would directly and indirectly serve or benefit all modes.	-	Is not considered transit supportative.	+	May contain access management solutions specific to Mesa St.	O	May improve the Mesa St LOS.	O	May improve the Mesa St reliability.	-	Would not mitigate the 2040 Mesa St. travel demand.	--	Would not mitigate the effects of the UTEP special events.
Alt MS-7	3 ground-level SB and NB lanes on Mesa St from Doniphan Dr to Gregory Ave, combine w/ Alt TR-1 if possible	++	Would directly and indirectly serve or benefit all modes.	++	Is transit supportative.	++	Would contain access management solutions specific to Mesa St.	+	Would improve the Mesa St LOS.	+	Would improve the Mesa St reliability.	+	Would mitigate the 2040 Mesa St. travel demand.	O	May mitigate the effects of the UTEP special events.
Alt MS-C1A	Ground-level Mesa St - Stanton St Couplet (3 SB lanes on Mesa St and 3 NB lanes on Stanton St) between Gregory Ave and Texas Ave (utilize surplus ROW and incorporate a Shared Use Bike Lane)	++	Would directly and indirectly serve or benefit all modes.	++	Is transit supportative.	+	Would contain access management solutions specific to Mesa St.	++	Would improve the Mesa St LOS within the couplet limits.	++	Would improve the Mesa St reliability within the couplet limits.	++	Would mitigate the 2040 Mesa St. travel demand.	O	May mitigate the effects of the UTEP special events.
Alt MS-C1B **(Bypass)**	Alt MS-C1A Couplet w/ a below-ground level, 3-lane SB section on Mesa St between Gregory Ave and Kerbey Ave (adaptable as Cut & Cover / deck park) (w/o surface access lanes and w/ or w/o overhead cross-streets)	++	Would directly and indirectly serve or benefit all modes.	--	Is not transit supportative w/o access to Glory Rd Transfer Center.	++	Does contain access management solutions specific to Mesa St.	++	Would improve the Mesa St LOS.	++	Would improve the Mesa St reliability.	++	Would mitigate the 2040 Mesa St. travel demand.	++	Would mitigate the effects of the UTEP special events.
Alt MS-C1C **(Bypass)**	Alt MS-C1B w/ SB ground-level surface access lanes between Gregory Ave and Boston Ave. (conserve ROW w/ cantilevered or straddle bent-supported surface access lanes)	++	Would directly and indirectly serve or benefit all modes.	++	Is transit supportative w/ access to Glory Rd Transfer Center.	+	Does somewhat contain access management solutions specific to Mesa St.	++	Would improve the Mesa St LOS.	++	Would improve the Mesa St reliability.	+	Would mitigate the 2040 Mesa St. travel demand.	O	Would somewhat mitigate the effects of the UTEP special events due to presence of surface streets and local retail access traffic.
Alt MS-BY1 **(Bypass)**	2 below-ground level SB and NB bypass lanes on Mesa St section between Gregory Ave and Kerbey Ave (adaptable as Cut & Cover / deck park) (w/o surface access lanes and w/ or w/o overhead cross-streets)	++	Would directly and indirectly serve or benefit all modes.	--	Is not transit supportative w/o access to Glory Rd Transfer Center.	++	Does contain access management solutions specific to Mesa St.	+	Would improve the Mesa St LOS.	+	Would improve the Mesa St reliability.	O	May or may not mitigate the 2040 Mesa St. travel demand.	++	Would mitigate the effects of the UTEP special events.

Alt MS-BY2 **(Bypass)**	Alt MS-BY1 w/ SB and NB surface access lanes between Gregory Ave and Boston Ave (conserve ROW w/ cantilevered or straddle bent-supported surface access lanes)	++	Would directly and indirectly serve or benefit all modes.	++	Is transit supportative w/ access to Glory Rd Transfer Center.	+	Does somewhat contain access management solutions specific to Mesa St.	+	Would improve the Mesa St LOS.	+	Would improve the Mesa St reliability.	+	Would mitigate the 2040 Mesa St. travel demand.	O	Would somewhat mitigate the effects of the UTEP special events due to presence of surface streets and local retail access traffic.

NOTES:

[1] Baseline condition in the study area; no additional improvements are implemented other than those already programmed (fiscally constrained in Horizon 2040 MTP).

[2]

Preliminary Alternatives Details Matrix
Level 2 - Environmental Screening for Benefits and Impacts
(Qualitative Analysis)

Study Goals: Avoid or minimize impacts to the human and natural environment

Preliminary Alternatives

Community Impacts and Cultural Resource Impacts

Measure		Neighborhood Character: Rating	Neighborhood Character: Evaluation (Potential existing / proposed neighborhood impacts)	Context Sensitive Solutions: Rating	Context Sensitive Solutions: Evaluation (Accommodates community needs and regional character while balancing system goals)	Social, Economic, and Environmental: Rating	Social, Economic, and Environmental: Evaluation (Potential impacts to EJ populations)	Archeological Sites: Rating	Archeological Sites: Evaluation (Potential recorded arch. sites or high probability impacts)	Historic Resources: Rating	Historic Resources: Evaluation (Potential NHRP, NHRP-eligible, or historic-age impacts)
No-Build Alternative											
No-Build 1[1]	All current planned transportation improvements in the MPO Horizon 2040 Travel Demand Model.	-	Unmitigated traffic demand / increases may effect neighborhoods / residents.	O	May or may not accommodate community needs.	-	Unmitigated traffic demand / increases may effect EJ populations.	+	No currently known impacts.	+	No currently known impacts.
ITS Alternatives											
Alt ITS-1	Mesa St signal timing and coordination including timing adjustments for I-10 overflow and I-10 construction avoidance traffic	+	No currently known impacts.	+	This alternative is envisioned to accommodate the community needs, character and balance system goals.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.
Alt ITS-2	Mesa St Communication System, CCTV traffic recording devices (cameras, loops, microwave, radar), Traffic Flow Detectors, Alternate route plans and Bluetooth data collection	+	No currently known impacts.	+	This alternative is envisioned to accommodate the community needs, character and balance system goals.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.
Alt ITS-3	Mesa St / BRIO-related information and coordination data	+	No currently known impacts.	+	This alternative is envisioned to accommodate the community needs, character and balance system goals.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.
Alt ITS-4	Mesa St wayfinding signage, Dynamic Message Signs and Traffic Control for special events	+	No currently known impacts.	+	This alternative is envisioned to accommodate the community needs, character and balance system goals.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.
Bike-Pedestrian Alternatives											
Alt BP-1	Sidewalk upgrades and connectivity; bus patron channelization and crosswalk upgrades at intersections	++	Would benefit neighborhood character.	++	Would accommodate the community needs, character and balance system goals.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.
Alt BP-2	Mesa St intersection accommodation of City Bike Plan routes along intersecting crossstreets; Consider installing Dutch intersections	++	Would benefit neighborhood character.	++	Would accommodate the community needs, character and balance system goals.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.
Alt BP-3	"Shared Use" bike path (10-12' wide) parallel to Mesa St from Doniphan Dr to Glory Rd (per City Bike Plan) (If ROW is constrained, consider Shared Bike/Bus Lane)	+	May benefit neighborhood character.	+	May accommodate the community needs, character and balance system goals.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.
Alt BP-4	1 NB and 1 SB Shared Use travel lane on Mesa St from Doniphan Dr to Glory Rd	++	Would benefit neighborhood character.	++	Would accommodate the community needs, character and balance system goals.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.
Alt BP-5	1 SB and 1 NB "Buffered Bike Lane" on Mesa St from Doniphan Dr to Glory Rd, or a 2-way "Buffered Bike Lane" on SB Mesa St from Doniphan Dr to Glory Rd	++	Would benefit neighborhood character.	++	Would accommodate the community needs, character and balance system goals.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.
Alt BP-7	Pedestrian bridge over Mesa St at Coronado HS; possibly include canopy-shaded seating / tables to curtail students crossing Mesa St at-grade [link w/ Park & Rec. Master Plan (pg 12 8, "Linkage Corridor") and nearby Lambka Park]	+	May benefit neighborhood character.	++	Would accommodate the community needs, character and balance system goals.	O	No currently known impacts, although visual impacts are a concern.	+	No currently known impacts.	+	No currently known impacts.
Alt BP-10	Pedestrian bridge over Mesa St near UTEP / Glory Rd (combine w/ applicable Mesa St Capacity Alts)	+	May benefit neighborhood character.	++	Would accommodate the community needs, character and balance system goals.	O	No currently known impacts, although visual and private property impacts are a concern.	+	No currently known impacts.	+	No currently known impacts.
Alt BP-11	Pedestrian Underpass beneath Mesa St supplanting Robinson Ave	+	Would benefit neighborhood / UTEP campus character.	+	Would accommodate the community needs, character and balance system goals.	O	No currently known impacts, although private property impacts are a concern.	+	No currently known impacts.	+	No currently known impacts.
Alt BP-12	"Pedestrian Scramble" intersection (4-Way signalized stop) at Mesa St / University Ave and Mesa St / River St	+	May or may not benefit neighborhood / UTEP campus character.	+	Would accommodate the community needs, character and balance system goals.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.
Alt BP-13	Deck Parks over I-10 in downtown, adjacent to Mesa St, between Stanton St and Sante Fe St	++	Would benefit neighborhood / downtown character.	++	Would accommodate the community needs, character and balance system goals.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.
Alt BP-14	Remove "Pedestrian Scramble" intersection timing at Mesa St / San Antonio Ave	O	May or may not benefit the downtown character.	O	May or may not accommodate the community needs, character and balance system goals.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.
Alt BP-15	Close the Mesa St / San Antonio Ave intersection and portions of each street beyond the intersection and convert the streets to a pedestrian mall with possibly transit-only integration.	+	Would likely benefit the downtown character.	O	May or may not accommodate the community needs, character and balance system goals.	+	No currently known impacts.	+	No currently known impacts.	-	May be viewed / perceived as somehow impacting the surrounding historic buildings
Intersection Alternatives											
Alt I-TLR	Warranted left and right turn lanes, storage and deceleration lanes, and auxiliary lanes; elimination of Split Phase intersections/ shared left-through lanes/overlapping paths at Doniphan Dr, Remcon Cir, Resler Dr, and Sunland Park Dr.	O	May or may not impact neighborhood character.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.
Alt I-DCT-1	Ground-level Channelized Turning Movement Intersection at Mesa St / Doniphan Dr (shift alignment east to avoid BNSF RR)	O	May or may not benefit neighborhood character, although the nearby Country Club Rd residential area is a concern.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.
Alt I-DCT-3	Alt DCT-1 w/ Flyover Ramp from SB Doniphan Dr to EB Mesa St (shift alignment east to avoid BNSF RR)	O	May or may not benefit neighborhood character, although the nearby Country Club Rd residential area is a concern.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.
Alt I-DGSI	Grade-seperated Intersection at Mesa St / Doniphan Dr (shift alignment east to avoid BNSF RR)	-	May impact neighborhood character due to the bridge / elevated lanes.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.
Alt I-DBY (Bypass)	2 below-ground level, CTB-seperated SB and NB Doniphan Dr bypass lanes w/ 2 NB and 2 SB ground-level access streets and U-turns (conserve ROW w/ cantilevered or cross-beam supported access streets)	+	Would not likely impact neighborhood character due to the bridge / elevated lanes.	+	Would likely accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.
Alt I-H10BY (Bypass)	2 below-ground level, CTB-seperated EB and WB Mesa St bypass lanes, from Osborne Dr to Belvidere St w/ 2 EB and WB ground-level access streets and U-turns (conserve ROW w/ cantilevered or straddle-bent supported access streets)	++	Would not impact neighborhood character.	+	Would likely accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.
Alt I-H10SPU	SPUI interchange at Mesa St / I-10 Frontage Rd intersections	-	May impact neighborhood character due to the bridge / elevated lanes.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.
Alt I-RCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Resler Dr	O	May or may not benefit neighborhood character.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.
Alt I-RGSI	Grade-seperated Intersection at Mesa St / Resler Dr or SPUI	-	Would likely impact neighborhood character due to the bridge / elevated lanes.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.
Alt I-RROU	Dual Cross-street Roundabout (teardrop shape) intersections at Resler Dr underpassing 3 elevated NB and SB Mesa St lanes (requires closure of Cloudview Dr from Resler Dr to Champions Pl)	O	May or may not impact neighborhood character due to the bridge / elevated lanes.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.
Alt I-SCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Sunland Dr intersection	O	May or may not benefit neighborhood character.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.
Alt I-SGSI	Grade-seperated Intersection at Mesa St / Sunland Park Dr or SPUI	-	Would likely impact neighborhood character due to the bridge / elevated lanes.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.
Alt I-SROU	Dual Cross-street Roundabout (teardrop shape) intersection at Sunland Park Dr underpassing 3 elevated NB and SB Mesa St lanes	O	May or may not impact neighborhood character due to the bridge / elevated lanes.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.
Alt I-MCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Montecillo Blvd intersection (shift alignment eastward to avoid retail)	O	May or may not benefit neighborhood character.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.
Alt I-MGSI	Grade-seperated Intersection at Mesa St / Montecillo Blvd (shift alignment eastward to avoid retail)	-	Would likely impact neighborhood character due to the bridge / elevated lanes.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.
Alt I-ECT	Ground-level Channelized Turning Movement Intersection at Mesa St / Executive Center Blvd	O	May or may not benefit neighborhood character.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.
Alt I-EGSI	Grade-seperated Intersection at Mesa St / Executive Center Blvd	-	Would likely impact neighborhood character due to the bridge / elevated lanes.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.
Alt I-EROU	Dual Cross-street Roundabout (teardrop shape) intersection at Executive Center Dr underpassing 3 elevated NB and SB Mesa St lanes	O	May or may not impact neighborhood character due to the bridge / elevated lanes.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.
Alt I-ETRU	Trumpet Interchange at Mesa St / Executive Center Dr	-	May impact neighborhood character due to the bridge / elevated lanes.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.

Natural Resource Impacts

Measure	Park Land: Rating	Park Land: Evaluation (Potential park impacts)	Water Resources: Rating	Water Resources: Evaluation (Potential impacts to water crossings, acreage of wetlands)	Drainage Features: Rating	Drainage Features: Evaluation (Functionality impacts of irrigation channels)	Biological Resources: Rating	Biological Resources: Evaluation (Potential to impact threatened, endangered, rare locally important species; acreage of impact)	Agricultural Resources: Rating	Agricultural Resources: Evaluation (Potential to impact prime farmland converted to transportation use)
No-Build Alternative										
No-Build 1[1]	+	No currently known impacts.	+	No currently known impacts.	-	No currently known impacts, however, unaddressed flooding issues along Mesa St will continue.	+	No currently known impacts.	++	No currently known impacts.
ITS Alternatives										
Alt ITS-1	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt ITS-2	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt ITS-3	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt ITS-4	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Bike-Pedestrian Alternatives										
Alt BP-1	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt BP-2	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt BP-3	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt BP-4	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt BP-5	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt BP-7	--	Potential Lambka Park and Resler Canyon Preserve impacts to install the Park link.	+	No currently known impacts.	+	No currently known impacts.	-	Possible impacts to resler Canyon nature Pres	++	No currently known impacts.
Alt BP-10	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt BP-11	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt BP-12	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.
Alt BP-13	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt BP-14	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.
Alt BP-15	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.
Intersection Alternatives										
Alt I-TLR	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt I-DCT-1	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt I-DCT-3	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt I-DGSI	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt I-DBY (Bypass)	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt I-H10BY (Bypass)	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt I-H10SPU	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt I-RCT	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt I-RGSI	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt I-RROU	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt I-SCT	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt I-SGSI	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt I-SROU	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt I-MCT	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt I-MGSI	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt I-ECT	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt I-EGSI	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt I-EROU	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.
Alt I-ETRU	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.

Other Impacts and Lessen Vehicular Trips

Measure	Land and / or Building Acquisition: Rating	Land and / or Building Acquisition: Evaluation (Conceptual Estimate)	Hazardous Material Sites: Rating	Hazardous Material Sites: Evaluation (Haz-Mat sites impacted)	Air Quality: Rating	Air Quality: Evaluation (LOS, VMT, and sensitive receptor impacts)	Traffic Noise: Rating	Traffic Noise: Evaluation (LOS, VMT, and sensitive receptor impacts)	Lessen Vehicular Trips: Rating	Lessen Vehicular Trips: Evaluation (Supports and accomodates multiple modes)
No-Build Alternative										
No-Build 1[1]	+	No currently known impacts.	+	No currently known impacts.	-	Unmitigated traffic demand / increases will likely impact air quality.	-	Unmitigated traffic demand / increases will likely have increased noise impacts.	-	Does not optimally accommodate multiple modes.
ITS Alternatives										
Alt ITS-1	+	No currently known impacts.	+	No currently known impacts.	++	Would likely improve, not impact, air quality.	+	No currently known impacts.	+	May directly or indirectly support or accommodate multiple modes.
Alt ITS-2	+	No currently known impacts.	+	No currently known impacts.	++	Would likely improve, not impact, air quality.	+	No currently known impacts.	+	May directly or indirectly support or accommodate multiple modes.
Alt ITS-3	+	No currently known impacts.	+	No currently known impacts.	++	Would likely improve, not impact, air quality.	+	No currently known impacts.	+	May directly or indirectly support or accommodate multiple modes.
Alt ITS-4	+	No currently known impacts.	+	No currently known impacts.	O	Is not anticipated to impact air quality.	+	No currently known impacts.	O	May directly or indirectly support or accommodate multiple modes.
Bike-Pedestrian Alternatives										
Alt BP-1	-	May require land acquisition.	+	No currently known impacts.	+	Is not anticipated to impact air quality.	+	No currently known impacts.	++	Supports or accommodates multiple modes.
Alt BP-2	-	May require land acquisition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	No currently known impacts.	++	Supports or accommodates bike and pedestrian modes.
Alt BP-3	-	Would require land acquisition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	No currently known impacts.	++	Supports or accommodates bike and pedestrian modes.
Alt BP-4	-	May require land acquisition via widening of Mesa St.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	May somewhat lessen noise.	++	Supports or accommodates bike and pedestrian modes.
Alt BP-5	-	May require land acquisition via widening of Mesa St.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	May somewhat lessen noise.	++	Supports or accommodates bike and pedestrian modes.
Alt BP-7	-	Would require land acquisition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality; multi-modal and lessens Mesa St crosswalk signal timing.	++	No currently known impacts.	++	Supports or accommodates bike and pedestrian modes.
Alt BP-10	-	Would require land acquisition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality; multi-modal and lessens Mesa St / Glory Rd / Cincinatti St crosswalk signal timing.	++	No currently known impacts.	++	Supports or accommodates bike and pedestrian modes.
Alt BP-11	-	Would require land acquisition and closure of Robinson Rd.	+	No currently known impacts.	+	Would likely improve, not impact, air quality and eliminates a Mesa St intersection.	++	No currently known impacts.	++	Supports or accommodates bike and pedestrian modes.
Alt BP-12	++	No currently known impacts.	+	No currently known impacts.	+	Would likely improve, not impact, air quality, although Mesa St vehicles at all four intersection quadrants must stop and idle at the same time.	O	May somewhat lessen noise.	++	Supports or accommodates bike and pedestrian modes.
Alt BP-13	-	Would likely require land acquisition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	++	No currently known impacts.	++	Supports or accommodates bike and pedestrian modes.
Alt BP-14	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	Supports or accommodates bike and pedestrian modes.
Alt BP-15	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	-	May be viewed as having impacts.	+	Supports or accommodates bike and pedestrian modes.
Intersection Alternatives										
Alt I-TLR	-	May require land acquisition via widening of Mesa St.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-DCT-1	--	Would require land and building acquisition via Doniphan Dr alignment shift.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-DCT-3	--	Would require land and building acquisition via Doniphan Dr alignment shift.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-DGSI	--	Would require land and building acquisition via Doniphan Dr alignment shift.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-DBY (Bypass)	--	Would require land and building acquisition via Doniphan Dr alignment shift.	+	No currently known impacts.	+	Would improve, not impact, air quality.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-H10BY (Bypass)	--	May require land acquisition.	+	No currently known impacts.	+	Would improve, not impact, air quality.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-H10SPU	--	Would require land acquisition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-RCT	--	Would require land acquisition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-RGSI	--	Would require land acquisition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-RROU	--	Would require land acquisition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-SCT	--	Would require land acquisition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-SGSI	--	Would require land acquisition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-SROU	--	Would require land acquisition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-MCT	--	Would require land acquisition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-MGSI	--	Would require land acquisition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-ECT	--	Would require land acquisition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-EGSI	--	Would require land acquisition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-EROU	--	Would require land acquisition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-ETRU	--	Would require land acquisition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	O	May or may not have noise impacts.	+	Would directly or indirectly support or accommodate multiple modes.

Alt I-EGT	Green T intersection at Mesa St / Executive Center Blvd	O	May or may not impact neighborhood character due to the additon of Mesa St lanes.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.	--	Would require land acqusition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	O	May or may not have noise impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-EUTN	U-turn (Michigan Lefts) at Mesa St / Executive Center Blvd	--	May impact neighborhood character due to the bridge / elevated u-turns.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	O	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.	--	Would require land acqusition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	-	Would likely not have noise impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-SAROU	Roundabout at Mesa St / San Antonio Ave	-	May or may not impact downtown character.	O	May or may not accommodate community needs.	O	No currently known impacts.	+	No currently known impacts.	++	Will likely impact, directly or indirectly, surrounding historic buildings.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.	--	Would require land acqusition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	O	May or may not have noise impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt I-9ROU	Mini-Roundabout at Mesa St / San Antonio Ave	+	Will not likely impact neighborhood character.	O	May or may not accommodate community needs.	O	May or may not accommodate community needs.	+	No currently known impacts.	O	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	++	Would not require land acqusition.	+	No currently known impacts.	+	Would likely improve, not impact, air quality.	O	Would likely not have noise impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Roadway Connectivity Alternatives																															
Alt RC-1	Relocate SB I-10 exit ramp (to Mesa St) upstream to allow for C-D Rd access to McClintock Dr to relieve the Mesa St / C-D Rd intersection	O	May or may not benefit neighborhood character.	O	May or may not accommodate community needs.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	O	Is not anticipated to impact air quality.	-	Possible noise impact since ramp is moved closer to residential area.	O	Supports single occupant vehicles and buses; no change from existing condition.
Alt RC-4	Install WB Resler Dr link to the NB I-10 C-D Rd, and possibly install a downstream I-10 entrance ramp prior to Mesa St Conversely, install SB I-10 C-D Rd Flyover exit ramp to EB Resler Dr	-	May effect neighborhood character.	O	May or may not accommodate community needs.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	--	Would require land, and possible building, acqusition.	++	No currently known impacts.	O	Is not anticipated to impact air quality.	--	Possible noise impact since the I-10 links would be near a residential area.	O	Supports single occupant vehicles and buses.
Alt RC-5A	Link northern portions of Stanton St from Buckingham Dr north to link Splendid Sun Dr; also connect to Montecillo Blvd extension	-	May effect neighborhood character.	O	May or may not accommodate community needs.	--	Building and property impacts	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	--	Would require land, and possible building, acqusition.	++	No currently known impacts.	O	Is not anticipated to impact air quality.	--	Possible noise impact since the the extension would be installed near a residential area.	+	Supports single occupant vehicles and buses.
Alt RC-7	Realign / connect Camille Dr and Fountain Rd into one intersection; and extend Palo Verde Pl to Fountain Dr	O	May or may not benefit neighborhood character.	O	May or may not accommodate community needs.	+	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	--	Would require land and building acqusition.	++	No currently known impacts.	O	Is not anticipated to impact air quality.	O	No anticipated noise impact as compared to current conditions.	+	Would directly or indirectly support or accommodate multiple modes.
Alt RC-8	Realign / connect Thunderbird Dr w/ Balboa Rd into one intersection, or close Thunderbird Drive from Dew Dr south to Mesa St.	+	Is not anticipated to impact neighborhood character.	O	May or may not accommodate community needs.	+	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	Realignment would require land and building acqusition. However, closure of Thunderbird Dr would not require any acquisition.	++	No currently known impacts.	O	Is not anticipated to impact air quality.	O	No anticipated noise impact as compared to current conditions.	+	Would directly or indirectly support or accommodate multiple modes.
Alt RC-9	Connect Lancers Club Way (3 blocks north of Sunland Park Dr) to Pebble Beach Dr	O	May or may not benefit neighborhood character.	O	May or may not accommodate community needs.	+	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	-	Would require land acqusition.	++	No currently known impacts.	O	Is not anticipated to impact air quality.	-	Possible noise impact since the road would be located near a residential area.	+	Would directly or indirectly support or accommodate multiple modes.
Alt RC-12	Link future Mesa Park Dr extension (westward to I-10) w/ Executive Center Blvd via a north-south connecting arterial	++	Is not anticipated to impact neighborhood character.	O	May or may not accommodate community needs.	O	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	-	Would require land acqusition.	++	No currently known impacts.	O	Is not anticipated to impact air quality.	O	No anticipated noise impact.	+	Would directly or indirectly support or accommodate multiple modes.
Alt RC-13	Realign / connect Brentwood Ave w/ W Eubank Ct (west of Mesa St) into one intersection and close Eubank Ct from Mesa St to Krupp Dr (combine w/ Alt MS-6)	-	May impact neighborhood character.	-	May not accommodate community needs.	O	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	Realignment would require land and building acqusition. However, road closure would not require any acquisition.	++	No currently known impacts.	O	Is not anticipated to impact air quality.	O	No anticipated noise impact as compared to current conditions.	+	Would directly or indirectly support or accommodate multiple modes.
Alt RC-16	Close city streets / connections to Mesa St: Conley Rd, Pitt St, Fountain Rd (see Alt RC-9), Paragon Ln, Eubank Ct, Fairmont St / Greenwich Dr, McKelligon Dr, and Kern Dr (between Mesa St and Sun Bowl Dr)	++	Is not anticipated to impact neighborhood character.	O	May or may not accommodate community needs.	O	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	Would not require land acqusition.	++	No currently known impacts.	O	Is not anticipated to impact air quality.	O	No anticipated noise impact as compared to current conditions.	+	Would directly or indirectly support or accommodate multiple modes.
Alt RC-17	Link Stanton St w/ Castellano Dr (est of Mesa St), and link Argonaut Dr to Montecillo development (per Montecillo Dev. Regulating Plan)	O	May or may not to impact neighborhood character.	+	May accommodate community inner-neighborhood / city street needs.	O	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	O	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.	--	Would require land acqusition.	++	No currently known impacts.	O	Is not anticipated to impact air quality.	-	Noise impact may occur as compared to current conditions.	+	Would directly or indirectly support or accommodate multiple modes.
Alt RC-18	Extend Desert Pass St to the Mesa St / Belvidere St intersection	O	May or may not benefit neighborhood character.	O	May or may not accommodate community needs.	O	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	+	No currently known impacts.	++	No currently known impacts.	--	Would require land acqusition.	++	No currently known impacts.	O	Is not anticipated to impact air quality.	O	No anticipated noise impact as compared to current conditions.	+	Would directly or indirectly support or accommodate multiple modes.
Transit Alternatives																															
Alt TR-1	Dedicated NB and SB BRT lanes on Mesa St from Doniphan Dr to Texas Ave w/ Traffic Signal Priority (TSP) serving bus movements at intersections; also consider bus lanes only for Peak Hours (can be combined w/ Alt MS-C and Alt MS-B options)	+	Would not likely impact neighborhood character.	+	Would likely accommodate community needs.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	--	Would require land acqusition via widening of Mesa St.	O	No currently known impacts.	+	Would likely improve, not impact, air quality.	O	No currently known impacts.	+	May directly or indirectly support or accommodate multiple modes.
Alt TR-4	NB and SB PRT along Sun Bowl Dr from Mesa St southward to stadium area, and possibly to Schuster Ave (link Glory Rd TC and possibly Alt TR-6 parking garage)	+	Would not likely impact neighborhood / UTEP campus character.	+	Would likely accommodate community / UTEP campus needs.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	-	Would require land acqusition.	O	No currently known impacts.	+	Would likely improve, not impact, air quality.	O	No currently known impacts.	+	May directly or indirectly support or accommodate multiple modes.
Alt TR-6	Parking Garage at 1) the NE quadrant of Mesa St / Glory Rd that serves special events, student parking, streetcar patrons, and mitigate retail parking displacement, and 2) the SW quadrant of Mesa St / Branchard Ave that serves both business and student parking to curtail student parking east of Mesa St within the neighborhoods (can be combined w/ Alts TR-4, BP-10, and MS-C* and MS-BY options.	-	May impact neighborhood / UTEP campus character.	+	May accommodate community / UTEP campus needs.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	--	Would require land and building acqusition.	O	No currently known impacts.	+	Would likely improve, not impact, air quality.	O	No currently known impacts.	+	May directly or indirectly support or accommodate multiple modes.
Alt TR-7	Bus Queue Jump (right turn) Lanes at identified Mesa St intersections And Bus Pull-out lanes at regular and Brio Bus Stops	+	Pull-out lanes may impact neighborhood character.	+	Would likely accommodate community / UTEP campus needs.	-	Pull-out ROW impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	O	No currently known impacts.	-	May require land acqusition.	O	No currently known impacts.	+	Would likely improve, not impact, air quality.	O	No currently known impacts.	+	May directly or indirectly support or accommodate multiple modes.
SH 20 / Mesa Street Alternatives																															
Alt MS-1	Improve pavement markings, signage, aesthetics / landscaping, illumination w/ potential in-pavement lighting along Mesa St	++	Is not anticipated to impact neighborhood character.	+	Would likely accommodate community needs.	+	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	+	Would likely not require land acqusition.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	Would directly or indirectly support or accommodate multiple modes.
Alt MS-2	Geometric, line of sight, and curvature improvements along Mesa St	O	May or may not benefit neighborhood character.	O	May or may not accommodate community needs.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	Would likely not require land acqusition.	++	No currently known impacts.	++	No currently known impacts.	+	No currently known impacts.	++	Would directly or indirectly support or accommodate multiple modes.
Alt MS-3	Access Management (scrutinize and reduce curb cuts: close median openings/add hooded left-turn median lanes, close/combine driveways, omit intersection-driveway proximity conflicts)	+	Is not anticipated to impact neighborhood character.	+	Would likely accommodate community needs.	+	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	-	May require land acqusition.	++	No currently known impacts.	++	No currently known impacts.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt MS-4	Flatten the Mesa St. horizontal S-curve at Executive Center Blvd by shifting Mesa St alignment eastward; also consider flattening curve via a Mesa St unsignalized NB-SB lane couplet, between Wallington Dr and Camelot Heights Dr, w/ NB lanes located adjacent to Ridgecrest Dr; install median u-turns to accommodate left-turns	O	May or may not impact neighborhood character.	O	May or may not accommodate community needs.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	--	Would require land and building acqusition.	++	No currently known impacts.	++	No currently known impacts.	+	No currently known impacts.	+	Would directly or indirectly support or accommodate multiple modes.
Alt MS-5	Flatten the Mesa St. horizontal and vertical curve/grade between Gregory Ave and Glory Rd (use western ROW for wider sidewalks for UTEP student / special event walkability)	+	Is not anticipated to impact neighborhood character.	+	Would likely accommodate community needs.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	-	May require land acqusition.	++	No currently known impacts.	++	No currently known impacts.	+	No currently known impacts.	++	Would directly or indirectly support or accommodate multiple modes.
Alt MS-6	Improve curvature at Mesa St / Brentwood Ave and hydraulics (raise profile to mitigate current flooding) and at Mesa St / Alto Mesa Dr	+	Is not anticipated to impact neighborhood character.	+	Would likely accommodate community needs.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	Would likely not require land acqusition.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	Would directly or indirectly support or accommodate multiple modes.
Alt MS-7	3 ground-level SB and NB lanes on Mesa St from Doniphan Dr to Gregory Ave, combine w/ Alt TR-1	+	Is not anticipated to impact neighborhood character.	+	Would likely accommodate community needs.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	--	Would require land acqusition.	++	No currently known impacts.	++	No currently known impacts.	++	No currently known impacts.	++	Would directly or indirectly support or accommodate multiple modes.
Alt MS-C1A	Ground-level Mesa St - Stanton St Couplet (3 SB lanes on Mesa St and 3 NB lanes on Stanton St) between Gregory Ave and Texas Ave (utilize surplus ROW and incorporate a Shared Use Bike Lane or Shared Use Path)	O	May impact neighborhood character in regard to Stanton St.	O	May or may not accommodate community needs.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	--	Would require land and building acqusition.	++	No currently known impacts.	++	No currently known impacts.	O	No anticipated noise impact as compared to current conditions.	O	Would directly or indirectly support or accommodate multiple modes. However, streetcar service or movement may be hindered, and/or the streetcar may hindered vehicular movements.
Alt MS-C1B (Bypass)	Alt MS-C1A Couplet w/ a below-ground level, 3-lane SB section on Mesa St between Gregory Ave and Kerbey Ave (adaptable as Cut & Cover / deck park) (w/o surface access lanes and w/ or w/o overhead cross-streets)	+	May impact neighborhood character in regard to Stanton St. However, the below-ground lanes are anticipated to benefit all surrounding non-retail sites, including UTEP.	O	May or may not accommodate community needs due to no surface street access. However, the below-ground lanes are considered a context sensitive solution.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	--	Would require land and building acqusition.	++	No currently known impacts.	++	No currently known impacts.	+	Lessened noise due to below-ground lanes.	-	Would directly or indirectly support or accommodate multiple modes. However, streetcar service or movement may be hindered, and/or the streetcar may hindered vehicular movements. Bus service to Glory Rd would also be hindered.
Alt MS-C1C (Bypass)	Alt MS-C1B w/ SB ground-level surface access lanes between Gregory Ave and Boston Ave. (conserve ROW w/ cantilevered or cross-beam-supported surface access lanes)	+	May impact neighborhood character in regard to Stanton St. However, the below-ground lanes are anticipated to benefit all surrounding sites, including UTEP.	+	May or may not accommodate community needs. However, the below-ground lanes are considered a context sensitive solution.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	--	Would require land and building acqusition.	++	No currently known impacts.	++	No currently known impacts.	+	Lessened noise due to below-ground lanes.	O	Would directly or indirectly support or accommodate multiple modes. However, streetcar service or movement may be hindered, and/or the streetcar may hindered vehicular movements.
Alt MS-BY1 (Bypass)	2 below-ground level SB and NB bypass lanes on Mesa St between Gregory Ave and Kerbey Ave (adaptable as Cut & Cover / deck park) (w/o surface access lanes and w/ or w/o overhead cross-streets)	O	May impact neighborhood character in regard to Stanton St. However, the below-ground lanes are anticipated to benefit all surrounding non-retail sites, including UTEP.	O	May or may not accommodate community needs due to no surface street access. However, the below-ground lanes are considered a context sensitive solution.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	-	Would likely require land acqusition.	++	No currently known impacts.	++	No currently known impacts.	+	Lessened noise due to below-ground lanes.	-	Would directly or indirectly support or accommodate multiple modes. However, bus service to Glory Rd would be hindered.
Alt MS-BY2 (Bypass)	Alt MS-BY1 w/ SB and NB surface access lanes between Gregory Ave and Boston Ave (conserve ROW w/ cantilevered or straddle bent-supported surface access lanes)	+	May impact neighborhood character in regard to Stanton St. However, the below-ground lanes are anticipated to benefit all surrounding sites, including UTEP.	+	May or may not accommodate community needs. However, the below-ground lanes are considered a context sensitive solution.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	+	No currently known impacts.	-	Would likely require land acqusition.	++	No currently known impacts.	++	No currently known impacts.	+	Lessened noise due to below-ground lanes.	+	Would directly or indirectly support or accommodate multiple modes.

NOTES:

1 Baseline condition in the study area; no additional improvements are implemented other than those already programmed (fiscally constrained in Horizon 2040 MTP).

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Preliminary Alternatives Details Matrix
Level 2 - Cost Feasibility[1] Screening for Benefits and Impacts
(Qualitative Analysis)

Study Goals		Maximize Cost Feasibility						Allow opportunities for economic development		Accelerate delivery through innovative financing/cost-sharing	
Criteria		Construction Cost		Right-of-Way Cost		Utility Cost		Utilities and Infrastructure Impacts		Economic development opportunities / planned development sites		Common-goal financing and cost-sharing opportunities	
Measure		Conceptual Estimate		Conceptual Estimate		Conceptual Estimate		Impacts to major Utilities and Infrastructure		Accommodates / supports development		Accommodates innovative financing and/or cost-sharing	
		Rating	Evaluation	Rating	Evaluation	Rating	Evaluation	Rating	Evaluation	Rating	Evaluation	Rating	Evaluation
Preliminary Alternatives													
No-Build Alternative													
No-Build [1]	All current planned transportation improvements in the MPO Horizon 2040 Travel Demand Model.	--	This No-Build Alt would have maintenance and life cycle costs associated with existing roadway network.	O	This No-Build Alt has no ROW requirements.	O	This No-Build Alt has no impact to utilities or existing infrastructure.	++	This No-Build alternative does not produce impacts.	--	This No-Build Alt would provide no additional opportunities for economic development.	++	This No-Build Alt has no cost.
ITS Alternatives													
Alt ITS-1	Mesa St signal timing and coordination including timing adjustments for I-10 overflow and I-10 construction avoidance traffic considered.	O	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	+	No impacts currently anticipated to major utilities and infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through Transportation Reinvestment Zones (TRZ) or vehicle registration tax.
Alt ITS-2	Mesa St Communication System, CCTV traffic recording devices (cameras, loops, microwave, radar), Traffic Flow Detectors, Alternate route plans and Bluetooth data collection	O	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	+	No impacts currently anticipated to major utilities and infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt ITS-3	Mesa St / BRIO-related information and coordination data	O	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	+	No impacts currently anticipated to major utilities and infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt ITS-4	Mesa St wayfinding signage, Dynamic Message Signs and Traffic Control for special events	O	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	+	No impacts currently anticipated to major utilities and infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Bike-Pedestrian Alternatives													
Alt BP-1	Sidewalk upgrades and connectivity; bus patron channelization and crosswalk upgrades at intersections	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.		Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	--	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	+	No impacts currently anticipated to major utilities and infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt BP-2	Mesa St intersection accommodation of City Bike Plan routes along intersecting crosstreets; Consider installing Dutch Intersections	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	--	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	+	No impacts currently anticipated to major utilities and infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt BP-3	"Shared Use" bike path (10-12' wide) parallel to Mesa St from Doniphan Dr to Glory Rd (per City Bike Plan) (If ROW is constrained, consider Shared Bike/Bus Lane)	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	--	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	+	No impacts currently anticipated to major utilities and infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt BP-4	1 NB and 1 SB Shared Use travel lane on Mesa St from Doniphan Dr to Glory Rd	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	++	No impacts currently anticipated to major utilities and infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt BP-5	1 SB and 1 NB "Buffered Bike Lane" on Mesa St from Doniphan Dr to Glory Rd, or a 2-way "Buffered Bike Lane" on SB Mesa St from Doniphan Dr to Glory Rd	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	++	No impacts currently anticipated to major utilities and infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt BP-7	Pedestrian bridge over Mesa St at Coronado HS; possibly include canopy-shaded seating / tables to curtail students crossing Mesa St at-grade [link w/ Park & Rec. Master Plan (pg 12-8, "Linkage Corridor") and nearby Lambka Park]	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	+	No impacts currently anticipated to major utilities and infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt BP-10	Pedestrian bridge over Mesa St near UTEP / Glory Rd (combine w/ applicable Mesa St Capacity Alts)	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	+	No impacts currently anticipated to major utilities and infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt BP-11	Pedestrian Underpass beneath Mesa St supplanting Robinson Ave	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	+	No impacts currently anticipated to major utilities and infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt BP-12	"Pedestrian Scramble" intersection (4-Way signalized stop) at Mesa St / University Ave and Mesa St / River St	O	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	++	No impacts currently anticipated to major utilities and infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt BP-13	Deck Parks over I-10 in downtown, adjacent to Mesa St, between Stanton St and Santa Fe St	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	+	No impacts currently anticipated to major utilities and infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt BP-14	Remove "Pedestrian Scramble" intersection timing at Mesa St / San Antonio Ave	++	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0.	++	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	++	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	++	No impacts currently anticipated to major utilities and infrastructure.	O	May or may not directly or indirectly help economic (downtown) development.	O	N/A
Alt BP-15	Close the Mesa St / San Antonio Ave intersection and portions of each street beyond the intersection and convert the streets to a pedestrian mall with possibly transit-only integration.	++	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0.	++	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	++	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	++	No impacts currently anticipated to major utilities and infrastructure.	O	May or may not directly or indirectly help economic (downtown) development.	O	N/A
Intersection Alternatives													
Alt I-TLR	Warranted left and right turn lanes, storage and deceleration lanes, and auxiliary lanes; elimination of Split Phase intersections/ shared left-through lanes/overlapping paths at Doniphan Dr, Remcon Cir, Resler Dr, and Sunland Park Dr.	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	O	No impacts currently anticipated to major utilities and infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-DCT-1	Ground-level Channelized Turning Movement Intersection at Mesa St / Doniphan Dr (shift alignment east to avoid BNSF RR)	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	O	No impacts currently anticipated to major utilities and infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-DCT-3	Alt DCT-1 w/ Flyover Ramp from SB Doniphan Dr to EB Mesa St (shift alignment east to avoid BNSF RR)	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-DGSI	Grade-seperated Intersection at Mesa St / Doniphan Dr (shift alignment east to avoid BNSF RR)	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-DBY **(Bypass)**	2 below-ground level, CTB-seperated SB and NB Doniphan Dr bypass lanes w/ 2 NB and 2 SB ground-level access streets and U-turns (conserve ROW w/ cantilevered or cross-beam supported access streets)	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	--	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	--	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-10BY **(Bypass)**	2 below-ground level, CTB-seperated EB and WB Mesa St bypass lanes, from Osborne Dr to Belvidere St w/ 2 EB and WB ground-level access streets and U-turns (conserve ROW w/ cantilevered or straddle-bent supported access streets)	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	--	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	--	Impacts currently anticipated to major utilities and / or infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-I10SPU	SPUI interchange at Mesa St / I-10 Frontage Rd intersections	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts currently anticipated to major utilities and / or infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-RCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Resler Dr	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	O	No impacts currently anticipated to major utilities and infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-RGSI	Grade-seperated Intersection at Mesa St / Resler Dr or SPUI	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-RROU	Dual Cross-street Roundabout (teardrop shape) intersections at Resler Dr underpassing 3 elevated NB and SB Mesa St lanes (requires closure of Cloudview Dr from Resler Dr to Champions Pl)	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-SCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Sunland Dr intersection	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	O	No impacts currently anticipated to major utilities and infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-SGSI	Grade-seperated Intersection at Mesa St / Sunland Park Dr or SPUI	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-SROU	Dual Cross-street Roundabout (teardrop shape) intersection at Sunland Park Dr underpassing 3 elevated NB and SB Mesa St lanes	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-MCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Montecillo Blvd intersection (shift alignment eastward to avoid retail)	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-MGSI	Grade-seperated Intersection at Mesa St / Montecillo Blvd (shift alignment eastward to avoid retail)	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-ECT	Ground-level Channelized Turning Movement Intersection at Mesa St / Executive Center Blvd	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	O	No impacts currently anticipated to major utilities and infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-EGSI	Grade-seperated Intersection at Mesa St / Executive Center Blvd	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-EROU	Dual Cross-street Roundabout (teardrop shape) intersection at Executive Center Dr underpassing 3 elevated NB and SB Mesa St lanes	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-ETRU	Trumpet Interchange at Mesa St / Executive Center Dr	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "- -"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "- -"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "- -"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.

Alt I-EGT	Green T Intersection at Mesa St / Executive Center Blvd	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-EUTN	U-turn (Michigan Lefts) at Mesa St / Executive Center Blvd	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-SAROU	Roundabout at Mesa St / San Antonio Ave	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0.	--	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	No utility cost is currently anticipated.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt I-9ROU	Mini-Roundabout at Mesa St / San Antonio Ave	++	Construction cost is minimal.	++	No ROW acquisition is necessary.	++	No utility cost is necessary.	++	No utility impacts.	-	Not likley to help economic development.	O	N/A
Roadway Connectivity Alternatives															
Alt RC-1	Relocate SB I-10 exit ramp (to Mesa St) upstream to allow for C-D Rd access to McClellan Dr to relieve the Mesa St / C-D Rd intersection	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	O	No impacts currently anticipated to major utilities and infrastructure.	+	Would help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt RC-4	Install WB Resler Dr link to the NB I-10 C-D Rd, and possibly install a downstream I-10 entrance ramp prior to Mesa St Conversely, install SB I-10 C-D Rd Flyover exit ramp to EB Resler Dr	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	--	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May directly or indirectly help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt RC-5A	Link northern portions of Stanton St from Buckingham Dr north to link Splendid Sun Dr; also connect to Montecillo Blvd extension	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	-	Unlikely to help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt RC-7	Realign / connect Camille Dr and Fountain Rd into one intersection; and extend Palo Verde Pl to Fountain Dr	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May or may not help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt RC-8	Realign / connect Thunderbird Dr w/ Balboa Rd into one intersection, or close Thunderbird Drive from Dew Dr south to Mesa St.	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May or may not help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt RC-9	Connect Lancers Club Way (3 blocks north of Sunland Park Dr) to Pebble Beach Dr	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May or may not help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt RC-12	Link future Mesa Park Dr extension (westward to I-10) w/ Executive Center Blvd via a north-south connecting arterial	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May or may not help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt RC-13	Realign / connect Brentwood Ave w/ W Eubank Ct (west of Mesa St) into one intersection and close Eubank Ct from Mesa St to Krupp Dr (combine w/ Alt MS-6)	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	+	May help economic development if surplus right-of-way from closed streets is developed.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt RC-16	Close city streets / connections to Mesa St: Conley Rd, Pitt St, Fountain Rd (see Alt RC-9), Paragon Ln, Eubank Ct, Fairmont St / Greenwich Dr, McKelligon Dr, and Kern Dr (between Mesa St and Sun Bowl Dr)	O	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	O	No impacts currently anticipated to major utilities and infrastructure.	+	May help economic development if surplus right-of-way from closed streets is developed.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt RC-17	Link Stanton St w/ Castellano Dr (est of Mesa St), and link Argonaut Dr to Montecillo development (per Montecillo Dev. Regulating Plan)	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	O	No impacts currently anticipated to major utilities and infrastructure.	+	May help economic development within the Montecillo Development east of Mesa St.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt RC-17	Extend Desert Pass St to the Mesa St / Belvidere St intersection	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	O	No impacts currently anticipated to major utilities and infrastructure.	+	May help economic development within the Remcon Circle vicinity.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Transit Alternatives															
Alt TR-1	Dedicated NB and SB BRT lanes on Mesa St from Doniphan Dr to Texas Ave w/ Traffic Signal Priority (TSP) serving bus movements at intersections; also consider bus lanes only for Peak Hours (can be combined w/ Alt MS-C and Alt MS-B options)	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	--	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	--	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May or may not help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt TR-4	NB and SB PRT along Sun Bowl Dr from Mesa St southward to stadium area, and possibly to Schuster Ave (link Glory Rd TC and possibly Alt TR-6 parking garage)	++	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	--	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	-	Moderate impacts are currently anticipated to major utilities and infrastructure.	+	Would support UTEP's Soleado Trail Mixed Use development along Sun Bowl Dr.	++	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax. Alternative may have the ability for UTEP to pursue revenue via PRT station retail sales and station PRT podcar advertising.
Alt TR-6	Parking Garage at 1) the NE quadrant of Mesa St / Glory Rd that serves special events, student parking, streetcar patrons, and mitigate retail parking displacement, and 2) the SW quadrant of Mesa St / Branchard Ave that serves both business and student parking to curtail student parking east of Mesa St within the neighborhoods (can be combined w/ Alts TR-4, BP-10, and MS-C* and MS-BY options.)	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	-	Moderate impacts are currently anticipated to major utilities and infrastructure.	O	May or may not help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt TR-7	Bus Queue Jump (right turn) Lanes at identified Mesa St intersections And Bus Pull-out lanes at regular and Brio Bus Stops	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	-	Moderate impacts are currently anticipated to major utilities and infrastructure if a right turn lane is needed to accommodate the queue jump lane.	O	May or may not help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
SH 20 / Mesa Street Alternatives															
Alt MS-1	Improve pavement markings, signage, aesthetics / landscaping, illumination w/ potential in-pavement lighting along Mesa St	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	O	No impacts currently anticipated to major utilities and infrastructure.	O	May or may not help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt MS-2	Geometric, line of sight, and curvature improvements along Mesa St	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	-	Moderate impacts are currently anticipated to major utilities and infrastructure.	O	Unlikely to help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt MS-3	Access Management (scrutinize and reduce curb cuts: close median openings/add hooded left-turn median lanes, close/combine driveways, omit intersection-driveway proximity conflicts)	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	O	No impacts currently anticipated to major utilities and infrastructure.	-	May impact economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt MS-4	Flatten the Mesa St. horizontal S-curve at Executive Center Blvd by shifting Mesa St alignment eastward; also consider flattening curve via a Mesa St unsignalized NB-SB lane couplet, between Wallington Dr and Camelot Heights Dr, w/ NB lanes located adjacent to Ridgecrest Dr; install median u-turns to accommodate left-turns	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	-	May impact economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt MS-5	Flatten the Mesa St. horizontal and vertical curve/grade between Gregory Ave and Glory Rd (use western ROW for wider sidewalks for UTEP student / special event walkability)	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	-	May impact economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt MS-6	Improve curvature at Mesa St / Brentwood Ave and hydraulics (raise profile to mitigate current flooding) and at Mesa St / Alto Mesa Dr	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	-	Moderate impacts are currently anticipated to major utilities and infrastructure.	O	Unlikely to help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt MS-7	3 ground-level SB and NB lanes on Mesa St from Doniphan Dr to Gregory Ave, combine w/ Alt TR-1	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	--	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	--	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	-	Impacts are currently anticipated to major utilities and / or infrastructure.	O	May or may not help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt MS-C1A	Ground-level Mesa St - Stanton St Couplet (3 SB lanes on Mesa St and 3 NB lanes on Stanton St) between Gregory Ave and Texas Ave (utilize surplus ROW and incorporate a Shared Use Bike Lane or Shared Use Path)	-	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	O	No impacts currently anticipated to major utilities and infrastructure.	-	May impact economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt MS-C1B **(Bypass)**	Alt MS-C1A Couplet w/ a below-ground level, 3-lane SB section on Mesa St between Gregory Ave and Kerbey Ave (adaptable as Cut & Cover / deck park) (w/o surface access lanes and w/ or w/o overhead cross-streets)	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	--	Impacts are currently anticipated to major utilities and infrastructure.	-	May impact economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt MS-C1C **(Bypass)**	Alt MS-C1B w/ SB ground-level surface access lanes between Gregory Ave and Boston Ave. (conserve ROW w/ cantilevered or cross-beam-supported surface access lanes)	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	--	Impacts are currently anticipated to major utilities and infrastructure.	O	May or may not help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt MS-BY1 **(Bypass)**	2 below-ground level SB and NB bypass lanes on Mesa St section between Gregory Ave and Kerbey Ave (adaptable as Cut & Cover / deck park) (w/o surface access lanes and w/ or w/o overhead cross-streets)	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	O	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	O	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	--	Moderate impacts are currently anticipated to major utilities and infrastructure.	-	May impact economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.
Alt MS-BY2 **(Bypass)**	Alt MS-BY1 w/ SB and NB surface access lanes between Gregory Ave and Boston Ave (conserve ROW w/ cantilevered or straddle bent-supported surface access lanes)	--	Rating based on cost per lane mile. If cost per lane mile exceeds $1M, then rated "-"; if between $10K and $1M, rated "-"; less than $10K rated 0. Grade separations were considered.	-	Rating based on estimated required ROW acreage. If ROW needs exceed 100 acres, then rated "-"; if between 10 and 100 acres, rated "-"; less than 10 acres rated 0.	-	Rating based on estimated utility relocations. If utility relocation covers multiple blocks or intersections, then rated "-"; if several blocks, rated "-"; a block or less rated 0.	--	Impacts are currently anticipated to major utilities and infrastructure.	O	May or may not help economic development.	+	All roadway improvement or new roadway projects would have the ability to pursue financing techniques through TRZ or vehicle registration tax.

NOTES:

[1] For information and comparison purposes only; as instructed by TxDOT, will not be used to carry forward or drop an Alt. during this Level 2 Screening.

[2] Baseline condition in the study area; no additional improvements are implemented other than those already programmed (fiscally constrained in Horizon 2040 MTP).

Preliminary Alternatives Details Matrix
Level 2 - Safety Screening for Benefits and Impacts
(Qualitative Analysis)

Study Goals		Eliminate / lessen crash-prone locations	Accomodate bicyclists, pedestrians & ADA
Criteria		Crash History and current Design Standards	
Measure		Lessons potential for crashes and fatalities via upgrades that adhere to current design standards	
		Rating	Evaluation
Preliminary Alternatives			
No-Build Alternative			
No-Build[1]	All current planned transportation improvements in the MPO Horizon 2040 Travel Demand Model.	--	Does not address crash locations nor improve / upgrade Mesa St to current design standards. Does not upgrade Mesa St for bicyclists, pedestrians or ADA.
ITS Alternatives			
Alt ITS-1	Mesa St signal timing and coordination including timing adjustments for I-10 overflow and I-10 construction avoidance traffic	O	This alternative may somewhat, directly or indirectly, reduce crashes and fatalities; may supplement accomodation of bicyclists, pedestrians & ADA.
Alt ITS-2	Mesa St Communication System, CCTV traffic recording devices (cameras, loops, microwave, radar), Traffic Flow Detectors, Alternate route plans and Bluetooth data collection	O	This alternative may somewhat, directly or indirectly, reduce crashes and fatalities; may supplement accomodation of bicyclists, pedestrians & ADA.
Alt ITS-3	Mesa St / BRIO-related information and coordination data	O	This alternative may somewhat, directly or indirectly, reduce crashes and fatalities; may supplement accomodation of bicyclists, pedestrians & ADA.
Alt ITS-4	Mesa St wayfinding signage, Dynamic Message Signs and Traffic Control for special events	O	This alternative may somewhat, directly or indirectly, reduce crashes and fatalities; may supplement accomodation of bicyclists, pedestrians & ADA.
Bike-Pedestrian Alternatives			
Alt BP-1	Sidewalk upgrades and connectivity; bus patron channelization and crosswalk upgrades at intersections	+	This alternative would help reduce crashes and fatalities; may supplement accomodation of bicyclists, pedestrians & ADA.
Alt BP-2	Mesa St intersection accommodation of City Bike Plan routes along intersecting crosstreets; Consider installing Dutch Intersections	+	This alternative would help reduce crashes and fatalities; may supplement accomodation of bicyclists, pedestrians & ADA.
Alt BP-3	"Shared Use" bike path (10-12' wide) parallel to Mesa St from Doniphan Dr to Glory Rd (per City Bike Plan) (If ROW is constrained, consider Shared Bike/Bus Lane)	++	This alternative would help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt BP-4	1 NB and 1 SB Shared Use travel lane on Mesa St from Doniphan Dr to Glory Rd	-	This alternative may help reduce crashes and fatalities; would accommodate bicyclists, however, drivers unfamiliar w/ shared use lanes presents a safety concern, as well as vehicles following slow moving bicyclists up the inclined segements of Mesa St.
Alt BP-5	1 SB and 1 NB "Buffered Bike Lane" on Mesa St from Doniphan Dr to Glory Rd, or a 2-way "Buffered Bike Lane" on SB Mesa St from Doniphan Dr to Glory Rd	+	This alternative may help reduce crashes and fatalities; would accommodate bicyclists.
Alt BP-7	Pedestrian bridge over Mesa St at Coronado HS; possibly include canopy-shaded seating / tables to curtail students crossing Mesa St at-grade [link w/ Park & Rec. Master Plan (pg 12-8, "Linkage Corridor") and nearby Lambka Park]	+	This alternative may help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt BP-10	Pedestrian bridge over Mesa St near UTEP / Glory Rd (combine w/ applicable Mesa St Capacity Alts)	+	This alternative may help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt BP-11	Pedestrian Underpass beneath Mesa St supplanting Robinson Ave	++	This alternative may help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt BP-12	"Pedestrian Scramble" intersection (4-Way signalized stop) at Mesa St / University Ave and Mesa St / River St	++	This alternative may help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt BP-13	Deck Parks over I-10 in downtown, adjacent to Mesa St, between Stanton St and Sante Fe St	O	This alternative may help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt BP-14	Remove "Pedestrian Scramble" intersection timing at Mesa St / San Antonio Ave	+	This alternative may help reduce crashes and fatalities; would continue to accommodate bicyclists, pedestrians & ADA.
Alt BP-15	Close the Mesa St / San Antonio Ave intersection and portions of each street beyond the intersection and convert the streets to a pedestrian mall with possibly transit-only integration.	++	This alternative would likely help reduce crashes and fatalities along Mesa St and San Antonio Ave; would continue to accommodate bicyclists, pedestrians & ADA.
Intersection Alternatives			
Alt I-TLR	Warranted left and right turn lanes, storage and decelleration lanes, and auxilliary lanes; elimination of Split Phase intersections/ shared left-through lanes/overlapping paths at Doniphan Dr, Remcon Cir, Resler Dr, and Sunland Park Dr.	+	This alternative may help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-DCT-1	Ground-level Channelized Turning Movement Intersection at Mesa St / Doniphan Dr (shift alignment east to avoid BNSF RR)	+	This alternative may help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-DCT-3	Alt DCT-1 w/ Flyover Ramp from SB Doniphan Dr to EB Mesa St	+	This alternative may help reduce crashes and fatalities; would accommodate bicyclists, pedestrians

Alt I-DCT-S	(shift alignment east to avoid BNSF RR)	+	& ADA.
Alt I-DGSI	Grade-seperated Intersection at Mesa St / Doniphan Dr (shift alignment east to avoid BNSF RR)	++	This alternative would help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-DBY **(Bypass)**	2 below-ground level, CTB-seperated SB and NB Doniphan Dr bypass lanes w/ 2 NB and 2 SB ground-level access streets and U-turns (conserve ROW w/ cantilivered or cross-beam supported access streets)	++	This alternative would help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-I10BY **(Bypass)**	2 below-ground level, CTB-seperated EB and WB Mesa St bypass lanes, from Osborne Dr to Belvidere St w/ 2 EB and WB ground-level access streets and U-turns (conserve ROW w/ cantilevered or straddle-bent supported access streets)	++	This alternative would help reduce crashes and fatalities along Mesa St as compared to existing Mesa St configuration; would accommodate bicyclists, pedestrians & ADA.
Alt I-I10SPU	SPUI interchange at Mesa St / I-10 Frontage Rd intersections	++	This alternative would help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-RCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Resler Dr	+	This alternative would help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-RGSI	Grade-seperated Intersection at Mesa St / Resler Dr or SPUI	++	This alternative would help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-RROU	Dual Cross-street Roundabout (teardrop shape) intersections at Resler Dr underpassing 3 elevated NB and SB Mesa St lanes (requires closure of Cloudview Dr from Resler Dr to Champions Pl)	+	This alternative would help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-SCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Sunland Dr intersection	+	This alternative would help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-SGSI	Grade-seperated Intersection at Mesa St / Sunland Park Dr or SPUI	++	This alternative would help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-SROU	Dual Cross-street Roundabout (teardrop shape) intersection at Sunland Park Dr underpassing 3 elevated NB and SB Mesa St lanes	+	This alternative would help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-MCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Montecillo Blvd intersection (shift alignment eastward to avoid retail)	+	This alternative would help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-MGSI	Grade-seperated Intersection at Mesa St / Montecillo Blvd (shift alignment eastward to avoid retail)	++	This alternative would help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-ECT	Ground-level Channelized Turning Movement Intersection at Mesa St / Executive Center Blvd	+	This alternative would help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-EGSI	Grade-seperated Intersection at Mesa St / Executive Center Blvd	++	This alternative would help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-EROU	Dual Cross-street Roundabout (teardrop shape) intersection at Executive Center Dr underpassing 3 elevated NB and SB Mesa St lanes	+	This alternative would help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-ETRU	Trumpet Interchange at Mesa St / Executive Center Dr	++	This alternative would help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-EGT	Green T Intersection at Mesa St / Executive Center Blvd	+	This alternative would help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-EUTN	U-turn (Michigan Lefts) at Mesa St / Executive Center Blvd	+	This alternative would help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-SAROU	Roundabout at Mesa St / San Antonio Ave	O	This alternative may or may not help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Alt I-9ROU	Mini-Roundabout at Mesa St / San Antonio Ave	O	This alternative may or may not help reduce crashes and fatalities; would accommodate bicyclists, pedestrians & ADA.
Roadway Connectivity Alternatives			
Alt RC-1	Relocate SB I-10 exit ramp (to Mesa St) upstream to allow for C-D Rd access to McClintock Dr to relieve the Mesa St / C-D Rd intersection	-	This alternative may help reduce crashes and fatalities by reducing vehicle volumns the downstream Mesa St / C-D Rd intersection; does not directly accommodate bicyclists, pedestrians & ADA.
Alt RC-4	Install WB Resler Dr link to the NB I-10 C-D Rd, and possibly install a downstream I-10 entrance ramp prior to Mesa St Conversely, install SB I-10 C-D Rd Flyover exit ramp to EB Resler Dr	--	This alternative may or may not help reduce crashes and fatalities; it directs vehicles both off and onto Mesa St; does not accommodate bicyclists, pedestrians & ADA.
Alt RC-5A	Link northern portions of Stanton St from Buckingham Dr north to link Splendid Sun Dr;	--	This alternative would not directly help reduce crashes and fatalities along Mesa St; does not

Alt RC-5A	Buckingham Dr north to link Splendid Sun Dr, also connect to Montecillo Blvd extension		accommodate bicyclists, pedestrians & ADA along
Alt RC-7	Realign / connect Camille Dr and Fountain Rd into one intersection; and extend Palo Verde Pl to Fountain Dr	O	This alternative may or may not help reduce crashes and fatalities; it directs vehicles both off and onto Mesa St; would accommodate bicyclists, pedestrians & ADA.
Alt RC-8	Realign / connect Thunderbird Dr w/ Balboa Rd into one intersection, or close Thunderbird Drive from Dew Dr south to Mesa St.	O	This alternative may or may not help reduce crashes and fatalities; it directs vehicles both off and onto Mesa St; would accommodate bicyclists, pedestrians & ADA.
Alt RC-9	Connect Lancers Club Way (3 blocks north of Sunland Park Dr) to Pebble Beach Dr	O	This alternative may or may not help reduce crashes and fatalities; it directs vehicles both off and onto Mesa St; would accommodate bicyclists, pedestrians & ADA.
Alt RC-12	Link future Mesa Park Dr extension (westward to I-10) w/ Executive Center Blvd via a north-south connecting arterial	O	This alternative may or may not help reduce crashes and fatalities; it directs vehicles both off and onto Mesa St; would accommodate bicyclists, pedestrians & ADA.
Alt RC-13	Realign / connect Brentwood Ave w/ W Eubank Ct (west of Mesa St) into one intersection and close Eubank Ct from Mesa St to Krupp Dr (combine w/ Alt MS-6)	O	This alternative may or may not help reduce crashes and fatalities; it directs vehicles both off and onto Mesa St; would accommodate bicyclists, pedestrians & ADA.
Alt RC-16	Close city streets / connections to Mesa St: Conley Rd, Pitt St, Fountain Rd (see Alt RC-9), Paragon Ln, Eubank Ct, Fairmont St / Greenwich Dr, McKelligon Dr, and Kern Dr (between Mesa St and Sun Bowl Dr)	O	This alternative may or may not help reduce crashes and fatalities along Mesa St. This street closure alternative does not involve applicable accommodation of bicyclists, pedestrians & ADA.
Alt RC-17	Link Stanton St w/ Castellano Dr (est of Mesa St), and link Argonaut Dr to Montecillo development (per Montecillo Dev. Regulating Plan)	O	This alternative may or may not help reduce crashes and fatalities along Mesa St as it provides travelers another route off of Mesa St and thus avoid the Mesa St intersections at Festival, Montecillo, and Castellano
Alt RC-18	Extend Desert Pass St to the Mesa St / Belvidere St intersection	O	This alternative may or may not help reduce crashes and fatalities along Mesa St as it provides travelers another route off of Mesa St / Remcon Circle intersections
Transit Alternatives			
Alt TR-1	Dedicated NB and SB BRT lanes on Mesa St from Doniphan Dr to Texas Ave w/ Traffic Signal Priority (TSP) serving bus movements at intersections; also consider bus lanes only for Peak Hours (can be combined w/ Alt MS-C and Alt MS-B options)	O	This alternative may or may not help reduce crashes and fatalities along Mesa St; would accommodate bicyclists, pedestrians & ADA.
Alt TR-4	NB and SB PRT along Sun Bowl Dr from Mesa St southward to stadium area, and possibly to Schuster Ave (link Glory Rd TC and possibly Alt TR-6 parking garage)	+	This alternative would likely reduce crashes and fatalities along Mesa St by reducing vehicular volumes and travelers on Mesa St; would accommodate bicyclists, pedestrians & ADA.
Alt TR-6	Parking Garage at 1) the NE quadrant of Mesa St / Glory Rd that serves special events, student parking, streetcar patrons, and mitigate retail parking displacement, and 2) the SW quadrant of Mesa St / Branchard Ave that serves both business and student parking to curtail student parking east of Mesa St within the neighborhoods (can be combined w/ Alts TR-4, BP-10, and MS-C* and MS-BY options)	O	This alternative does not involve the reduction of crashes and fatalities along Mesa St; would accommodate bicyclists, pedestrians & ADA.
Alt TR-7	Bus Queue Jump (right turn) Lanes at identified Mesa St intersections And Bus Pull-out lanes at regular and Brio Bus Stops	O	This alternative may or may not help reduce crashes and fatalities along Mesa St; would accommodate bicyclists, pedestrians & ADA.
SH 20 / Mesa Street Alternatives			
Alt MS-1	Improve pavement markings, signage, aesthetics / landscaping, illumination w/ potential in-pavement lighting along Mesa St	+	This alternative would likely help reduce crashes and fatalities along Mesa St; would accommodate bicyclists, pedestrians & ADA.
Alt MS-2	Geometric, line of sight, and curvature improvements along Mesa St	+	This alternative would help reduce crashes and fatalities along Mesa St; would accommodate bicyclists, pedestrians & ADA.
Alt MS-3	Access Management (scrutinize and reduce curb cuts: close median openings/add hooded left-turn median lanes, close/combine driveways, omit intersection-driveway proximity conflicts)	+	This alternative would help reduce crashes and fatalities along Mesa St; would involve applicable accommodation of bicyclists, pedestrians & ADA.
Alt MS-4	Flatten the Mesa St. horizontal S-curve at Executive Center Blvd by shifting Mesa St alignment eastward; also consider flattening curve via a Mesa St unsignalized NB-SB lane couplet, between Wallington Dr and Camelot Heights Dr, w/ NB lanes located adjacent to Ridgecrest Dr; install median u-turns to accommodate left-turns	+	This alternative would help reduce crashes and fatalities along Mesa St; would accommodate bicyclists, pedestrians & ADA.
Alt MS-5	Flatten the Mesa St. horizontal and vertical curve/grade between Gregory Ave and Glory Rd (use western ROW for wider sidewalks for UTEP student / special event walkability)	+	This alternative would help reduce crashes and fatalities along Mesa St; would accommodate bicyclists, pedestrians & ADA.
Alt MS-6	Improve curvature at Mesa St / Brentwood Ave and hydraulics (raise profile to mitigate current flooding) and at Mesa St / Alto Mesa Dr	+	This alternative would help reduce crashes and fatalities along Mesa St; would accommodate bicyclists, pedestrians & ADA.
Alt MS-7	3 ground-level SB and NB lanes on Mesa St from Doniphan Dr to Gregrory Ave, combine w/ Alt TR-1	O	This alternative may or may not help reduce crashes and fatalities along Mesa St; would accommodate bicyclists, pedestrians & ADA.
Alt MS-C1A	Ground-level Mesa St - Stanton St Couplet (3 SB lanes on Mesa St and 3 NB lanes on Stanton St) between Gregory Ave and Texas Ave (utilize surplus ROW and incorporate a Shared Use Bike Lane or Shared Use Path)	+	This alternative would help reduce crashes and fatalities along Mesa St w/ 1-way traffic and wider sidewalks; would accommodate bicyclists, pedestrians & ADA.

Alt MS-C1B **(Bypass)**	Alt MS-C1A Couplet w/ a below-ground level, 3-lane SB section on Mesa St between Gregory Ave and Kerbey Ave (adaptable as Cut & Cover / deck park) (w/o surface access lanes and w/ or w/o overhead cross-streets)	++	This alternative would help reduce crashes and fatalities along Mesa St; would accommodate bicyclists, pedestrians & ADA at the ground level.
Alt MS-C1C **(Bypass)**	Alt MS-C1B w/ SB ground-level surface access lanes between Gregory Ave and Boston Ave. (conserve ROW w/ cantilevered or cross-beam-supported surface access lanes)	+	This alternative would help reduce crashes and fatalities along Mesa St as compared to existing Mesa St configuration; would accommodate bicyclists, pedestrians & ADA at the ground level.
Alt MS-BY1 **(Bypass)**	2 below-ground level SB and NB bypass lanes on Mesa St section between Gregory Ave and Kerbey Ave (adaptable as Cut & Cover / deck park) (w/o surface access lanes and w/ or w/o overhead cross-streets)	++	This alternative would help reduce crashes and fatalities along Mesa St; would accommodate bicyclists, pedestrians & ADA at the ground level.
Alt MS-BY2 **(Bypass)**	Alt MS-BY1 w/ SB and NB surface access lanes between Gregory Ave and Boston Ave (conserve ROW w/ cantilevered or straddle bent-supported surface access lanes)	+	This alternative would help reduce crashes and fatalities along Mesa St as compared to existing Mesa St configuration; would accommodate bicyclists, pedestrians & ADA at the ground level.

NOTES:

1 Baseline condition in the study area; no additional improvements are implemented other than those already programmed (fiscally constrained in Horizon 2040 MTP).

Preliminary Alternatives Details Matrix
Level 2 - Public Input Screening for Benefits and Impacts (Qualitative Analysis)

Study Goals		Ensure an open public participation process and responsivness to public input		Ensure compliance with MTP and local plans	
Criteria		Public input including Aug 2-4, 2016 Public Meeting Series input			
Measure		Addresses written Meeting comments, survey results and any local resolutions of support		Compatible with programmed improvements	
		Rating	Evaluation	Rating	Evaluation
Preliminary Alternatives					
No-Build Alternative					
No-Build[1]	All current planned transportation improvements in the MPO Horizon 2040 Travel Demand Model.	--	This alternative does not address recent public input on improving Mesa St and therefore is not currently considered publically supported.	--	This alternative is not considered compatible w/ current, local programmed improvements.
ITS Alternatives					
Alt ITS-1	Mesa St signal timing and coordination including timing adjustments for I-10 overflow and I-10 construction avoidance traffic	+	This alternative directly or indirectly addresses recent public input and therefore is currently considered publically supported.	+	This alternative is considered compatible w/ current, local programmed improvements.
Alt ITS-2	Mesa St Communication System, CCTV traffic recording devices (cameras, loops, microwave, radar), Traffic Flow Detectors, Alternate route plans and Bluetooth data collection	+	This alternative directly or indirectly addresses recent public input and therefore is currently considered publically supported.	+	This alternative is considered compatible w/ current, local programmed improvements.
Alt ITS-3	Mesa St / BRIO-related information and coordination data	+	This alternative directly or indirectly addresses recent public input and therefore is currently considered publically supported.	+	This alternative is considered compatible w/ current, local programmed improvements.
Alt ITS-4	Mesa St wayfinding signage, Dynamic Message Signs and Traffic Control for special events	+	This alternative directly or indirectly addresses recent public input and therefore is currently considered publically supported.	+	This alternative is considered compatible w/ current, local programmed improvements.
Bike-Pedestrian Alternatives					
Alt BP-1	Sidewalk upgrades and connectivity; bus patron channelization and crosswalk upgrades at intersections	++	This alternative directly or indirectly addresses recent public input and therefore is currently considered publically supported.	++	This alternative is considered compatible w/ current, local programmed improvements.
Alt BP-2	Mesa St intersection accommodation of City Bike Plan routes along intersecting crosstreets; Consider installing Dutch Intersections	++	This alternative directly or indirectly addresses recent public input and therefore is currently considered publically supported.	++	This alternative is considered compatible w/ current, local programmed improvements.
Alt BP-3	"Shared Use" bike path (10-12' wide) parallel to Mesa St from Doniphan Dr to Glory Rd (per City Bike Plan) (If ROW is constrained, consider Shared Bike/Bus Lane)	+	This alternative directly or indirectly addresses recent public input and therefore is currently considered publically supported.	++	This alternative is considered compatible w/ current, local programmed improvements and directly compatible w/ the current City Bike Plan.
Alt BP-4	1 NB and 1 SB Shared Use travel lane on Mesa St from Doniphan Dr to Glory Rd	+	This alternative directly or indirectly addresses recent public input and therefore is currently considered publically supported.	O	This alternative is considered compatible w/ current, local programmed improvements and directly compatible w/ the current City Bike Plan.
Alt BP-5	1 SB and 1 NB "Buffered Bike Lane" on Mesa St from Doniphan Dr to Glory Rd, or a 2-way "Buffered Bike Lane" on SB Mesa St from Doniphan Dr to Glory Rd	++	This alternative directly addresses recent public input and therefore is currently considered publically supported.	O	This alternative is not directly compatible w/ the current City Bike Plan.
Alt BP-7	Pedestrian bridge over Mesa St at Coronado HS; possibly include canopy-shaded seating / tables to curtail students crossing Mesa St at-grade [link w/ Park & Rec. Master Plan (pg 12-8, "Linkage Corridor") and nearby Lambka Park]	+	This alternative directly or indirectly addresses recent public input and therefore is currently considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt BP-10	Pedestrian bridge over Mesa St near UTEP / Glory Rd (combine w/ applicable Mesa St Capacity Alts)	+	This alternative directly or indirectly addresses recent public input and therefore is currently considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt BP-11	Pedestrian Underpass beneath Mesa St supplanting Robinson Ave	+	This alternative directly or indirectly addresses recent public input and therefore is currently considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt BP-12	"Pedestrian Scramble" intersection (4-Way signalized stop) at Mesa St / University Ave and Mesa St / River St	+	This alternative directly or indirectly addresses recent public input and therefore is currently considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt BP-13	Deck Parks over I-10 in downtown, adjacent to Mesa St, between Stanton St and Sante Fe St	+	This alternative directly or indirectly addresses recent public input and therefore is currently considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt BP-14	Remove "Pedestrian Scramble" intersection timing at Mesa St / San Antonio Ave	+	This alternative directly or indirectly addresses recent public input and therefore is currently considered publically supported.	+	This alternative may be considered compatible w/ current, local programmed improvements.
Alt BP-15	Close the Mesa St / San Antonio Ave intersection and portions of each street beyond the intersection and convert the streets to a pedestrian mall with possibly transit-only integration.	+	This alternative directly or indirectly addresses recent public input and therefore is currently considered publically supported.	-	This alternative is likely not considered compatible w/ current, local programmed improvements.
Intersection Alternatives					
Alt I-TLR	Warranted left and right turn lanes, storage and decelleration lanes, and auxilliary lanes; elimination of Split Phase intersections/ shared left-through lanes/overlapping paths at Doniphan Dr, Remcon Cir, Resler Dr, and Sunland Park Dr.	++	This alternative directly addresses recent public input and therefore is currently considered publically supported.	+	This alternative is considered compatible w/ current, local programmed improvements.
Alt I-DCT-1	Ground-level Channelized Turning Movement Intersection at Mesa St / Doniphan Dr (shift alignment east to avoid BNSF RR)	++	This alternative directly addresses recent public input and therefore is currently considered publically supported.	+	This alternative is considered compatible w/ current, local programmed improvements.
Alt I-DCT-3	Alt DCT-1 w/ Flyover Ramp from SB Doniphan Dr to EB Mesa St	O	This alternative indirectly addresses recent public input and therefore may be considered	O	This alternative may or may not be considered compatible w/ current, local programmed

Alt I-DCTS	(shift alignment east to avoid BNSF RR)	O	public input and therefore may be considered publically supported.	O	compatible w/ current, local programmed improvements.
Alt I-DGSI	Grade-seperated Intersection at Mesa St / Doniphan Dr (shift alignment east to avoid BNSF RR)	O	This alternative indirectly addresses recent public input by removing vehicles from the intersection and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-DBY **(Bypass)**	2 below-ground level, CTB-seperated SB and NB Doniphan Dr bypass lanes w/ 2 NB and 2 SB ground-level access streets and U-turns (conserve ROW w/ cantilivered or cross-beam supported access streets)	+	This alternative indirectly addresses recent public input by removing vehicles from the intersection and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-I10BY **(Bypass)**	2 below-ground level, CTB-seperated EB and WB Mesa St bypass lanes, from Osborne Dr to Belvidere St w/ 2 EB and WB ground-level access streets and U-turns (conserve ROW w/ cantilevered or straddle-bent supported access streets)	+	This alternative indirectly addresses recent public input by removing vehicles from the intersection and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-I10SPU	SPUI interchange at Mesa St / I-10 Frontage Rd intersections	O	This alternative indirectly addresses recent public input by removing vehciles from the intersection and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-RCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Resler Dr	++	This alternative directly addresses recent public input and therefore is currently considered publically supported.	+	This alternative is considered compatible w/ current, local programmed improvements.
Alt I-RGSI	Grade-seperated Intersection at Mesa St / Resler Dr or SPUI	O	This alternative indirectly addresses recent public input by removing vehicles from the intersection and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-RROU	Dual Cross-street Roundabout (teardrop shape) intersections at Resler Dr underpassing 3 elevated NB and SB Mesa St lanes (requires closure of Cloudview Dr from Resler Dr to Champions Pl)	O	This alternative indirectly addresses recent public input by removing vehicles from the intersection and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-SCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Sunland Dr intersection	++	This alternative directly addresses recent public input and therefore is currently considered publically supported.	+	This alternative is considered compatible w/ current, local programmed improvements.
Alt I-SGSI	Grade-seperated Intersection at Mesa St / Sunland Park Dr or SPUI	O	This alternative indirectly addresses recent public input by removing vehicles from the intersection and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-SROU	Dual Cross-street Roundabout (teardrop shape) intersection at Sunland Park Dr underpassing 3 elevated NB and SB Mesa St lanes	O	This alternative indirectly addresses recent public input by removing vehicles from the intersection and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-MCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Montecillo Blvd intersection (shift alignment eastward to avoid retail)	++	This alternative directly addresses recent public input and therefore is currently considered publically supported.	+	This alternative is considered compatible w/ current, local programmed improvements.
Alt I-MGSI	Grade-seperated Intersection at Mesa St / Montecillo Blvd (shift alignment eastward to avoid retail)	O	This alternative indirectly addresses recent public input by removing vehicles from the intersection and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-ECT	Ground-level Channelized Turning Movement Intersection at Mesa St / Executive Center Blvd	++	This alternative directly addresses recent public input and therefore is currently considered publically supported.	+	This alternative is considered compatible w/ current, local programmed improvements.
Alt I-EGSI	Grade-seperated Intersection at Mesa St / Executive Center Blvd	O	This alternative indirectly addresses recent public input by removing vehicles from the intersection and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-EROU	Dual Cross-street Roundabout (teardrop shape) intersection at Executive Center Dr underpassing 3 elevated NB and SB Mesa St lanes	O	This alternative indirectly addresses recent public input by removing vehicles from the intersection and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-ETRU	Trumpet Interchange at Mesa St / Executive Center Dr	O	This alternative indirectly addresses recent public input by removing vehicles from the intersection and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-EGT	Green T Intersection at Mesa St / Executive Center Blvd	O	This alternative indirectly addresses recent public input by removing vehicles from the intersection and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-EUTN	U-turn (Michigan Lefts) at Mesa St / Executive Center Blvd	O	This alternative indirectly addresses recent public input by removing vehicles from the intersection and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-SAROU	Roundabout at Mesa St / San Antonio Ave	O	This alternative indirectly addresses recent public input by removing vehicles from the intersection and therefore may or may not be considered publically supported.	-	This alternative is not currently considered compatible w/ current, local programmed improvements.
Alt I-9ROU	Mini-Roundabout at Mesa St / San Antonio Ave	O	This alternative indirectly addresses recent public input by removing vehicles from the intersection and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Roadway Connectivity Alternatives					
Alt RC-1	Relocate SB I-10 exit ramp (to Mesa St) upstream to allow for C-D Rd access to McClintock Dr to relieve the Mesa St / C-D Rd intersection	O	This alternative indirectly addresses recent public input by alleviating Mesa St congestion and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.
Alt RC-4	Install WB Resler Dr link to the NB I-10 C-D Rd, and possibly install a downstream I-10 entrance ramp prior to Mesa St Conversely, install SB I-10 C-D Rd Flyover exit ramp to EB Resler Dr	++	This alternative directly addresses recent public input to install the Resler Dr link and therefore is considered publically supported.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.

Alt RC-5A	Link northern portions of Stanton St from Buckingham Dr north to link Splendid Sun Dr; also connect to Montecillo Blvd extension	+	This alternative indirectly addresses recent public input to link the Stanton St segments (provide relief route to Mesa St) and therefore is currently considered publically supported. However, necessary land acquisition is a concern.	O	A variation of this alternative is shown on the City Thoroughfare Plan and therefore is considered compatible w/ current, local programmed improvements. However, this option is has property and building impacts.
Alt RC-7	Realign / connect Camille Dr and Fountain Rd into one intersection; and extend Palo Verde Pl to Fountain Dr	O	This alternative does not specifically address any recent public input, and therefore it may or may not be considered publically supportive.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.
Alt RC-8	Realign / connect Thunderbird Dr w/ Balboa Rd into one intersection, or close Thunderbird Drive from Dew Dr south to Mesa St.	O	This alternative does not specifically address any recent public input, and therefore it may or may not be considered publically supportive.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.
Alt RC-9	Connect Lancers Club Way (3 blocks north of Sunland Park Dr) to Pebble Beach Dr	O	This alternative does not specifically address any recent public input, and therefore it may or may not be considered publically supportive.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.
Alt RC-12	Link future Mesa Park Dr extension (westward to I-10) w/ Executive Center Blvd via a north-south connecting arterial	O	This alternative does not specifically address any recent public input, and therefore it may or may not be considered publically supportive.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.
Alt RC-13	Realign / connect Brentwood Ave w/ W Eubank Ct (west of Mesa St) into one intersection and close Eubank Ct from Mesa St to Krupp Dr (combine w/ Alt MS-6)	O	This alternative does not specifically address any recent public input, and therefore it may or may not be considered publically supportive.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.
Alt RC-16	Close city streets / connections to Mesa St: Conley Rd, Pitt St, Fountain Rd (see Alt RC-9), Paragon Ln, Eubank Ct, Fairmont St / Greenwich Dr, McKelligon Dr, and Kern Dr (between Mesa St and Sun Bowl Dr)	O	This alternative does not specifically address any recent public input, and therefore it may or may not be considered publically supportive.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.
Alt RC-17	Link Stanton St w/ Castellano Dr (est of Mesa St), and link Argonaut Dr to Montecillo development (per Montecillo Dev. Regulating Plan)	O	This alternative does not specifically address any recent public input, and therefore it may or may not be considered publically supportive.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.
Alt RC-18	Extend Desert Pass St to the Mesa St / Belvidere St intersection	O	This alternative does not specifically address any recent public input, and therefore it may or may not be considered publically supportive.	O	This alternative does not specifically address any recent public input, and therefore it may or may not be considered publically supportive.
Transit Alternatives					
Alt TR-1	Dedicated NB and SB BRT lanes on Mesa St from Doniphan Dr to Texas Ave w/ Traffic Signal Priority (TSP) serving bus movements at intersections; also consider bus lanes only for Peak Hours (can be combined w/ Alt MS-C and Alt MS-B options)	++	This alternative directly addresses recent public input to install bus lanes along Mesa St and therefore is considered publically supported.	+	This alternative is currently considered compatible w/ current, local or future programmed improvements.
Alt TR-4	NB and SB PRT along Sun Bowl Dr from Mesa St southward to stadium area, and possibly to Schuster Ave (link Glory Rd TC and possibly Alt TR-6 parking garage)	O	This alternative indirectly addresses recent public input to alleviation congestion along Mesa St and near Sun Bowl Dr, and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.
Alt TR-6	Parking Garage at 1) the NE quadrant of Mesa St / Glory Rd that serves special events, student parking, streetcar patrons, and mitigate retail parking displacement, and 2) the SW quadrant of Mesa St / Branchard Ave that serves both business and student parking to curtail student parking east of Mesa St within the neighborhoods (can be combined w/ Alts TR-4, BP-10, and MS-C* and MS-BY options.	O	This alternative indirectly addresses recent public input to alleviate congestion along Mesa St and remove vehicles from Mesa St and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.
Alt TR-7	Bus Queue Jump (right turn) Lanes at identified Mesa St intersections And Bus Pull-out lanes at regular and Brio Bus Stops	O	This alternative directly addresses recent public input to cater buses along Mesa St and therefore is considered publically supported. However, the ROW required for the Pull-out lanes is a negative.	+	This alternative is currently considered compatible w/ current, local or future programmed improvements.
SH 20 / Mesa Street Alternatives					
Alt MS-1	Improve pavement markings, signage, aesthetics / landscaping, illumination w/ potential in-pavement lighting along Mesa St	++	This alternative directly addresses recent public input and therefore is considered publically supported.	++	This alternative is considered compatible w/ current, local programmed improvements.
Alt MS-2	Geometric, line of sight, and curvature improvements along Mesa St	+	This alternative indirectly addresses recent public input on safety improvements along Mesa St and therefore is considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt MS-3	Access Management (scrutinize and reduce curb cuts: close median openings/add hooded left-turn median lanes, close/combine driveways, omit intersection-driveway proximity conflicts)	+	This alternative does not specifically address any recent public input, and therefore it may or may not be considered publically supportive.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt MS-4	Flatten the Mesa St. horizontal S-curve at Executive Center Blvd by shifting Mesa St alignment eastward; also consider flattening curve via a Mesa St unsignalized NB-SB lane couplet, between Wallington Dr and Camelot Heights Dr, w/ NB lanes located adjacent to Ridgecrest Dr; install median u-turns to accommodate left-turns	+	This alternative indirectly addresses recent public input on safety improvements along Mesa St and therefore is considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt MS-5	Flatten the Mesa St. horizontal and vertical curve/grade between Gregory Ave and Glory Rd (use western ROW for wider sidewalks for UTEP student / special event walkability)	+	This alternative indirectly addresses recent public input on safety improvements along Mesa St and therefore is considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt MS-6	Improve curvature at Mesa St / Brentwood Ave and hydraulics (raise profile to mitigate current flooding) and at Mesa St / Alto Mesa Dr	O	This alternative does not specifically address any recent public input, and therefore it may or may not be considered publically supportive.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt MS-7	3 ground-level SB and NB lanes on Mesa St from Doniphan Dr to Gregrory Ave, combine w/ Alt TR-1	+	This alternative directly addresses recent public input concerning the Alt TR-1 bus lanes, and therefore it may or may not be considered publically supportive.	+	This alternative is considered compatible w/ current, local programmed improvements.

Alt MS-C1A	Ground-level Mesa St - Stanton St Couplet (3 SB lanes on Mesa St and 3 NB lanes on Stanton St) between Gregory Ave and Texas Ave (utilize surplus ROW and incorporate a Shared Use Bike Lane or Shared Use Path)	+	This alternative indirectly addresses recent public input to alleviate congestion along Mesa St and allows for safer pedestrian movements via wider sidewalks and may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt MS-C1B **(Bypass)**	Alt MS-C1A Couplet w/ a below-ground level, 3-lane SB section on Mesa St between Gregory Ave and Kerbey Ave (adaptable as Cut & Cover / deck park) (w/o surface access lanes and w/ or w/o overhead cross-streets)	O	This alternative indirectly addresses recent public input to alleviate congestion along Mesa St that allows for safer pedestrian movements and therefore may or may not be considered publically supported. However, retail access may be a concern.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt MS-C1C **(Bypass)**	Alt MS-C1B w/ SB ground-level surface access lanes between Gregory Ave and Boston Ave. (conserve ROW w/ cantilevered or cross-beam-supported surface access lanes)	+	This alternative indirectly addresses recent public input to alleviate congestion along Mesa St that allows for safer pedestrian movements and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt MS-BY1 **(Bypass)**	2 below-ground level SB and NB bypass lanes on Mesa St section between Gregory Ave and Kerbey Ave (adaptable as Cut & Cover / deck park) (w/o surface access lanes and w/ or w/o overhead cross-streets)	O	This alternative indirectly addresses recent public input to alleviate congestion along Mesa St that allows for safer pedestrian movements and may or may not be considered publically supported. However, retail access may be a concern.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt MS-BY2 **(Bypass)**	Alt MS-BY1 w/ SB and NB surface access lanes between Gregory Ave and Boston Ave (conserve ROW w/ cantilevered or straddle bent-supported surface access lanes)	+	This alternative indirectly addresses recent public input to alleviate congestion along Mesa St that allows for safer pedestrian movements and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.

NOTES:

1 Baseline condition in the study area; no additional improvements are implemented other than those already programmed (fiscally constrained in Horizon 2040 MTP).

Preliminary Alternatives Details Matrix
Level 2 - Agency Input Screening for Benefits and Impacts (Qualitative Analysis)

Study Goals		Ensure agency / major stakeholder participation and input		Expected to support local / City planning efforts and policy	
Criteria		Agency Working Group (AWG) Meetings		City Thoroughfare Plan, Bike Plan, Transit and Plan El Paso	
Measure		Addresses AWG comments and feedback and / or compatible with agency / stakeholder objectives within the Mesa St. corridor		Overall compatible and complimentary; does not preclude future plans	
		Rating	Evaluation	Rating	Evaluation
Preliminary Alternatives					
No-Build Alternative					
No-Build[1]	All current planned transportation improvements in the MPO Horizon 2040 Travel Demand Model.	--	This alternative does not address recent AWG input on improving Mesa St and therefore is not currently considered agency supported.	--	This alternative is not considered compatible w/ current, local programmed improvements.
ITS Alternatives					
Alt ITS-1	Mesa St signal timing and coordination including timing adjustments for I-10 overflow and I-10 construction avoidance traffic	+	This alternative directly or indirectly addresses recent AWG input and therefore is currently considered agency supported.	+	This alternative is considered compatible and complimentary w/ current, local programmed improvements.
Alt ITS-2	Mesa St Communication System, CCTV traffic recording devices (cameras, loops, microwave, radar), Traffic Flow Detectors, Alternate route plans and Bluetooth data collection	+	This alternative directly or indirectly addresses recent AWG input and therefore is currently considered agency supported.	+	This alternative is considered compatible and complimentary w/ current, local programmed improvements.
Alt ITS-3	Mesa St / BRIO-related information and coordination data	+	This alternative directly or indirectly addresses recent AWG input and therefore is currently considered agency supported.	+	This alternative is considered compatible and complimentary w/ current, local programmed improvements.
Alt ITS-4	Mesa St wayfinding signage, Dynamic Message Signs and Traffic Control for special events	+	This alternative directly or indirectly addresses recent AWG input and therefore is currently considered agency supported.	+	This alternative is considered compatible and complimentary w/ current, local programmed improvements.
Bike-Pedestrian Alternatives					
Alt BP-1	Sidewalk upgrades and connectivity; bus patron channelization and crosswalk upgrades at intersections	++	This alternative directly or indirectly addresses recent AWG input and therefore is currently considered agency supported.	++	This alternative is considered compatible and complimentary w/ current, local programmed improvements.
Alt BP-2	Mesa St intersection accommodation of City Bike Plan routes along intersecting crosstreets; Consider installing Dutch Intersections	++	This alternative directly or indirectly addresses recent AWG input and therefore is currently considered agency supported.	++	This alternative is considered compatible and complimentary w/ current, local programmed improvements, specifically the City Bike Plan. However, Mesa St ROW is constrianed and limited to accommodate this Alt, therefore see bike accommodation Alt BP-3
Alt BP-3	"Shared Use" bike path (10-12' wide) parallel to Mesa St from Doniphan Dr to Glory Rd (per City Bike Plan) (If ROW is constrained, consider Shared Bike/Bus Lane)	+	This alternative directly or indirectly addresses AWG input and therefore is currently considered agency supported.	++	This alternative is directly compatible w/ the current City Bike Plan.
Alt BP-4	1 NB and 1 SB Shared Use travel lane on Mesa St from Doniphan Dr to Glory Rd	O	This alternative directly or indirectly addresses AWG input and may or may not be currently agency supported, however, safety is concern w/ Shared Use lanes.	--	This alternative is not directly compatible w/ the current City Bike Plan.
Alt BP-5	1 SB and 1 NB "Buffered Bike Lane" on Mesa St from Doniphan Dr to Glory Rd, or a 2-way "Buffered Bike Lane" on SB Mesa St from Doniphan Dr to Glory Rd	O	This alternative directly or indirectly addresses AWG input and may or may not be currently agency supported.	--	This alternative is not directly compatible w/ the current City Bike Plan.
Alt BP-7	Pedestrian bridge over Mesa St at Coronado HS; possibly include canopy-shaded seating / tables to curtail students crossing Mesa St at-grade [link w/ Park & Rec. Master Plan (pg 12-8, "Linkage Corridor") and nearby Lambka Park]	--	This alternative directly or indirectly addresses recent AWG input, however the Frontera Land Alliance does not support this Alt due to to the Resler Canyon Nature Preserve impacts.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt BP-10	Pedestrian bridge over Mesa St near UTEP / Glory Rd (combine w/ applicable Mesa St Capacity Alts)	+	This alternative directly or indirectly addresses recent AWG input and therefore is currently considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt BP-11	Pedestrian Underpass beneath Mesa St supplanting Robinson Ave	+	This alternative directly or indirectly addresses recent AWG input and therefore is currently considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt BP-12	"Pedestrian Scramble" intersection (4-Way signalized stop) at Mesa St / University Ave and Mesa St / River St	+	This alternative directly or indirectly addresses recent AWG input and therefore is currently considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt BP-13	Deck Parks over I-10 in downtown, adjacent to Mesa St, between Stanton St and Sante Fe St	+	This alternative directly or indirectly addresses recent AWG input and therefore is currently considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements. This Alt will be studied by the Reimagine I-10 Study.
Alt BP-14	Remove "Pedestrian Scramble" intersection timing at Mesa St / San Antonio Ave	+	This alternative directly or indirectly addresses recent AWG input and therefore is currently considered agency supported.	+	This alternative is considered compatible w/ current, local programmed improvements.
Alt BP-15	Close the Mesa St / San Antonio Ave intersection and portions of each street beyond the intersection and convert the streets to a pedestrian mall with possibly transit-only integration	-	This alternative directly or indirectly addresses recent AWG input, however it is not currently considered agency supported.	-	This alternative is not considered compatible w/ current, local programmed improvements.
Intersection Alternatives					
Alt I-TLR	Warranted left and right turn lanes, storage and decelleration lanes, and auxilliary lanes; elimination of Split Phase intersections/ shared left-through lanes/overlapping paths at Doniphan Dr, Remcon Cir, Resler Dr, and Sunland Park Dr.	++	This alternative directly addresses recent AWG input and therefore is currently considered agency supported.	++	This alternative is considered compatible w/ current, local programmed improvements.
Alt I-DCT-1	Ground-level Channelized Turning Movement Intersection at Mesa St / Doniphan Dr (shift alignment east to avoid BNSF RR)	++	This alternative directly addresses recent AWG input and therefore is currently considered agency supported.	++	This alternative is considered compatible w/ current, local programmed improvements.

Alt I-DCT-3	Alt DCT-1 w/ Flyover Ramp from SB Doniphan Dr to EB Mesa St (shift alignment east to avoid BNSF RR)	+	This alternative indirectly addresses recent AWG input and therefore may be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-DGSI	Grade-seperated Intersection at Mesa St / Doniphan Dr (shift alignment east to avoid BNSF RR)	O	This alternative indirectly addresses recent AWG input and may or may not be considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-DBY **(Bypass)**	2 below-ground level, CTB-seperated SB and NB Doniphan Dr bypass lanes w/ 2 NB and 2 SB ground-level access streets and U-turns (conserve ROW w/ cantilivered or cross-beam supported access streets)	-	This alternative indirectly addresses recent AWG input and may or may not be considered agency supported, but hydraulics is considered a fatal flaw.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-I10BY **(Bypass)**	2 below-ground level, CTB-seperated EB and WB Mesa St bypass lanes, from Osborne Dr to Belvidere St w/ 2 EB and WB ground-level access streets and U-turns (conserve ROW w/ cantilevered or straddle-bent supported access streets)	+	This alternative indirectly addresses recent AWG input and may or may not be considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-I10SPU	SPUI interchange at Mesa St / I-10 Frontage Rd intersections	O	This alternative indirectly addresses recent AWG input and may or may not be considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-RCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Resler Dr	++	This alternative directly addresses recent AWG input and therefore is currently considered agency supported.	++	This alternative is considered compatible w/ current, local programmed improvements.
Alt I-RGSI	Grade-seperated Intersection at Mesa St / Resler Dr or SPUI	O	This alternative indirectly addresses recent public input by removing vehciles from the intersection and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-RROU	Dual Cross-street Roundabout (teardrop shape) intersections at Resler Dr underpassing 3 elevated NB and SB Mesa St lanes (requires closure of Cloudview Dr from Resler Dr to Champions Pl)	O	This alternative indirectly addresses recent public input by removing vehciles from the intersection and therefore may or may not be considered publically supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-SCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Sunland Dr intersection	++	This alternative directly addresses recent public input and therefore is currently considered publically supported.	+	This alternative is considered compatible w/ current, local programmed improvements.
Alt I-SGSI	Grade-seperated Intersection at Mesa St / Sunland Park Dr or SPUI	O	This alternative indirectly addresses recent AWG input and may or may not be considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-SROU	Dual Cross-street Roundabout (teardrop shape) intersection at Sunland Park Dr underpassing 3 elevated NB and SB Mesa St lanes	O	This alternative indirectly addresses recent AWG input and may or may not be considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-MCT	Ground-level Channelized Turning Movement Intersection at Mesa St / Montecillo Blvd intersection (shift alignment eastward to avoid retail)	++	This alternative directly addresses recent public input and therefore is currently considered publically supported.	+	This alternative is considered compatible w/ current, local programmed improvements.
Alt I-MGSI	Grade-seperated Intersection at Mesa St / Montecillo Blvd (shift alignment eastward to avoid retail)	O	This alternative indirectly addresses recent AWG input and may or may not be considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-ECT	Ground-level Channelized Turning Movement Intersection at Mesa St / Executive Center Blvd	++	This alternative directly addresses recent public input and therefore is currently considered publically supported.	+	This alternative is considered compatible w/ current, local programmed improvements.
Alt I-EGSI	Grade-seperated Intersection at Mesa St / Executive Center Blvd	O	This alternative indirectly addresses recent AWG input and may or may not be considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-EROU	Dual Cross-street Roundabout (teardrop shape) intersection at Executive Center Dr underpassing 3 elevated NB and SB Mesa St lanes	O	This alternative indirectly addresses recent AWG input and may or may not be considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-ETRU	Trumpet Interchange at Mesa St / Executive Center Dr	O	This alternative directly or indirectly addresses recent AWG input and may or may not be considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-EGT	Green T Intersection at Mesa St / Executive Center Blvd	O	This alternative directly or indirectly addresses recent AWG input and may or may not be considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-EUTN	U-turn (Michigan Lefts) at Mesa St / Executive Center Blvd	O	This alternative directly or indirectly addresses recent AWG input and may or may not be considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt I-SAROU	Roundabout at Mesa St / San Antonio Ave	-	This alternative directly or indirectly addresses recent AWG input and is not currently considered agency supported.	-	This alternative is not currently considered compatible w/ current, local programmed improvements.
Alt I-9ROU	Mini-Roundabout at Mesa St / San Antonio Ave	O	This alternative directly or indirectly addresses recent AWG input and may or may not be considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Roadway Connectivity Alternatives					
Alt RC-1	Relocate SB I-10 exit ramp (to Mesa St) upstream to allow for C-D Rd access to McClintock Dr to relieve the Mesa St / C-D Rd intersection	+	This alternative indirectly addresses recent AWG input by alleviating Mesa St congestion and may be considered agency supported.	+	This alternative may be considered compatible w/ local or future programmed improvements.
Alt RC-4	Install WB Resler Dr link to the NB I-10 C-D Rd, and possibly install a downstream I-10 entrance ramp prior to Mesa St	+	This alternative indirectly addresses recent AWG input by alleviating Mesa St congestion	O	This alternative may or may not be considered compatible w/ local or future programmed

Alt RC-4	Conversely, install SB I-10 C-D Rd Flyover exit ramp to EB Resler Dr	+	AWG input by alleviating Mesa St congestion and may be considered agency supported.	O	compatible w/ local or future programmed improvements.
Alt RC-5A	Link northern portions of Stanton St from Buckingham Dr north to link Splendid Sun Dr; also connect to Montecillo Blvd extension	+	This alternative indirectly addresses recent AWG input to link the Stanton St segments (provide relief route to Mesa St) and therefore is currently considered agency supported. However, necessary land acquisition is a concern.	+	A variation of this alternative is shown on the City Thoroughfare Plan and therefore is considered compatible w/ current, local programmed improvements.
Alt RC-7	Realign / connect Camille Dr and Fountain Rd into one intersection; and extend Palo Verde Pl to Fountain Dr	O	This alternative does not specifically address any recent AWG input, and therefore it may or may not be considered agency supportive.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.
Alt RC-8	Realign / connect Thunderbird Dr w/ Balboa Rd into one intersection, or close Thunderbird Drive from Dew Dr south to Mesa St.	O	This alternative does not specifically address any recent AWG input, and therefore it may or may not be considered agency supportive.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.
Alt RC-9	Connect Lancers Club Way (3 blocks north of Sunland Park Dr) to Pebble Beach Dr	O	This alternative does not specifically address any recent AWG input, and therefore it may or may not be considered agency supportive.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.
Alt RC-12	Link future Mesa Park Dr extension (westward to I-10) w/ Executive Center Blvd via a north-south connecting arterial	O	This alternative does not specifically address any recent AWG input, and therefore it may or may not be considered agency supportive.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.
Alt RC-13	Realign / connect Brentwood Ave w/ W Eubank Ct (west of Mesa St) into one intersection and close Eubank Ct from Mesa St to Krupp Dr (combine w/ Alt MS-6)	O	This alternative does not specifically address any recent AWG input, and therefore it may or may not be considered agency supportive.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.
Alt RC-16	Close city streets / connections to Mesa St: Conley Rd, Pitt St, Fountain Rd (see Alt RC-9), Paragon Ln, Eubank Ct, Fairmont St / Greenwich Dr, McKelligon Dr, and Kern Dr (between Mesa St and Sun Bowl Dr)	O	This alternative does not specifically address any recent AWG input, and therefore it may or may not be considered agency supportive.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.
Alt RC-17	Link Stanton St w/ Castellano Dr (est of Mesa St), and link Argonaut Dr to Montecillo development (per Montecillo Dev. Regulating Plan)	O	This alternative does not specifically address any recent AWG input, and therefore it may or may not be considered agency supportive.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.
Alt RC-18	Extend Desert Pass St to the Mesa St / Belvidere St intersection	O	This alternative does not specifically address any recent AWG input, and therefore it may or may not be considered agency supportive.	-	This alternative is not currently considered compatible w/ local or future programmed improvements per City comment.
Transit Alternatives					
Alt TR-1	Dedicated NB and SB BRT lanes on Mesa St from Doniphan Dr to Texas Ave w/ Traffic Signal Priority (TSP) serving bus movements at intersections; also consider bus lanes only for Peak Hours (can be combined w/ Alt MS-C and Alt MS-B options)	+	This alternative directly addresses recent AWG input to install bus lanes along Mesa St and therefore is considered agency supported.	-	This alternative is not currently considered compatible w/ current, local or future programmed improvements.
Alt TR-4	NB and SB PRT along Sun Bowl Dr from Mesa St southward to stadium area, and possibly to Schuster Ave (link Glory Rd TC and possibly Alt TR-6 parking garage)	O	This alternative indirectly addresses recent AWG input to alleviation congestion along Mesa St and near Sun Bowl Dr, and therefore may or may not be considered agency and UTEP supported.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.
Alt TR-6	Parking Garage at 1) the NE quadrant of Mesa St / Glory Rd that serves special events, student parking, streetcar patrons, and mitigate retail parking displacement, and 2) the SW quadrant of Mesa St / Branchard Ave that serves both business and student parking to curtail student parking east of Mesa St within the neighborhoods (can be combined w/ Alts TR-4, BP-10, and MS-C* and MS-BY options.	O	This alternative indirectly addresses recent AWG input to alleviation congestion along Mesa St and near Sun Bowl Dr, and therefore may or may not be considered agency and UTEP supported.	O	This alternative may or may not be considered compatible w/ local or future programmed improvements.
Alt TR-7	Bus Queue Jump (right turn) Lanes at identified Mesa St intersections And Bus Pull-out lanes at regular and Brio Bus Stops	+	This alternative directly addresses recent AWG input to accommodate transit.	+	This alternative may or may not be considered compatible w/ local or future programmed improvements.
SH 20 / Mesa Street Alternatives					
Alt MS-1	Improve pavement markings, signage, aesthetics / landscaping, illumination w/ potential in-pavement lighting along Mesa St	++	This alternative directly addresses recent AWG input and therefore is considered agency supported.	++	This alternative is considered compatible w/ current, local programmed improvements.
Alt MS-2	Geometric, line of sight, and curvature improvements along Mesa St	+	This alternative indirectly addresses recent AWG input on safety improvements along Mesa St and therefore is considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt MS-3	Access Management (scrutinize and reduce curb cuts: close median openings/add hooded left-turn median lanes, close/combine driveways, omit intersection-driveway proximity conflicts)	+	This alternative does not specifically address any recent AWG input, and therefore it may or may not be considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt MS-4	Flatten the Mesa St. horizontal S-curve at Executive Center Blvd by shifting Mesa St alignment eastward; also consider flattening curve via a Mesa St unsignalized NB-SB lane couplet, between Wallington Dr and Camelot Heights Dr, w/ NB lanes located adjacent to Ridgecrest Dr; install median u-turns to accommodate left-turns	+	This alternative indirectly addresses recent AWG input on safety improvements along Mesa St and therefore is considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt MS-5	Flatten the Mesa St. horizontal and vertical curve/grade between Gregory Ave and Glory Rd (use western ROW for wider sidewalks for UTEP student / special event walkability)	+	This alternative indirectly addresses recent AWG input on safety improvements along Mesa St and therefore is considered agency supported.	O	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt MS-6	Improve curvature at Mesa St / Brentwood Ave and hydraulics (raise profile to mitigate current flooding) and at Mesa St / Alto Mesa Dr	+	This alternative directly addresses recent utility agency input on flooding concerns and therefore is considered agency supported.	+	This alternative may or may not be considered compatible w/ current, local programmed improvements.
Alt MS-7	3 ground-level SB and NB lanes on Mesa St from Doniphan Dr to Gregory Ave, combine	++	This alternative directly addresses recent AWG input concerning the Alt TR-1 bus lanes, and	+	This alternative is considered compatible w/

Alt MS-7	from Dollphin Dr to Gregory Ave, combine w/ Alt TR-1	+	input concerning the Alt TR-1 bus lanes, and therefore is considered agency supported.	+	current, local programmed improvements.
Alt MS-C1A	Ground-level Mesa St - Stanton St Couplet (3 SB lanes on Mesa St and 3 NB lanes on Stanton St) between Gregory Ave and Texas Ave (utilize surplus ROW and incorporate a Shared Use Bike Lane or Shared Use Path)	-	This alternative indirectly addresses recent AWG input to alleviate congestion along Mesa St that allows for safer pedestrian movements via wider sidewalks and may or may not be agency supported. Current City installation of the streetcar and bike track on Stanton is considered a fatal flaw.	O	This alternative is considered compatible w/ current, local programmed improvements.
Alt MS-C1B **(Bypass)**	Alt MS-C1A Couplet w/ a below-ground level, 3-lane SB section on Mesa St between Gregory Ave and Kerbey Ave (adaptable as Cut & Cover / deck park) (w/o surface access lanes and w/ or w/o overhead cross-streets)	-	This alternative indirectly addresses recent AWG input to alleviate congestion along Mesa St that allow for safer pedestrian movements and therefore is considered agency supported. However, retail access and hydraulic operation may be a concern.Current City installation of the streetcar and bike track on Stanton is considered a fatal flaw.	O	This alternative is considered compatible w/ current, local programmed improvements.
Alt MS-C1C **(Bypass)**	Alt MS-C1B w/ SB ground-level surface access lanes between Gregory Ave and Boston Ave. (conserve ROW w/ cantilevered or cross-beam-supported surface access lanes)	-	This alternative indirectly addresses recent AWG input to alleviate congestion along Mesa St that allows for pedestrian movements and therefore is considered agency supported. Current City installation of the streetcar and bike track on Stanton is considered a fatal flaw.	O	This alternative is considered compatible w/ current, local programmed improvements.
Alt MS-BY1 **(Bypass)**	2 below-ground level SB and NB bypass lanes on Mesa St section between Gregory Ave and Kerbey Ave (adaptable as Cut & Cover / deck park) (w/o surface access lanes and w/ or w/o overhead cross-streets)	--	This alternative indirectly addresses recent AWG input to alleviate congestion along Mesa St that allow for safer pedestrian movements and therefore is considered agency supported. However, retail access and hydraulic operation may be a concern. Does not provide surface street retail access similar to *Plan El Paso* vision.	--	This alternative is not considered compatible w/ current, local programmed improvements.
Alt MS-BY2 **(Bypass)**	Alt MS-BY1 w/ SB and NB surface access lanes between Gregory Ave and Boston Ave (conserve ROW w/ cantilevered or straddle bent-supported surface access lanes)	+	This alternative indirectly addresses recent AWG input to alleviate congestion along Mesa St that allows for pedestrian movements and therefore is considered agency supported.	O	This alternative is considered compatible w/ current, local programmed improvements.

NOTES:

1 Baseline condition in the study area; no additional improvements are implemented other than those already programmed (fiscally constrained in Horizon 2040 MTP).

Recommended Build Alternative
Level 3 Quantitative Summary Matrix

	Right-of-Way Land and / or Building Acquisition?	TOTAL CONSTRUCTION COST
No-Build Alternative[1]		
All current planned transportation improvements in the MPO Horizon 2040 Travel Demand Model.	TBD by Others	Typical TxDOT annual maint cost (if available) + plus any previously programmed STIP / MTP improvements (signals, intersection, etc.)
Study Team-recommended Build Alt (based on Level 1 & 2 Screening, AWG & Stkhldr Mtgs, and Public Meeting Feedback)		
ITS Components		
Alt ITS-1 Mesa St signal timing and coordination including timing adjustments for I-10 overflow and I-10 construction avoidance traffic	N	Routine Maintenance Cost
Alt ITS-2 Mesa St Communication System, CCTV traffic recording devices (cameras, loops, microwave, radar), Traffic Flow Detectors, Alternate route plans and Bluetooth data collection	N	$475,373.63
Alt ITS-3 Mesa St / BRIO-related information and coordination data	N	Routine Maintenance Cost
Alt ITS-4 Mesa St wayfinding signage, Dynamic Message Signs and Traffic Control for special events, Speed Feedback Sign	Y	$3,931,466.61
Bike-Pedestrian Components		
Alt BP-1 Sidewalk upgrades and connectivity; bus patron channelization and crosswalk upgrades at intersections	Y	$306,165.09
Alt BP-3 "Shared Use Path" (10-ft wide) adjacent to southbound Mesa St (that links nearby COEP Bike Plan routes) from Doniphan Dr to Resler Dr, and from Executive Center Blvd to Glory Rd	Y	$1,728,322.46
Alt BP-12 "Pedestrian Scramble" intersection (4-Way signalized stop) at Mesa St / University Ave and Mesa St / River Ave	N	$6,048.00
Alt BP-14 Remove "Pedestrian Scramble" intersection timing at Mesa St / San Antonio Ave	N	Routine Maintenance Cost
Intersection Components		
Alt I-TLR Warranted left and right turn lanes, storage and deceleration lanes, and auxiliary lanes; elimination of Split Phase intersections / shared left-through lanes/overlapping paths at Doniphan Dr, Remcon Cir, Resler Dr, and Sunland Park Dr.	Y	$1,741,011.08
Alt I-DCT-1 Ground-level Channelized Turning Movement Intersection at Mesa St / Doniphan Dr (at-grade Alt in coordination w/ TxDOT Doniphan Dr Study) (shift alignment east to avoid BNSF RR)	Y	See TxDOT SH 20 (Doniphan Dr) Study
Alt I-I10BY (Signal Bypass Lanes) 2 below-ground level, CTB-separated EB and WB Mesa St bypass lanes per direction, from Crossroad Dr to Belvidere St, w/ 2 EB and WB ground-level parallel surface streets w/ U-turns (conserve ROW via cantilevered or straddle-bent supported surface streets)	Y	$87,733,434.01
Alt I-I10SPU SPUI interchange at Mesa St / I-10 Frontage Rd intersections (includes bridged C-D Road lanes over Mesa St)	Y	$12,594,807.20
Alt I-RGSI Grade-separated Intersection at Mesa St / Resler Dr...surface level SPUI w/ 2 underpassing NB & SB Mesa St (Signal Bypass) lanes per direction	Y	$28,249,076.89
Alt I-SGSI Grade-separated Intersection at Mesa St / Sunland Park Dr...surface level SPUI w/ 2 underpassing NB & SB Mesa St (Signal Bypass) lanes per direction	Y	$36,132,880.23
Alt I-EGT Green T Intersection at Mesa St / Executive Center Blvd	Y	$3,480,129.20
Alt I-9ROU Mini-Roundabout at Mesa St / San Antonio Ave	N	$5,507.47
Roadway Connectivity Components		
Alt RC-1 Relocate SB I-10 exit ramp (to Mesa St) upstream to allow for C-D Rd access to McClintock Dr to relieve the Mesa St / C-D Rd intersection	N	$518,798.09
Alt RC-12 Link future Mesa Park Dr extension (westward to I-10) w/ Executive Center Blvd via a north-south connecting arterial And Link this Mark Park Dr extension to Executive Ctr Blvd per COEP Thoroughfare Plan	Y	$5,246,282.94 (Mesa Park Dr extension to I-10) $6,248,608.84 (Mesa Park Dr link to Exc. Ctr Blvd)
Alt RC-18 Extend Desert Pass St to the Mesa St / Belvidere St intersection	Y	$2,339,753.86
Transit Components		
Alt TR-7 Bus Queue Jump (right turn) Lanes at identified Mesa St intersections And Bus Pull-out lanes at regular Bus Stops and Brio Bus Stops	Y	$50,081.27 (Queue Jump Lanes) $23,715,869.41 (Pull-Out Lanes)
SH 20 / Mesa Street Components		
Alt MS-1 Improve pavement markings, signage, aesthetics / landscaping, illumination w/ potential in-pavement lighting along Mesa St	N	$108,276.62
Alt MS-2 Geometric, line of sight, and curvature improvements along Mesa St (Festival Dr to Argonaut Dr)	Y	$4,273,168.00
Alt MS-3 Access Management (scrutinize and reduce curb cuts: close median openings/add hooded left-turn median lanes, close/combine driveways, omit intersection-driveway proximity conflicts)	TBD if carried forward by others during post-Mesa St study phases	$173,133.36 (Short Term) $426,610.03 (Mid Term)
Alt MS-4 Flatten(straighten) the Mesa St. horizontal S-curve at Executive Center Blvd by shifting Mesa St alignment eastward	Cost Estimated with Alt I-EGT	
Alt MS-5 Flatten(straighten) the Mesa St. horizontal and vertical curve/grade between Gregory Ave and Glory Rd (use western ROW for wider sidewalks for UTEP student / special event walkability)	Cost Estimated with Alt MS-BY2	
Alt MS-6 Improve curvature at Mesa St / Brentwood Ave and hydraulics (raise profile to mitigate current flooding) and at Mesa St / Alto Mesa Dr	Cost Estimated with Alt I-EGT	
Alt MS-7 3 ground-level SB and NB lanes on Mesa St from Doniphan Dr to Gregory Ave (as opposed to reducing to 2 lanes per direction)	No Cost - Matches existing three lane roadway configuration	
Alt MS-BY2 2 below-ground level SB and NB Mesa St bypass lanes between Gregory Ave and Kerbey Ave w/ SB and NB surface street (retail access) lanes between Gregory Ave and Boston Ave (adaptable as Cut & Cover / deck park) (conserve ROW w/ cantilevered or straddle bent-supported surface access lanes)	Y	$64,407,361.25
	Glory Rd Deck Park break-out cost = $21,660,038.4	
	Total Cost for Alt MS-BY2 w/ deck park = $86,067,399.65	

NOTES:

[1] Baseline condition in study area; no additional improvements are implemented other than those already programmed in fiscally constrained in Horizon 2040 MTP.

APPENDIX I

SH 20 / Mesa Street
Corridor Traffic Data

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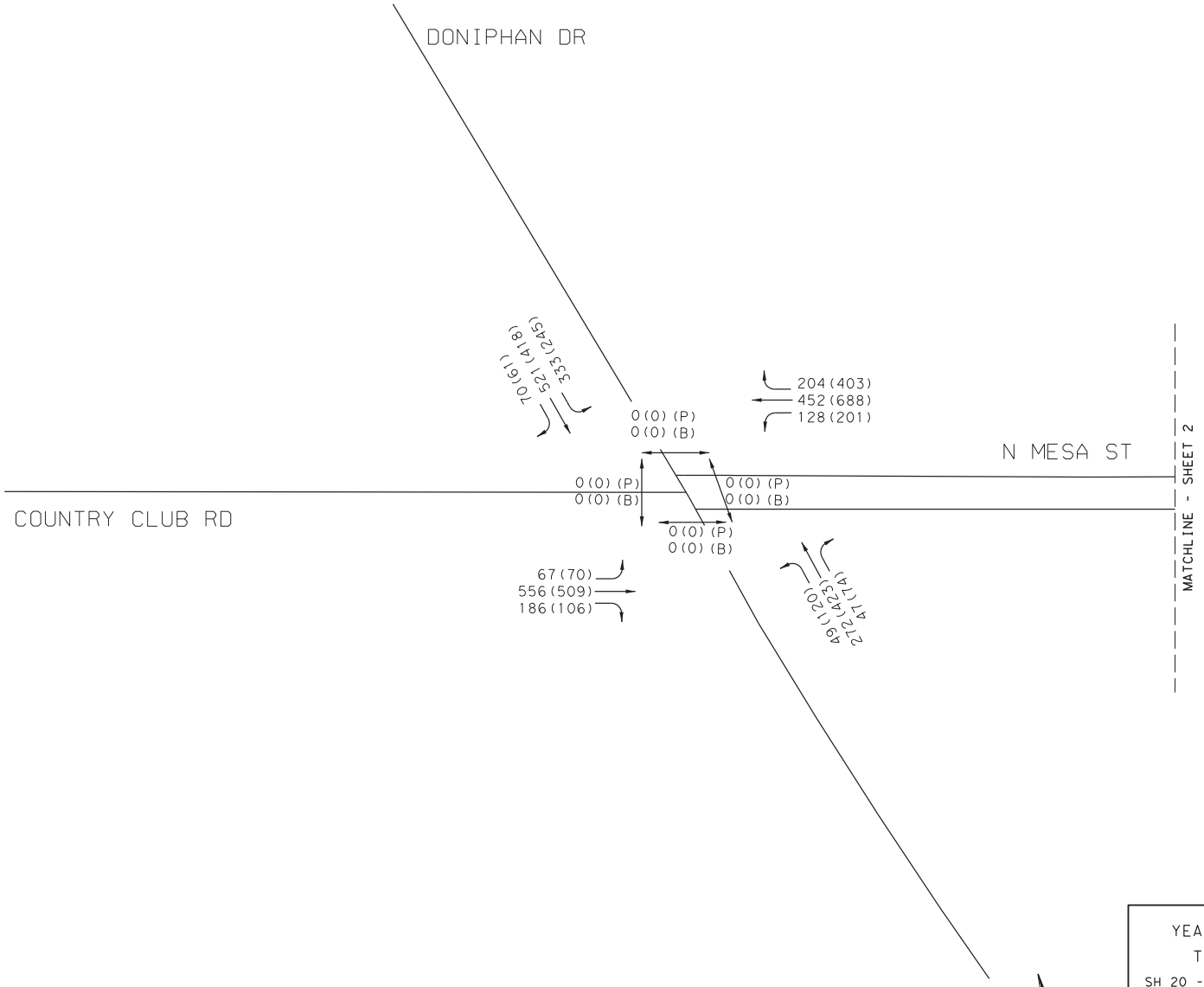
2016 PEAK HOUR

(Section 1 – Doniphan Dr to Texas Ave)



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

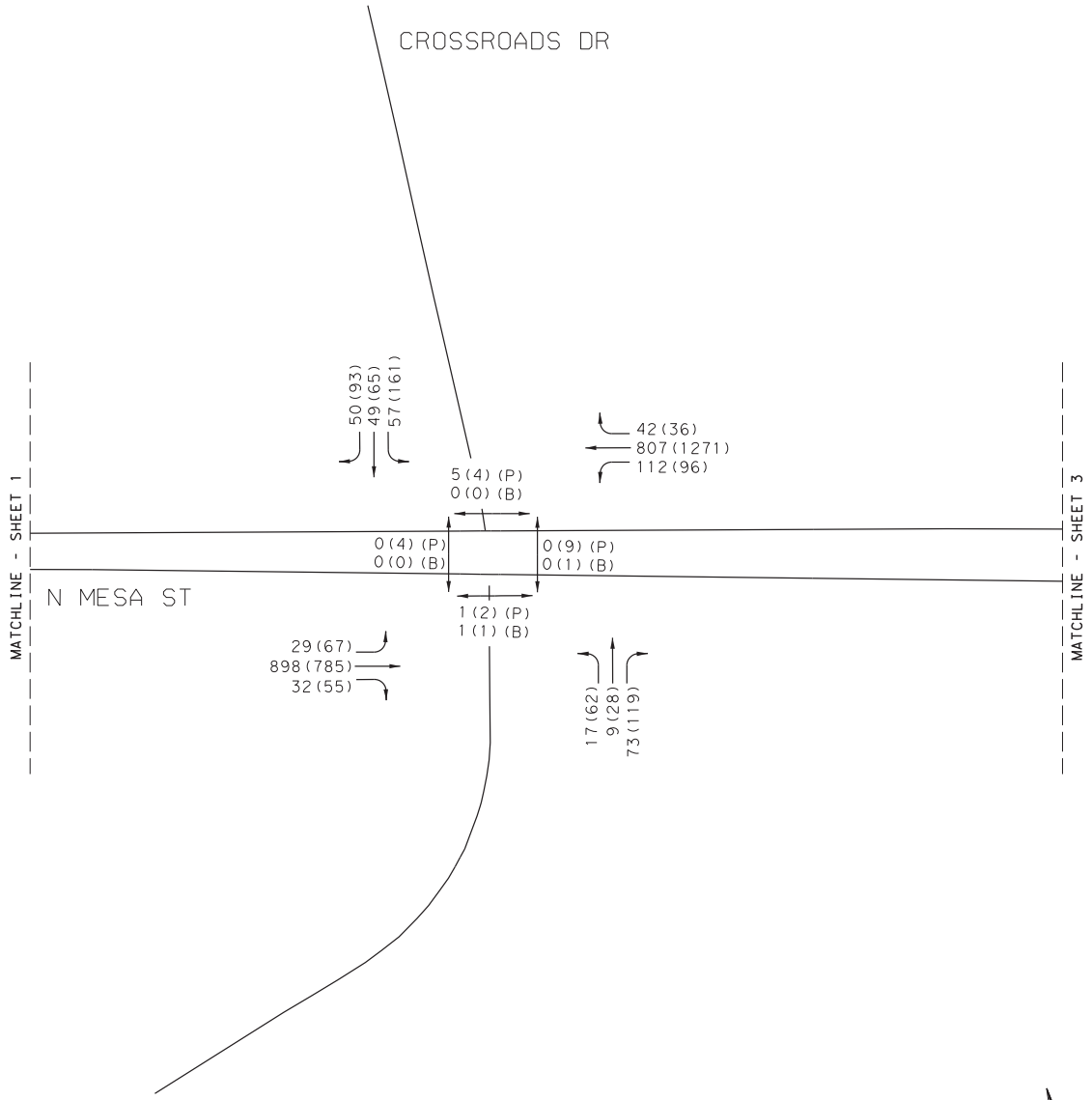
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
DONIPHAN DR

Kimley»Horn F-928

0001-02-059 SHEET 1 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

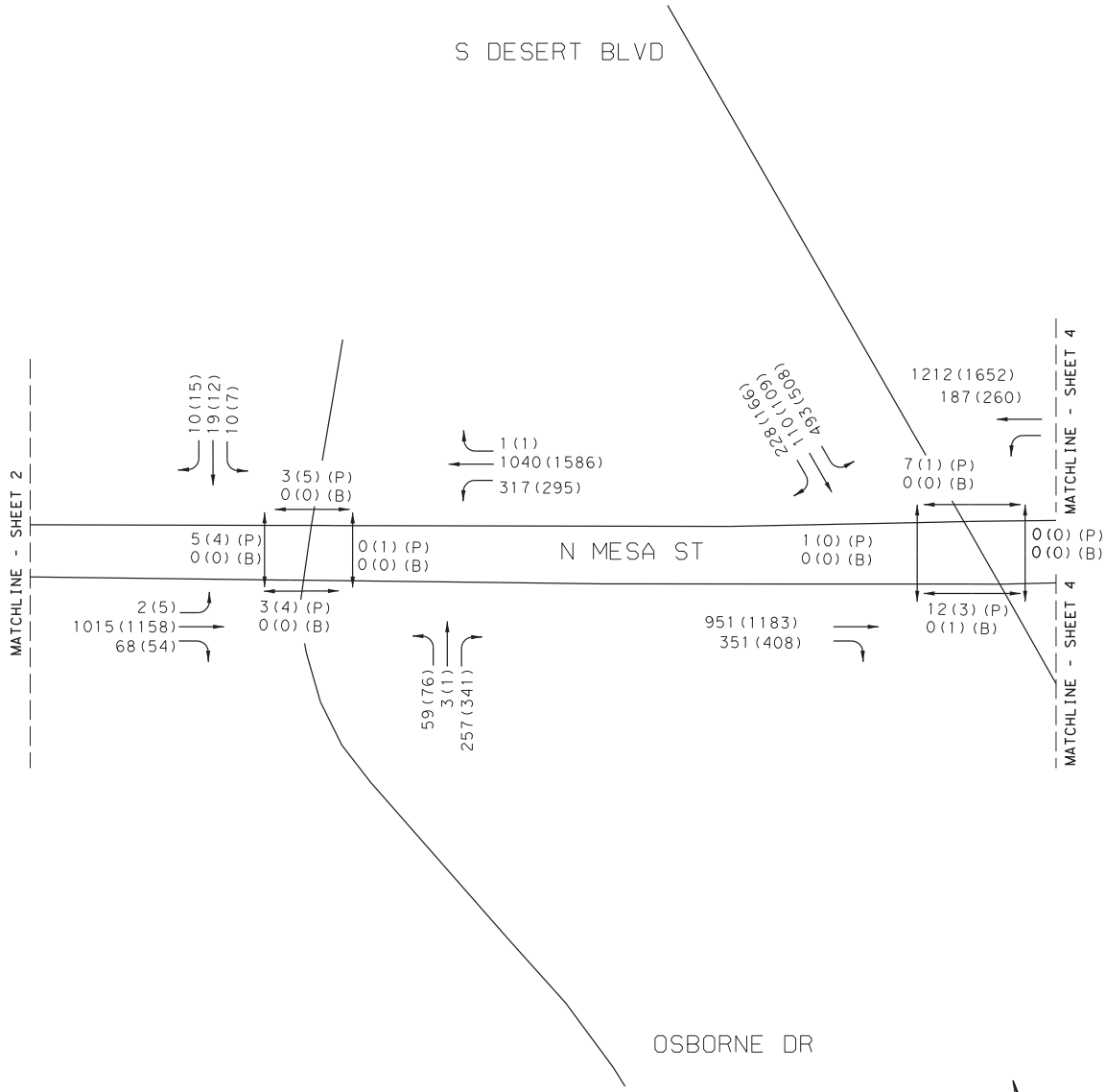
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
CROSSROADS DR

Kimley»Horn F-928

0001-02-059 SHEET 2 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

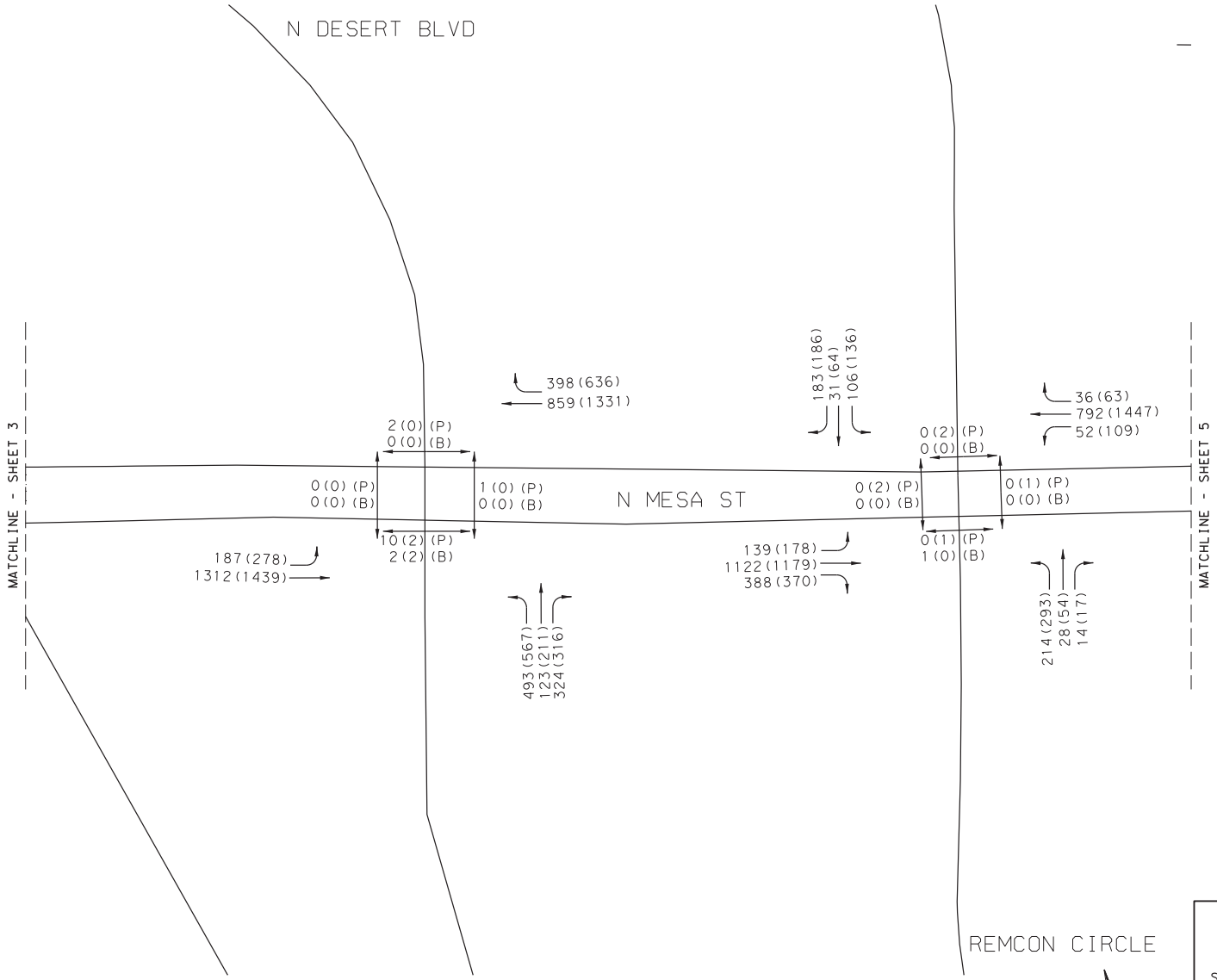
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
OSBORNE DR TO S DESERT BLVD

Kimley»Horn F-928

0001-02-059 SHEET 3 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

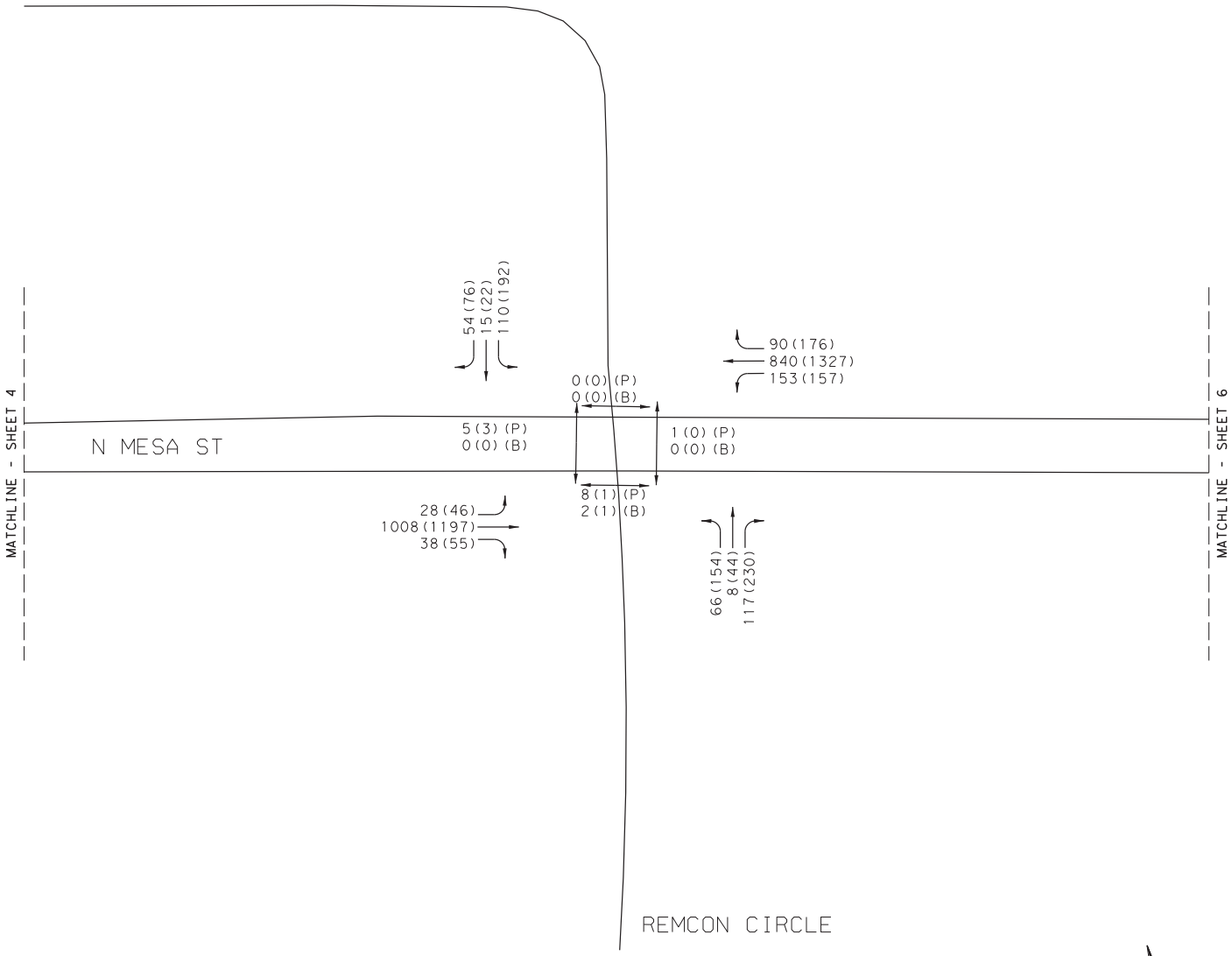
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
N DESERT BLVD TO REMCON CIR

Kimley»Horn F-928

0001-02-059 SHEET 4 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
REMCON CIR

Kimley»Horn F-928

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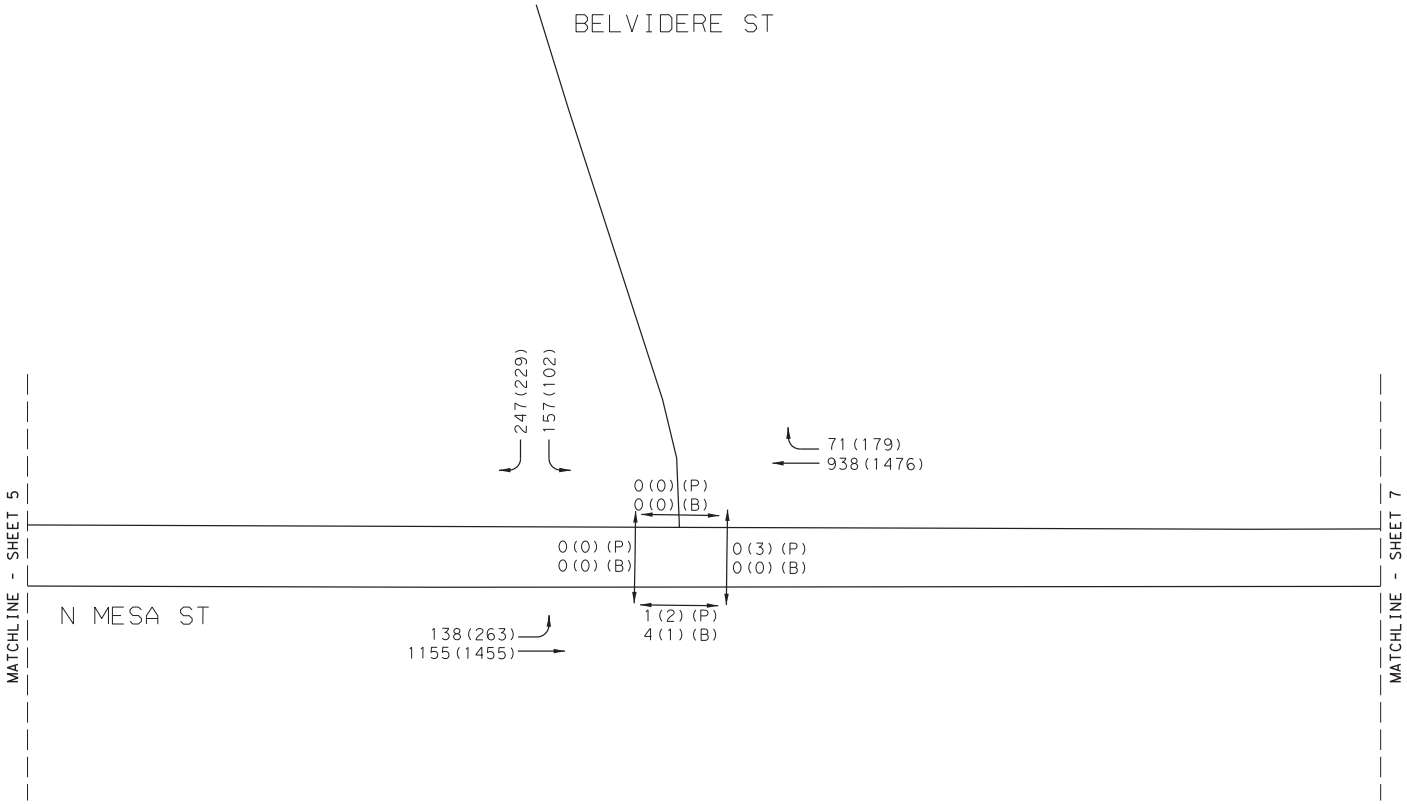

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
BELVIDERE ST

Kimley»Horn F-928

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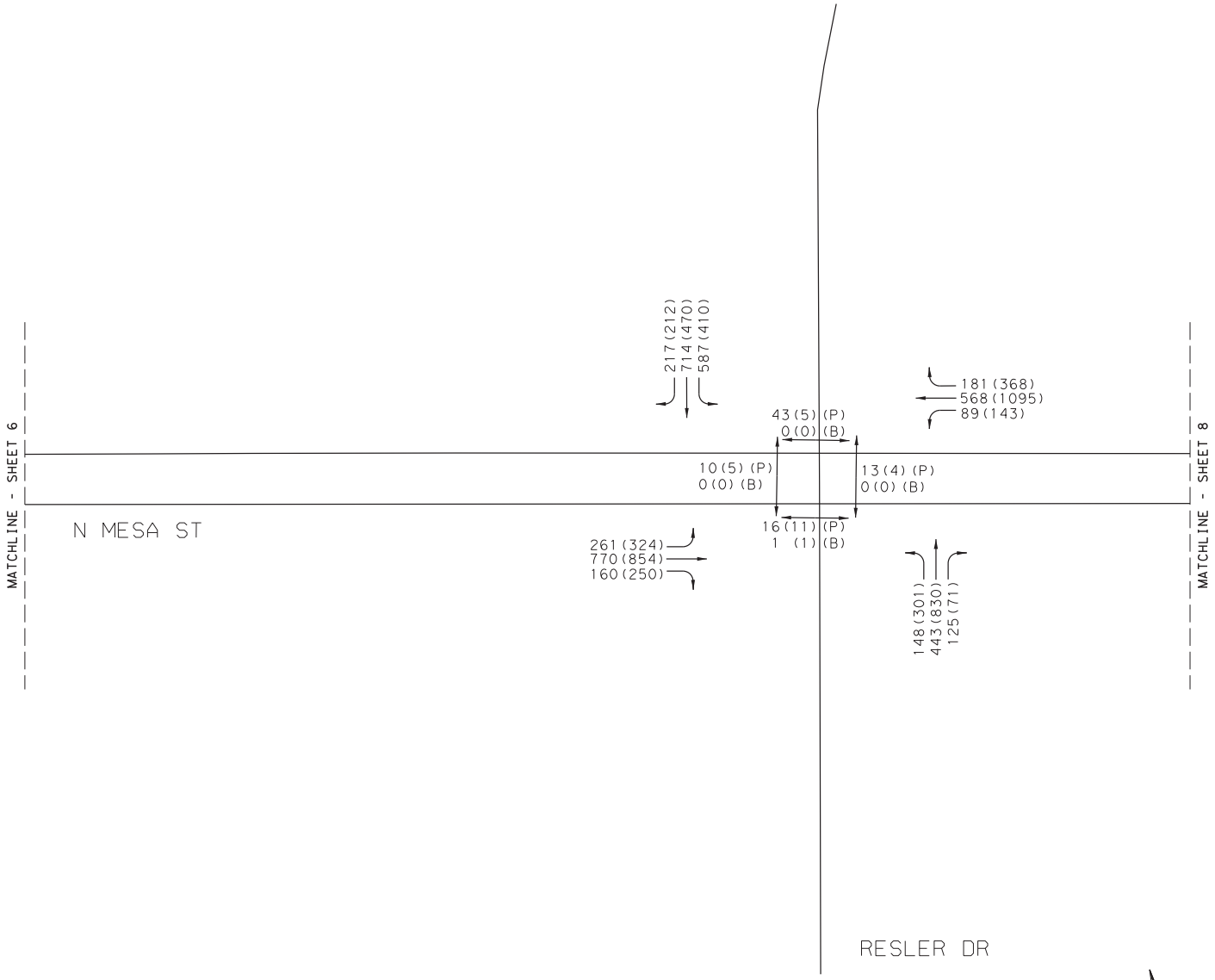


LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

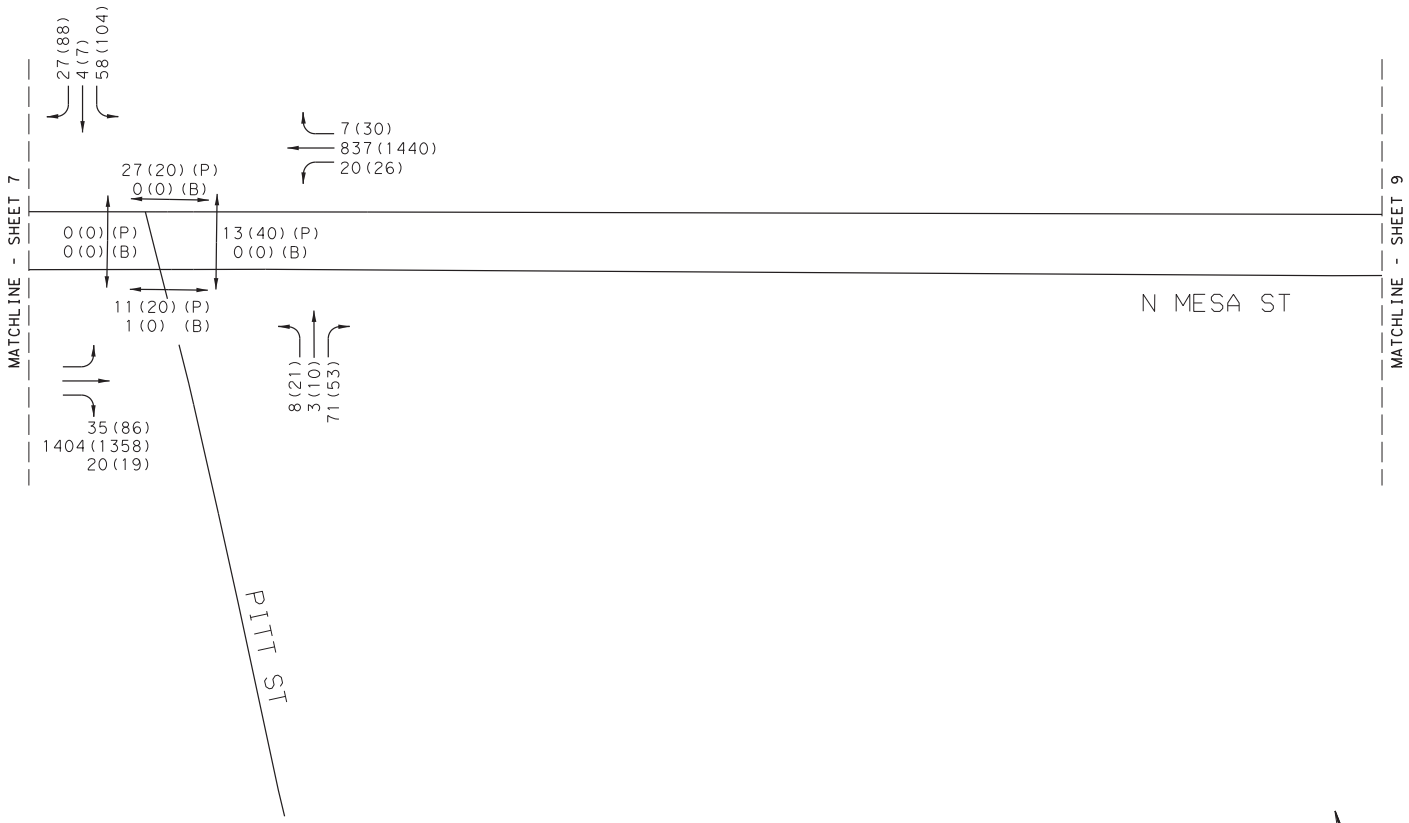
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
RESLER DR

Kimley»Horn F-928

0001-02-059 SHEET 7 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

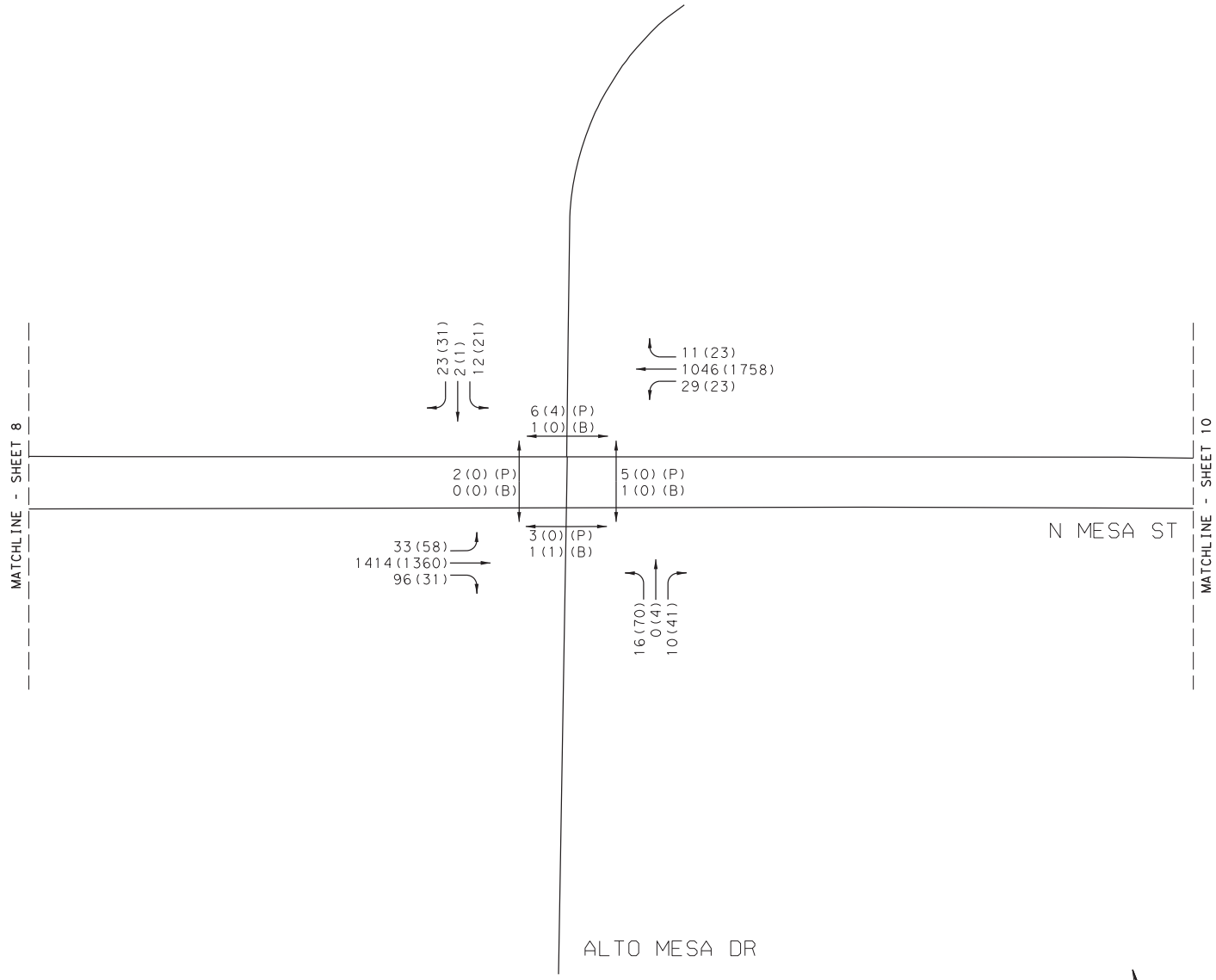
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
PITT ST

Kimley»Horn F-928

0001-02-059 SHEET 8 OF 26



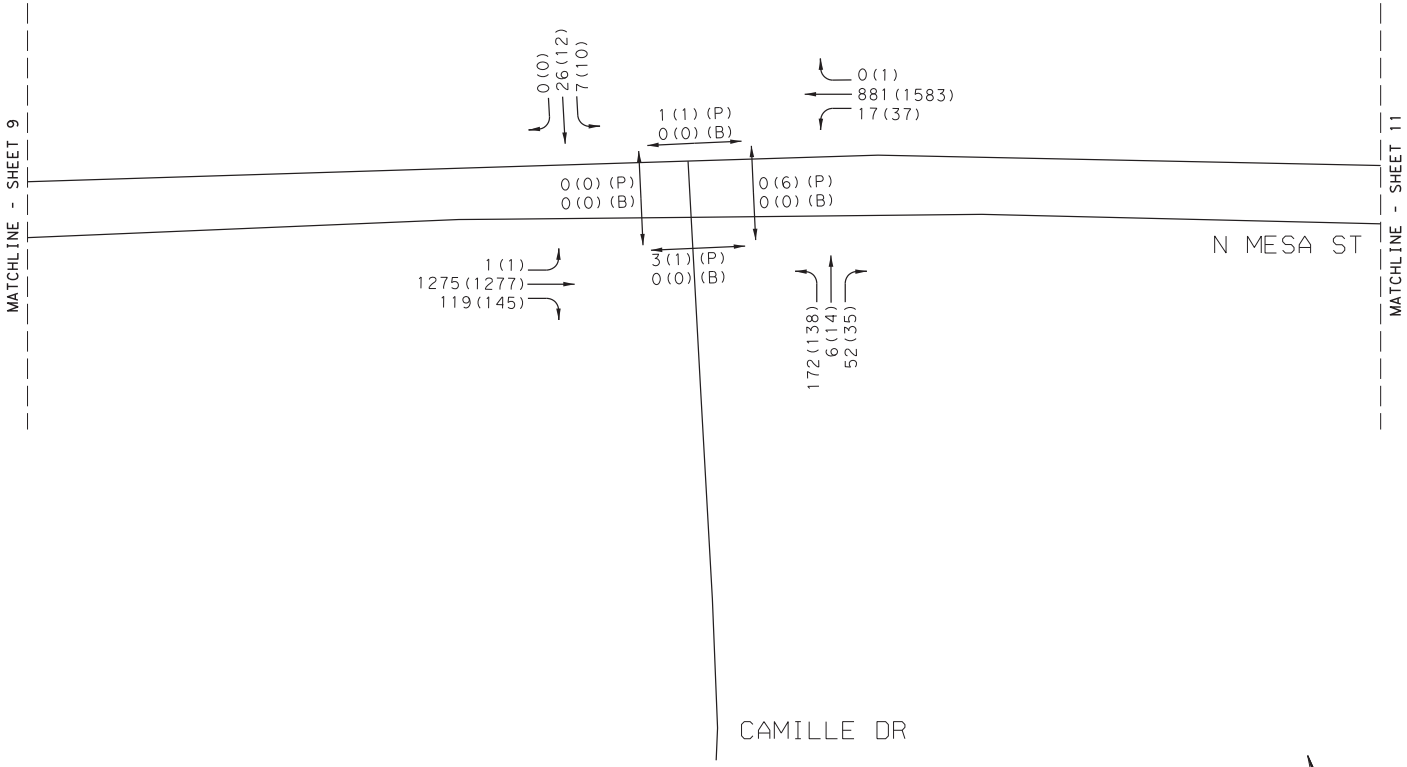
LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
ALTO MESA DR

Kimley»Horn F-928

0001-02-059 SHEET 9 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

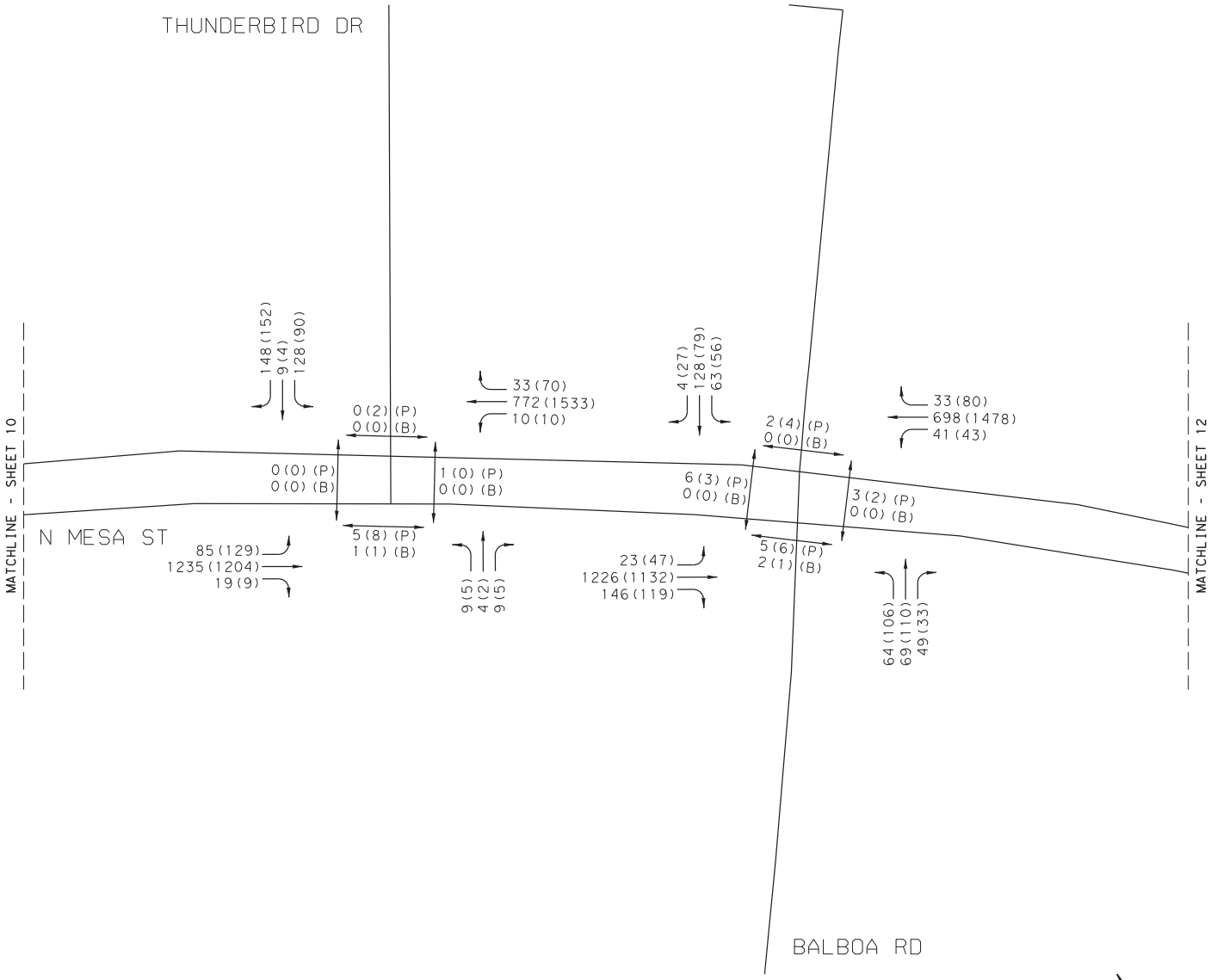
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
CAMILLE DR

Kimley»Horn F-928

0001-02-059 SHEET 10 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

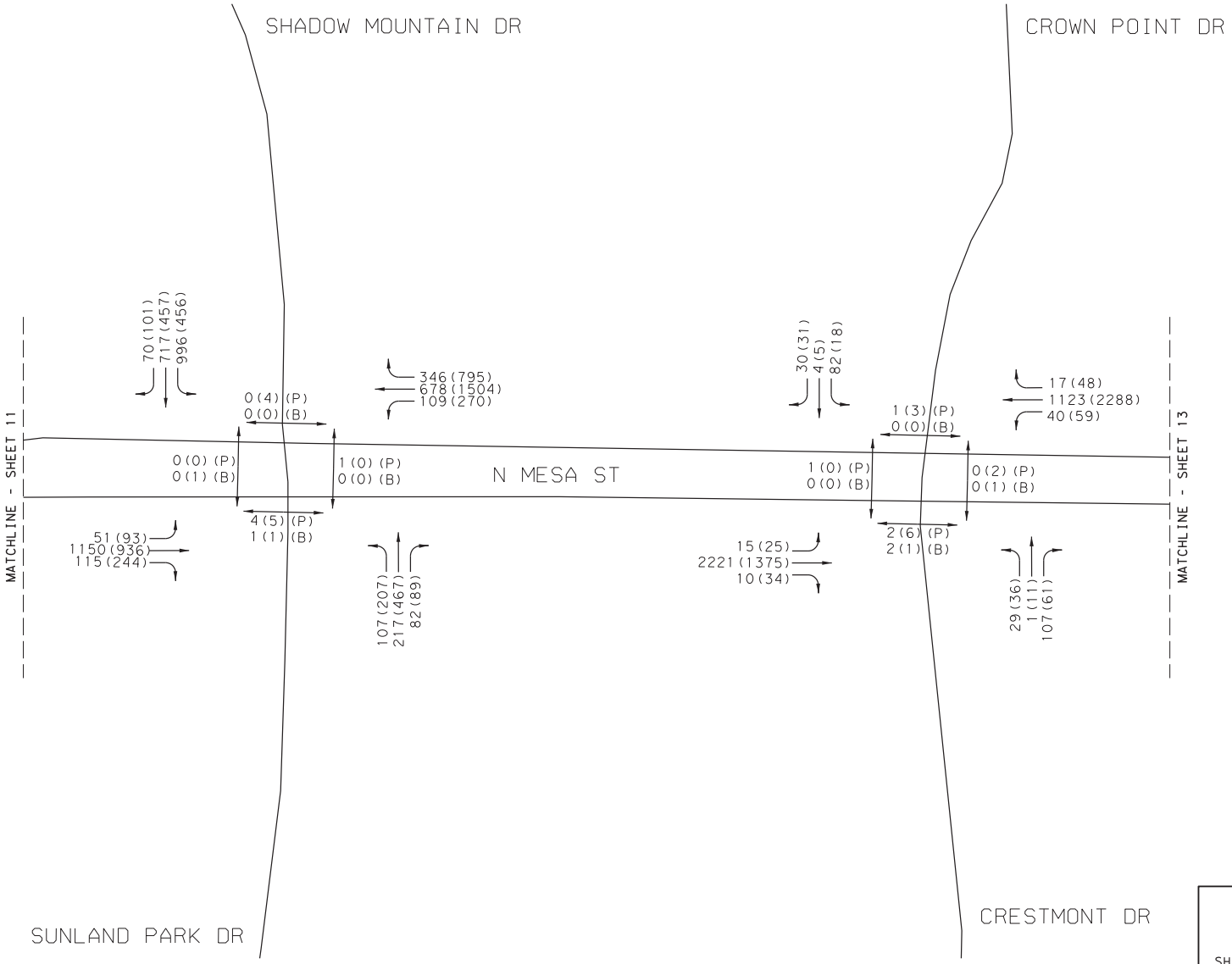
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
THUNDERBIRD DR TO BALBOA RD

Kimley»Horn F-928

0001-02-059 SHEET 11 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

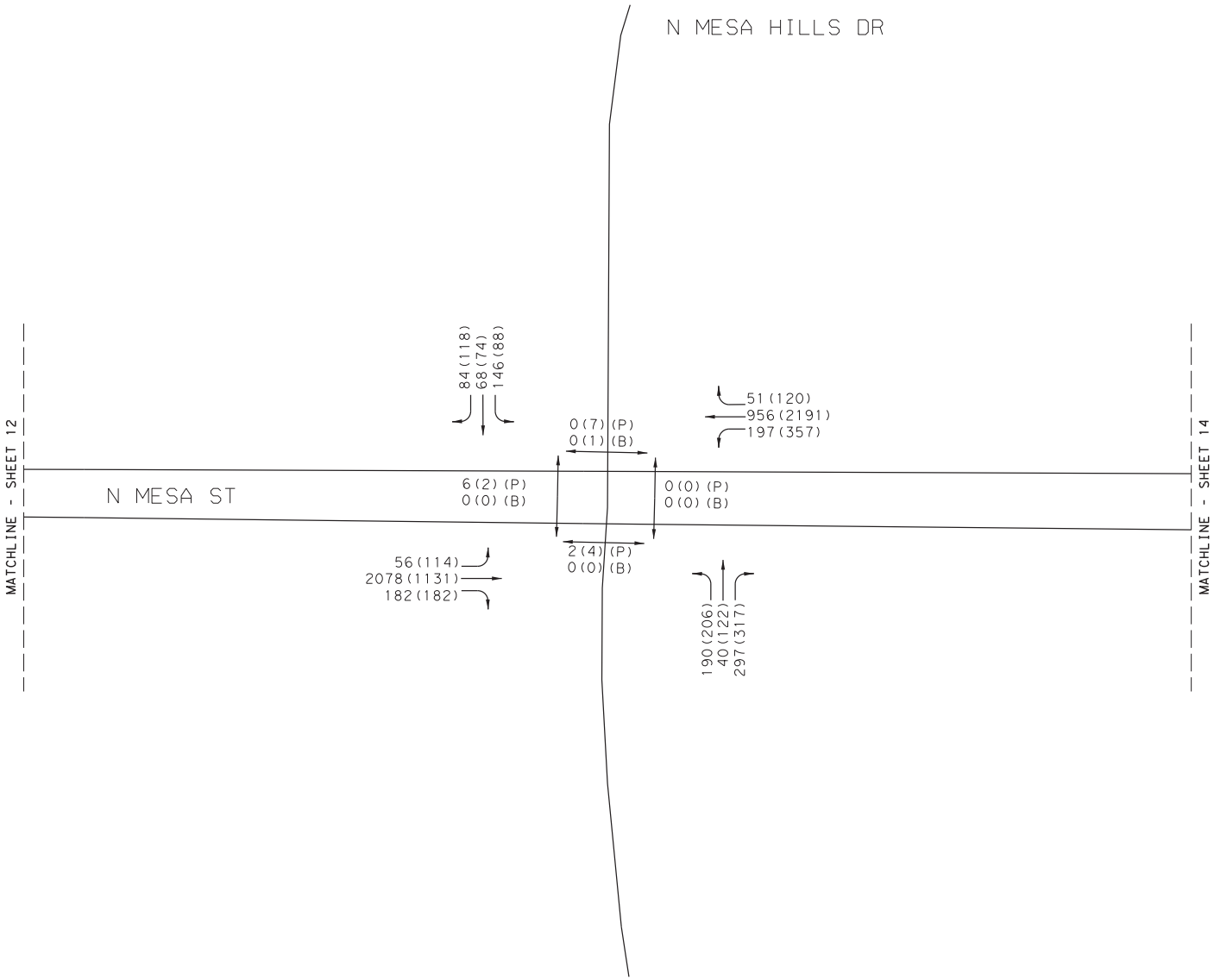
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
SUNLAND PARK DR TO CRESTMONT DR

Kimley»Horn F-928

0001-02-059 SHEET 12 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
N MESA HILLS DR

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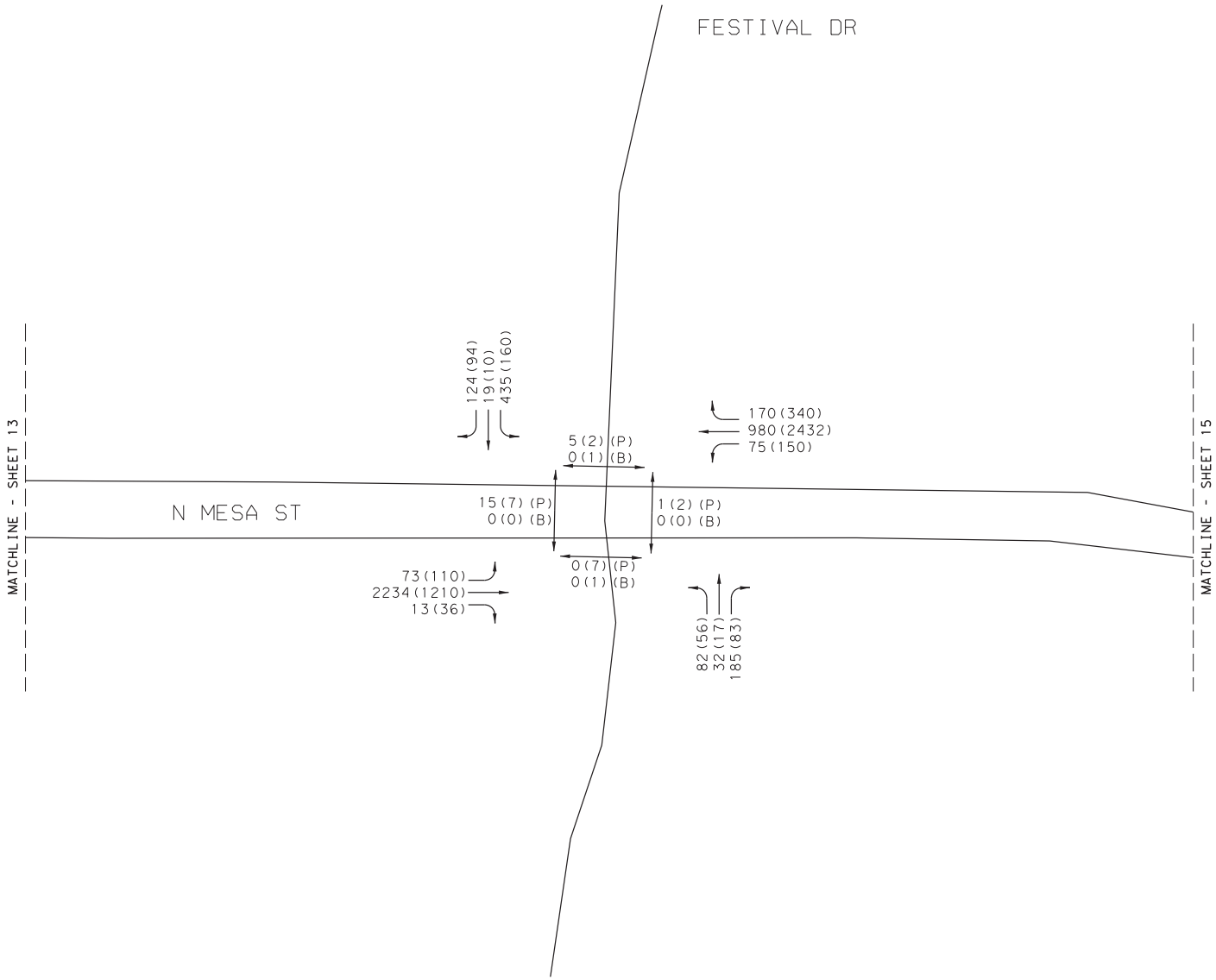
0001-02-059 SHEET 13 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
FESTIVAL DR

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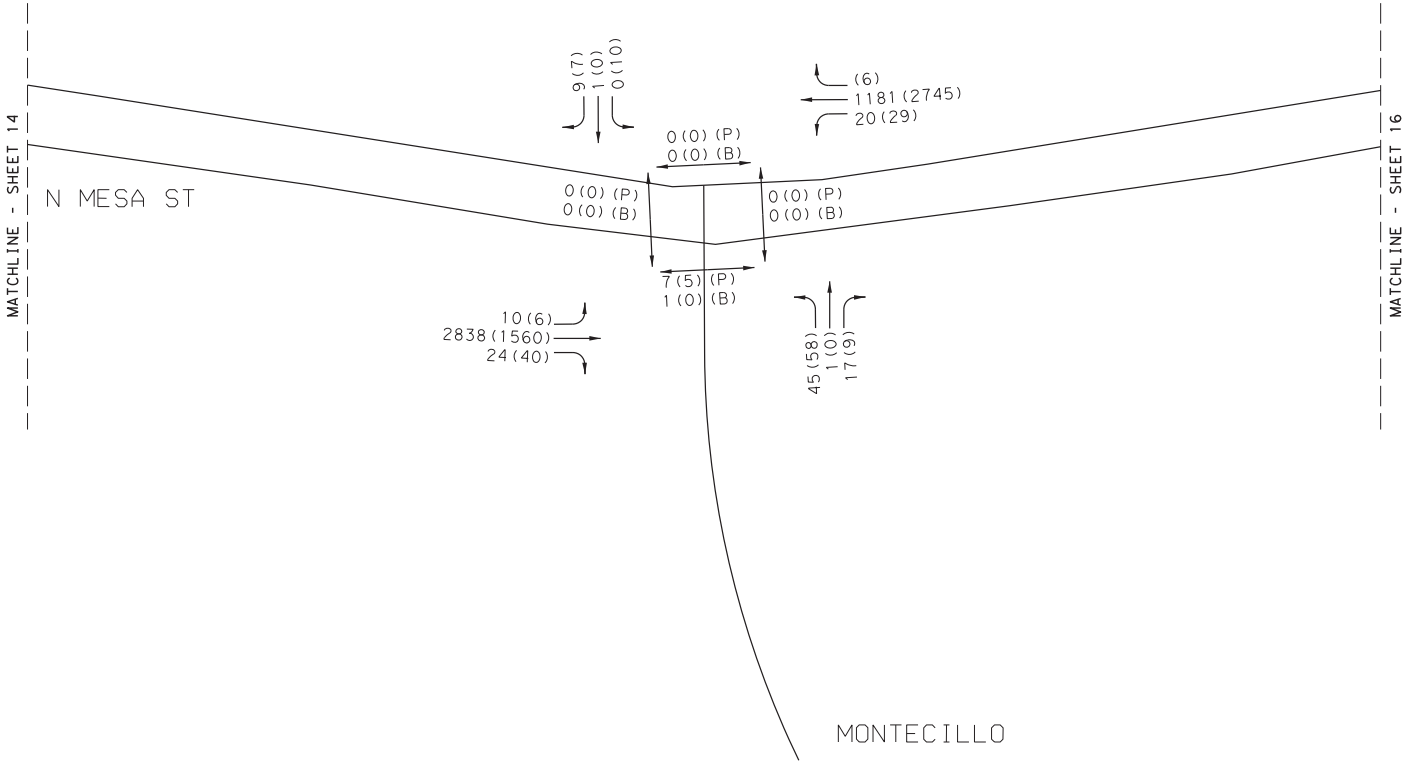

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
MONTECILLO

Kimley»Horn F-928

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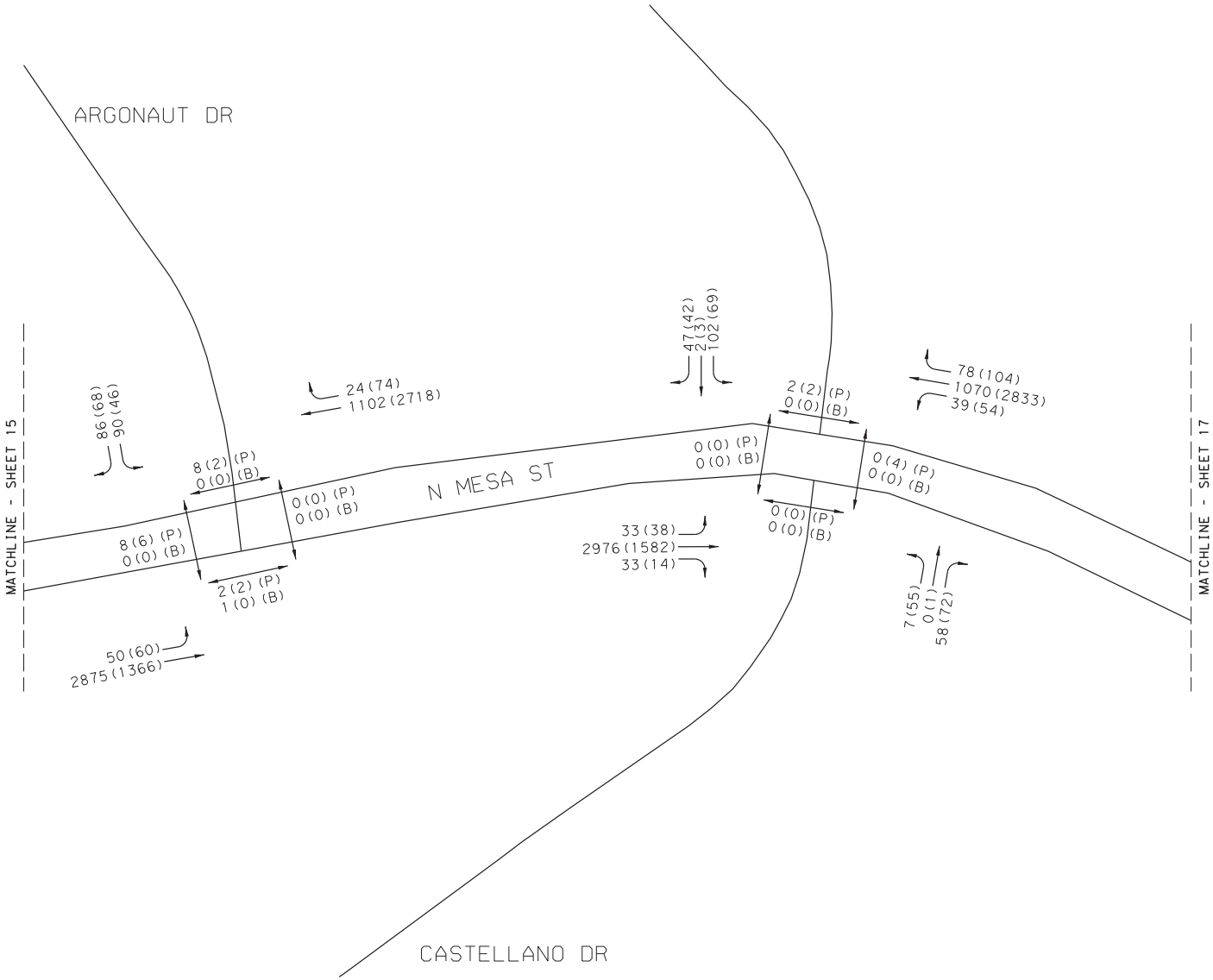


LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

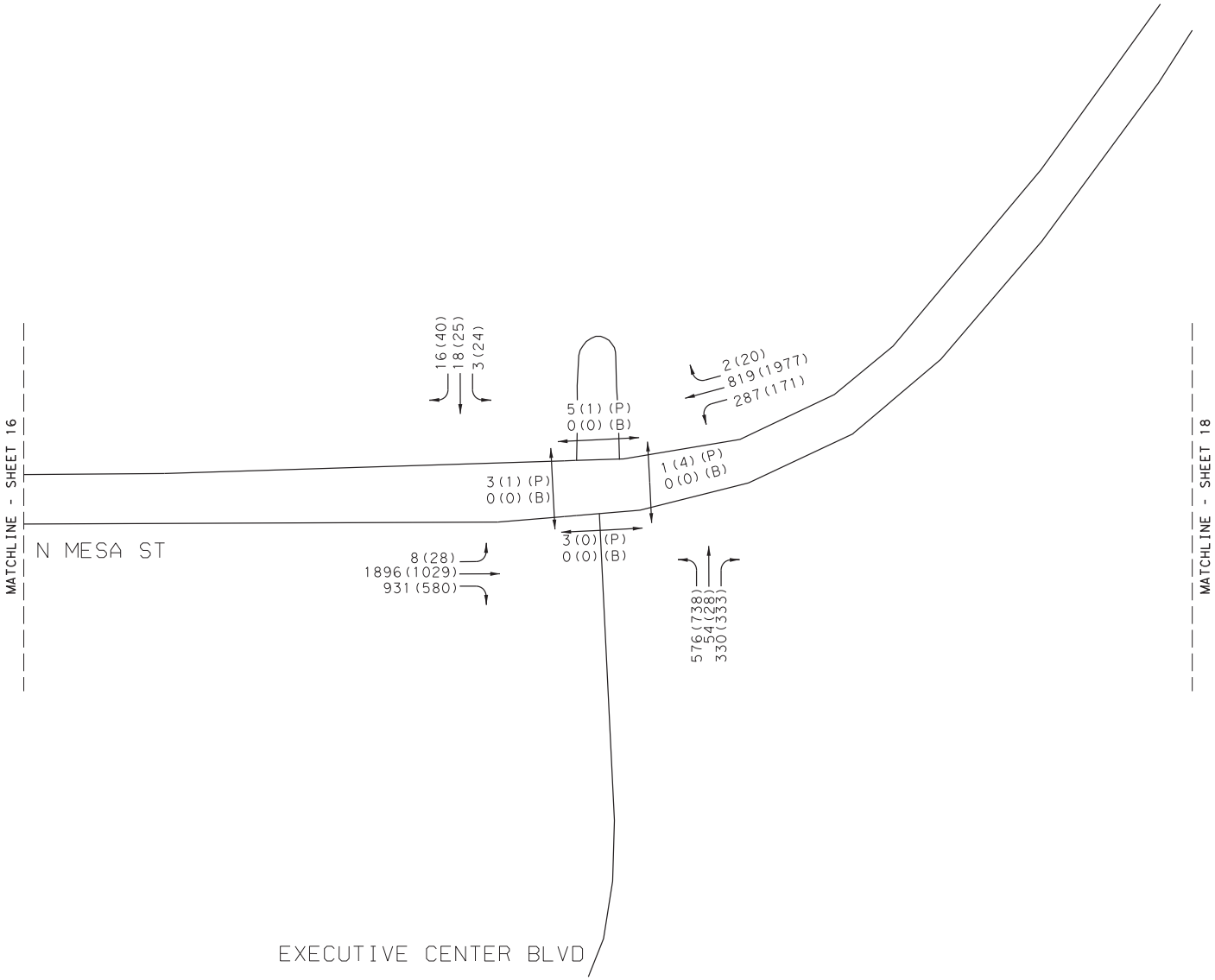
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
ARGONAUT DR TO CASTELLANO DR

Kimley»Horn F-928

0001-02-059 SHEET 16 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

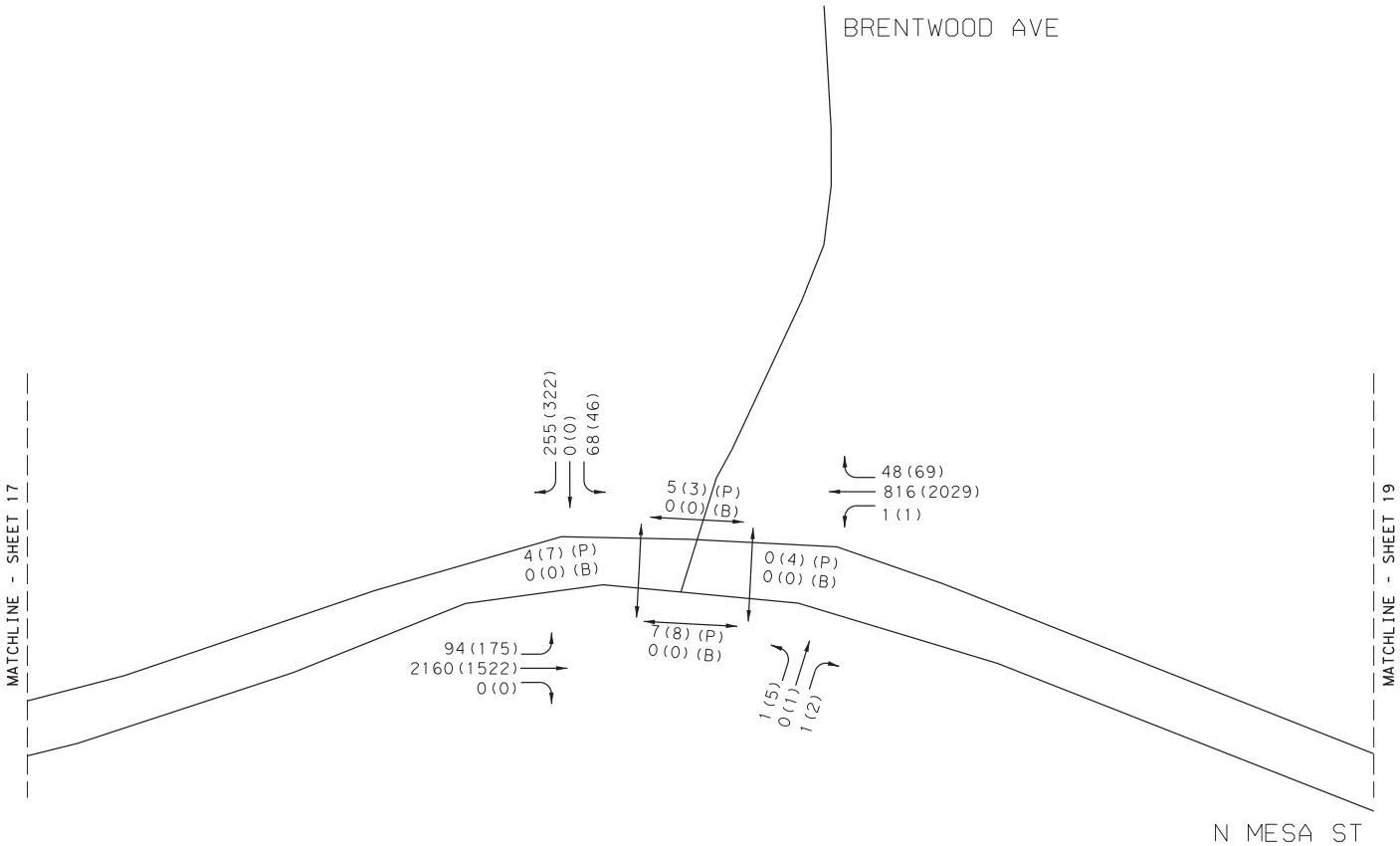
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
EXECUTIVE CENTER BLVD

Kimley»Horn F-928

0001-02-059 SHEET 17 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

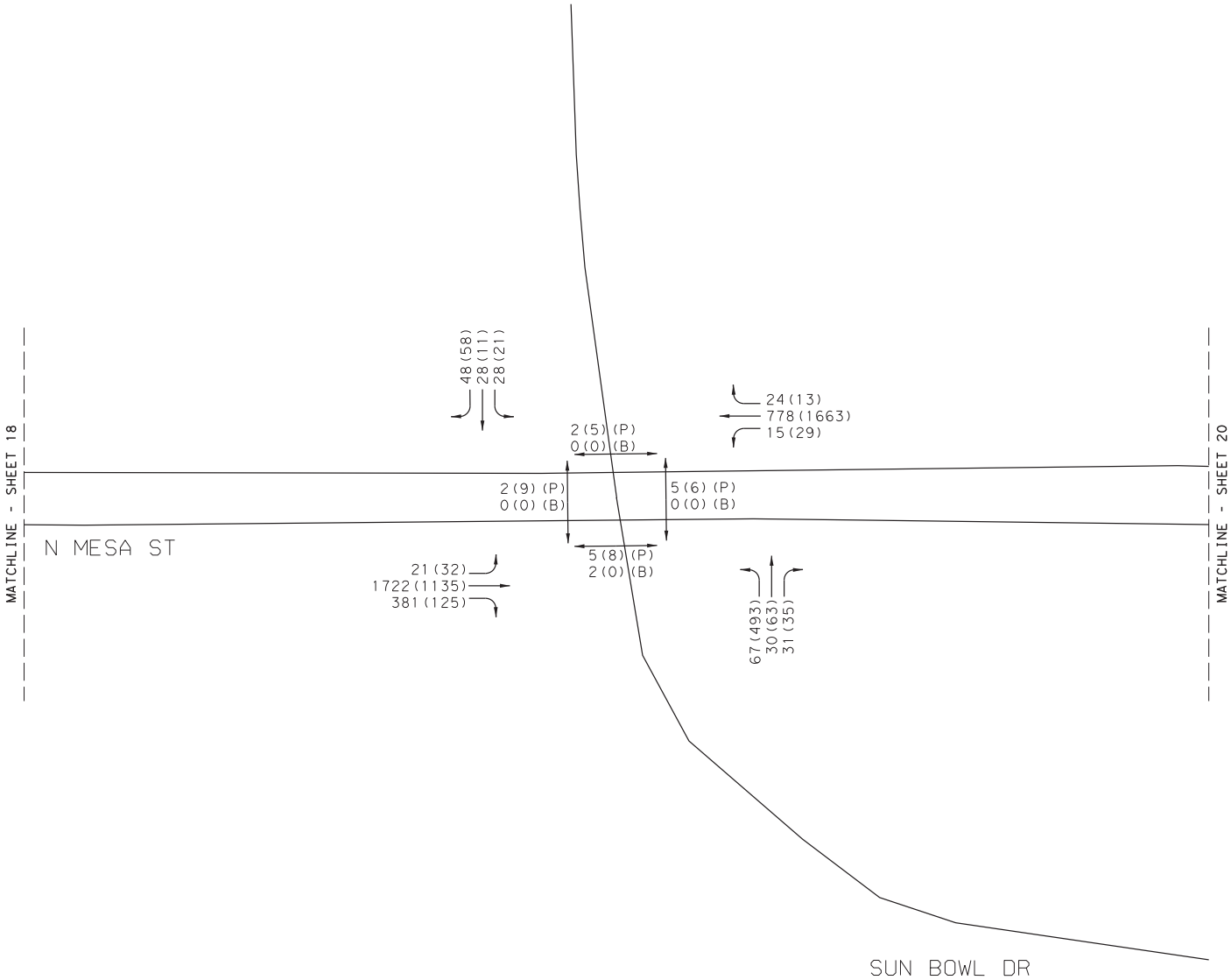
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
BRENTWOOD AVE

Kimley»Horn F-928

0001-02-059 SHEET 18 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

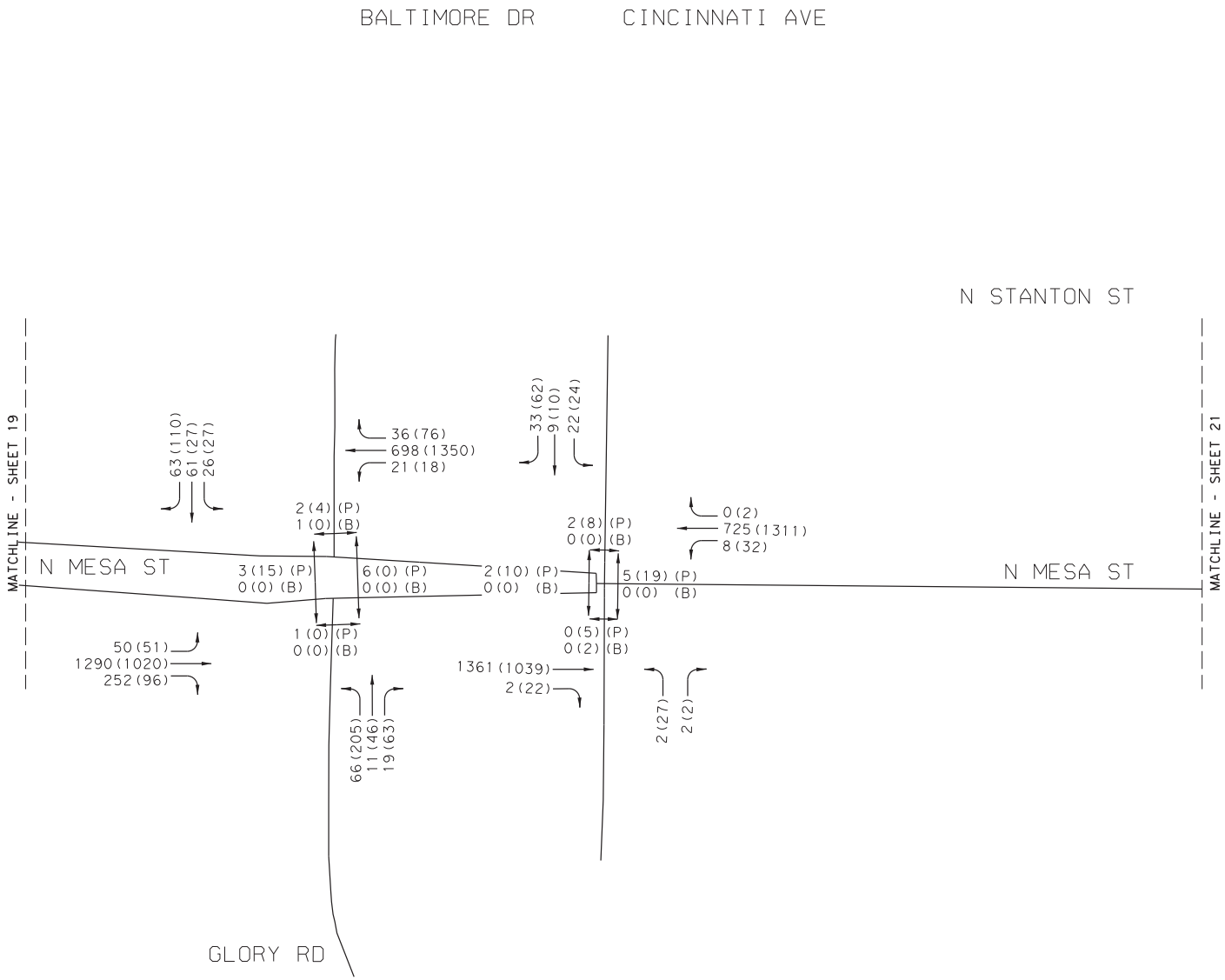
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
SUN BOWL DR

Kimley»Horn F-928

0001-02-059 SHEET 19 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

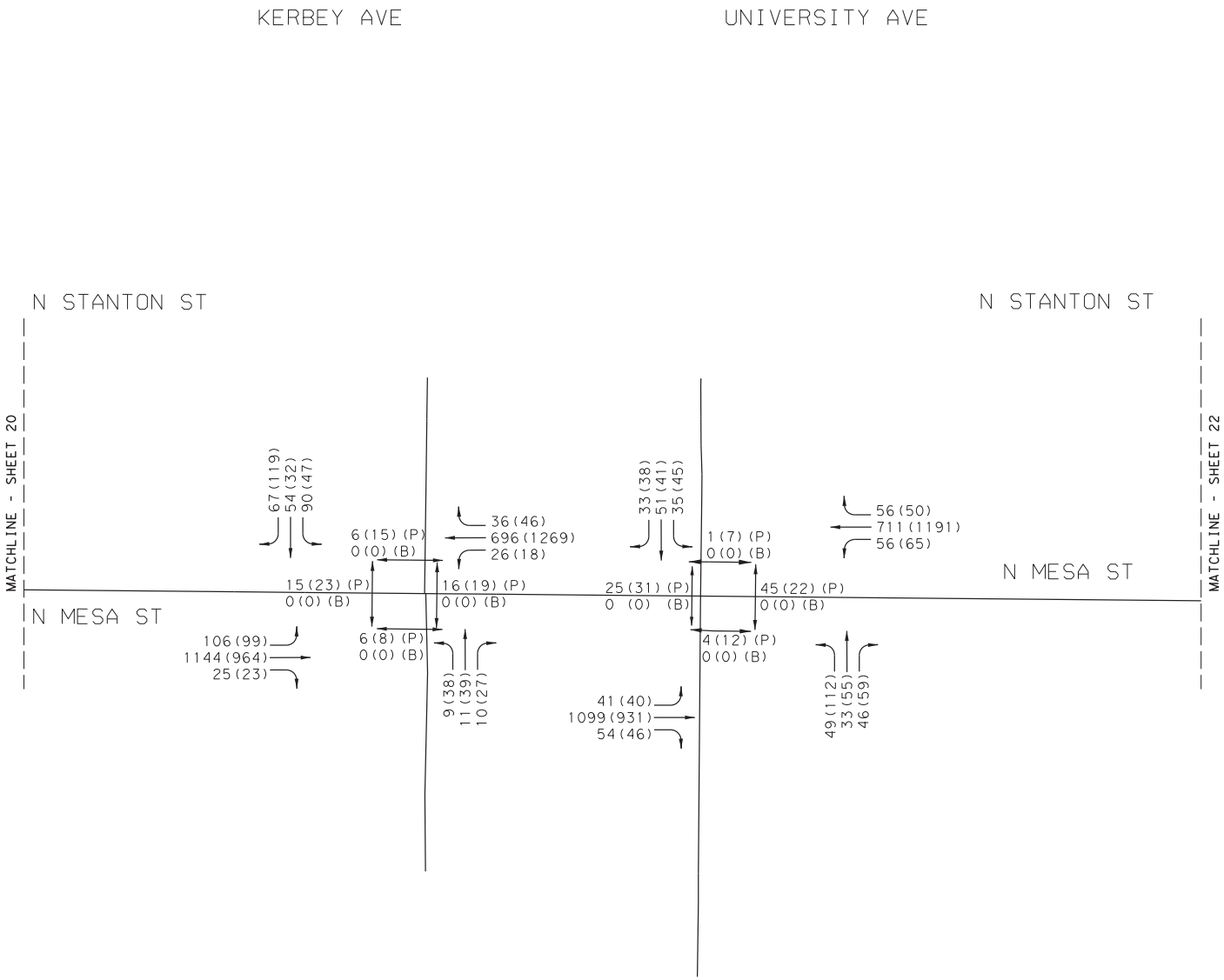
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
GLORY RD TO CINCINNATI AVE

Kimley»Horn F-928

0001-02-059 SHEET 20 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

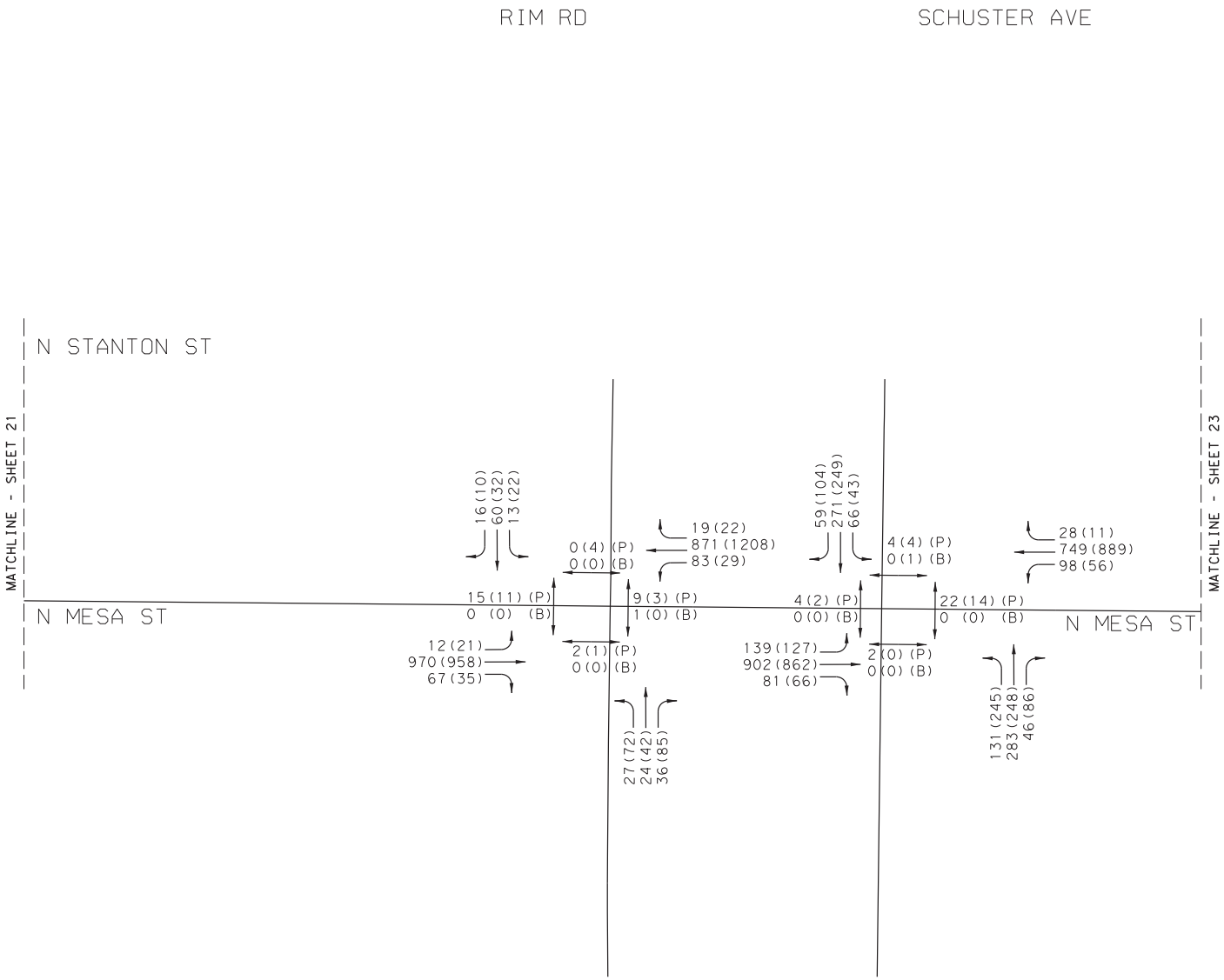
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
KERBEY AVE TO UNIVERSITY AVE

Kimley»Horn F-928

0001-02-059 SHEET 21 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

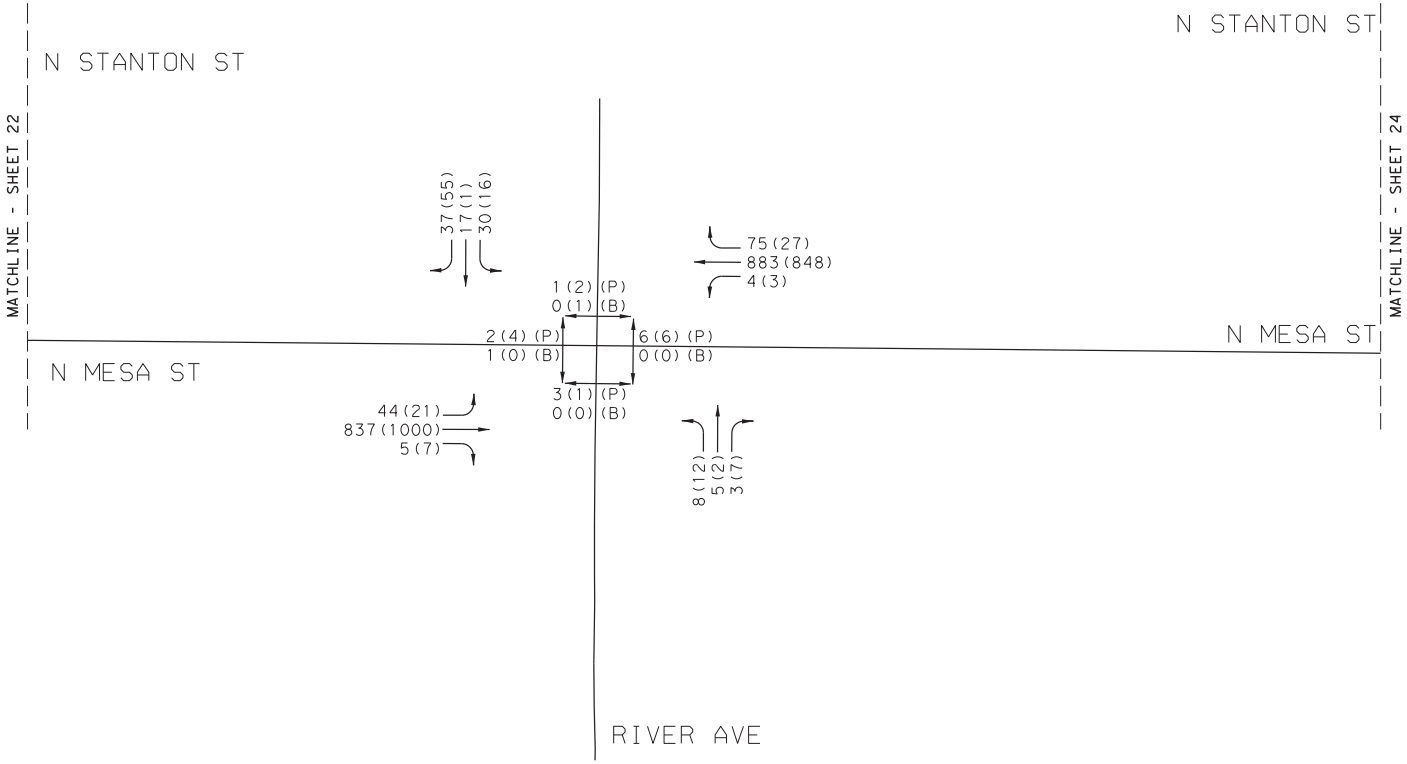
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
RIM RD TO SCHUSTER AVE

Kimley»Horn F-928

0001-02-059 SHEET 22 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

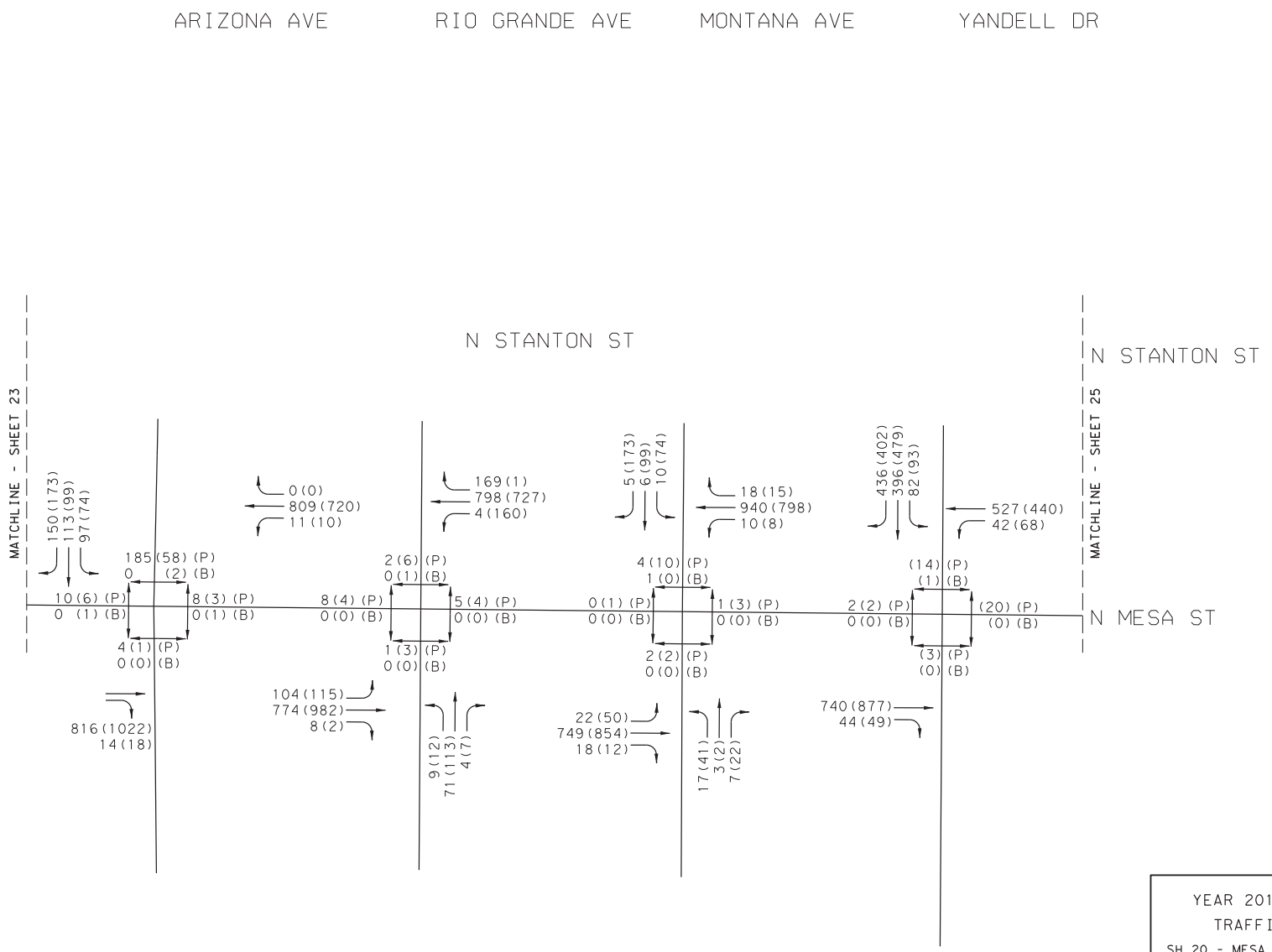
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
RIVER AVE

Kimley»Horn F-928

0001-02-059 SHEET 23 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

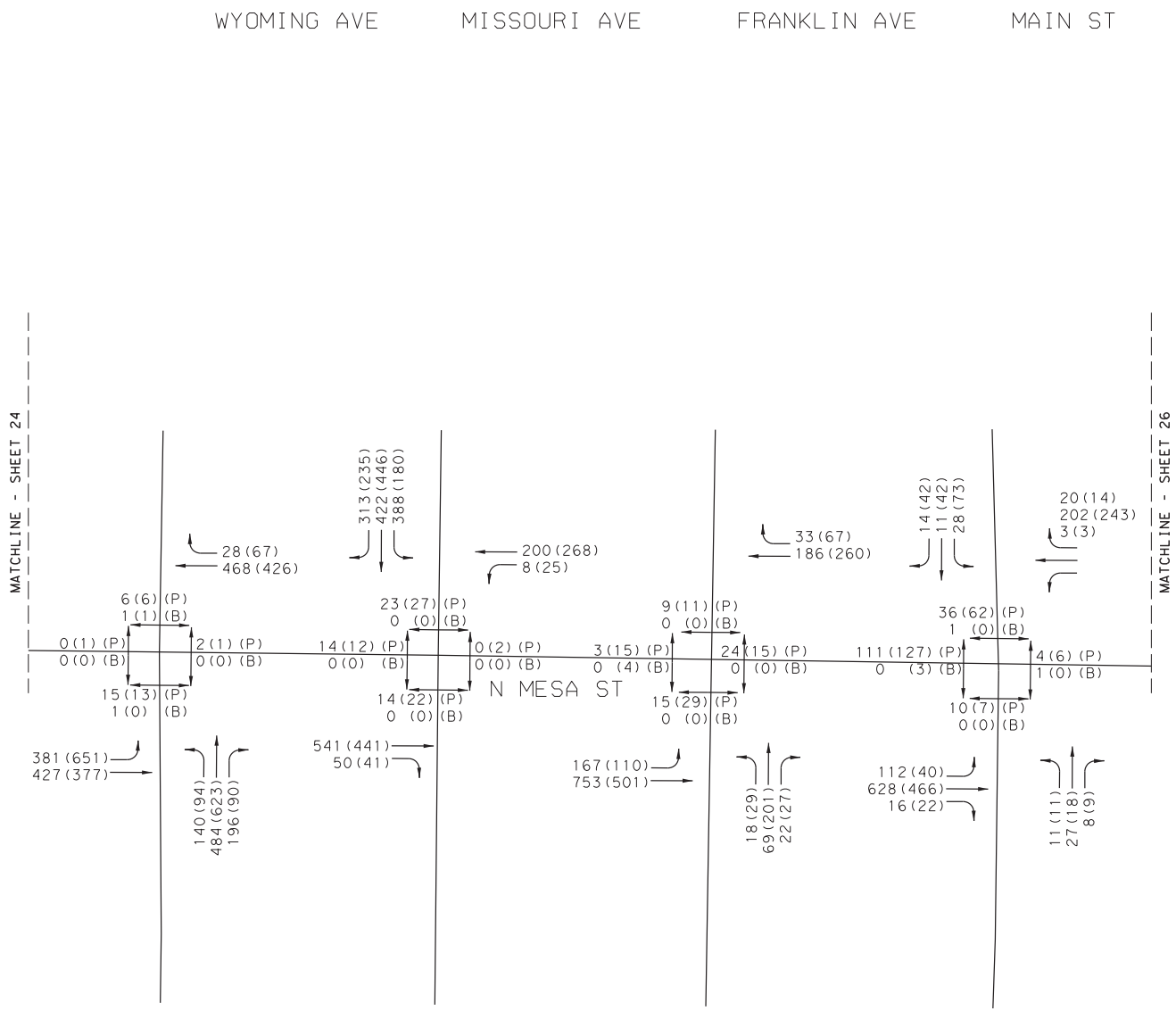
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
ARIZONA AVE TO YANDELL DR

Kimley»Horn F-928

0001-02-059 SHEET 24 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

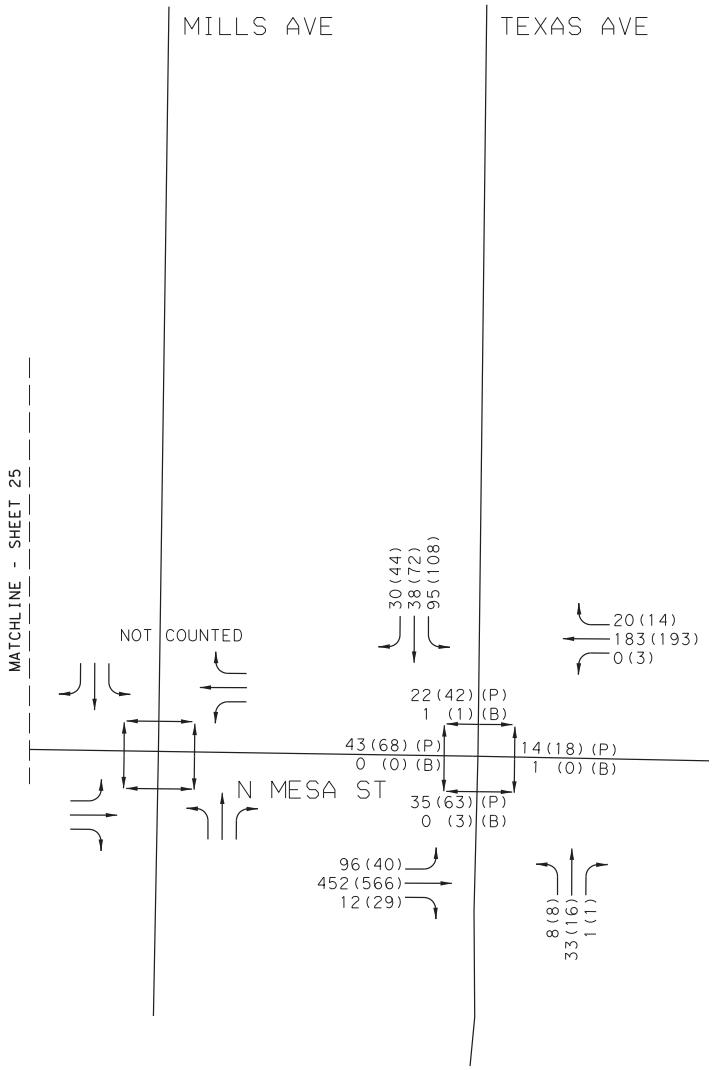
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
WYOMING AVE TO MAIN ST

Kimley»Horn F-928

0001-02-059 SHEET 25 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

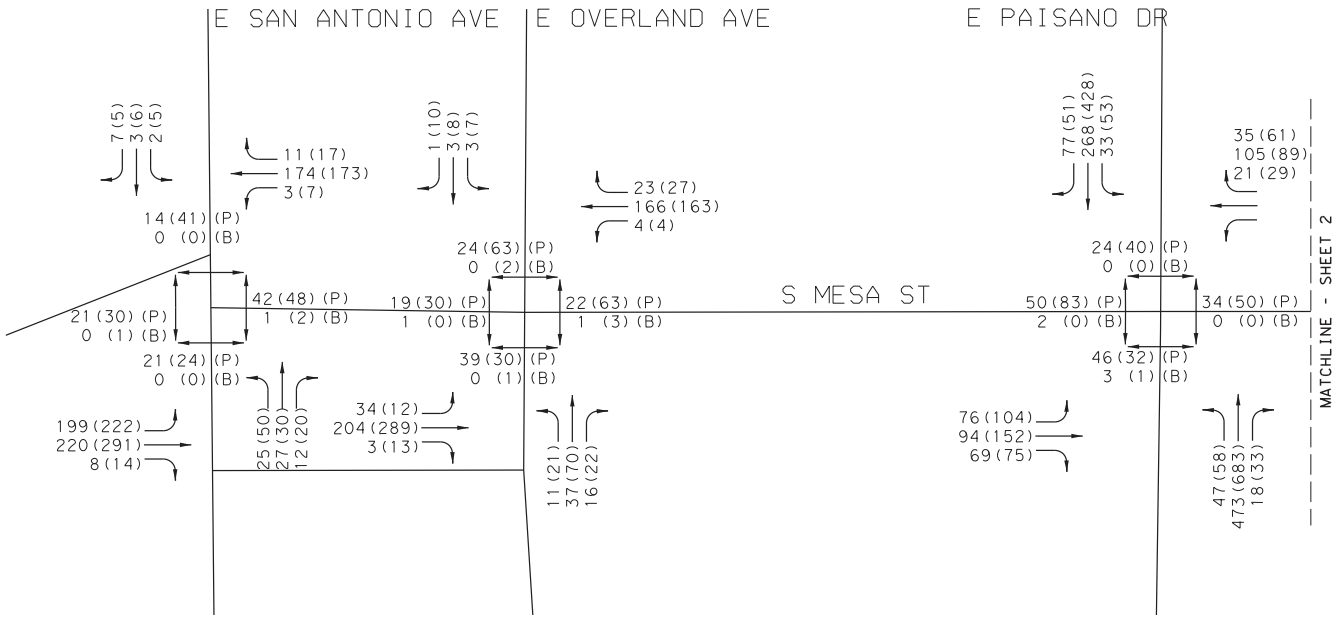
YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
MILLS AVE TO TEXAS AVE

Kimley»Horn F-928

0001-02-059 SHEET 26 OF 26

2016 PEAK HOUR

(Section 2 – San Antonio Ave to LP 375)



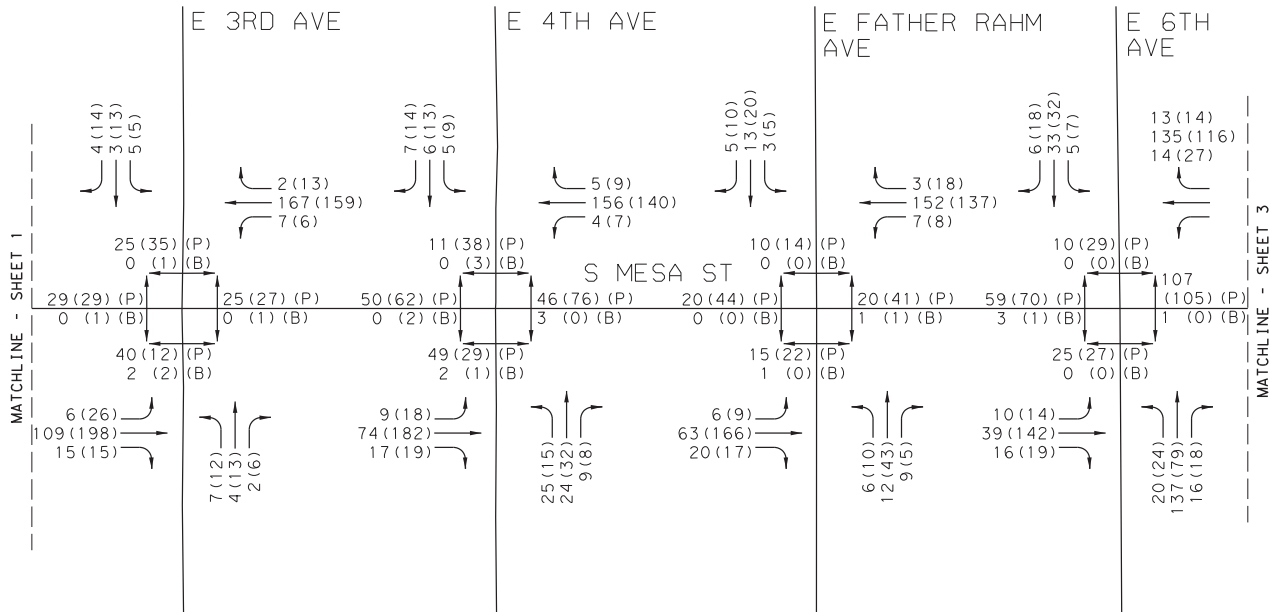
LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
SAN ANTONIO AVE TO PAISANO DR

Kimley»Horn F-928

0001-02-059 SHEET 1 OF 3



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

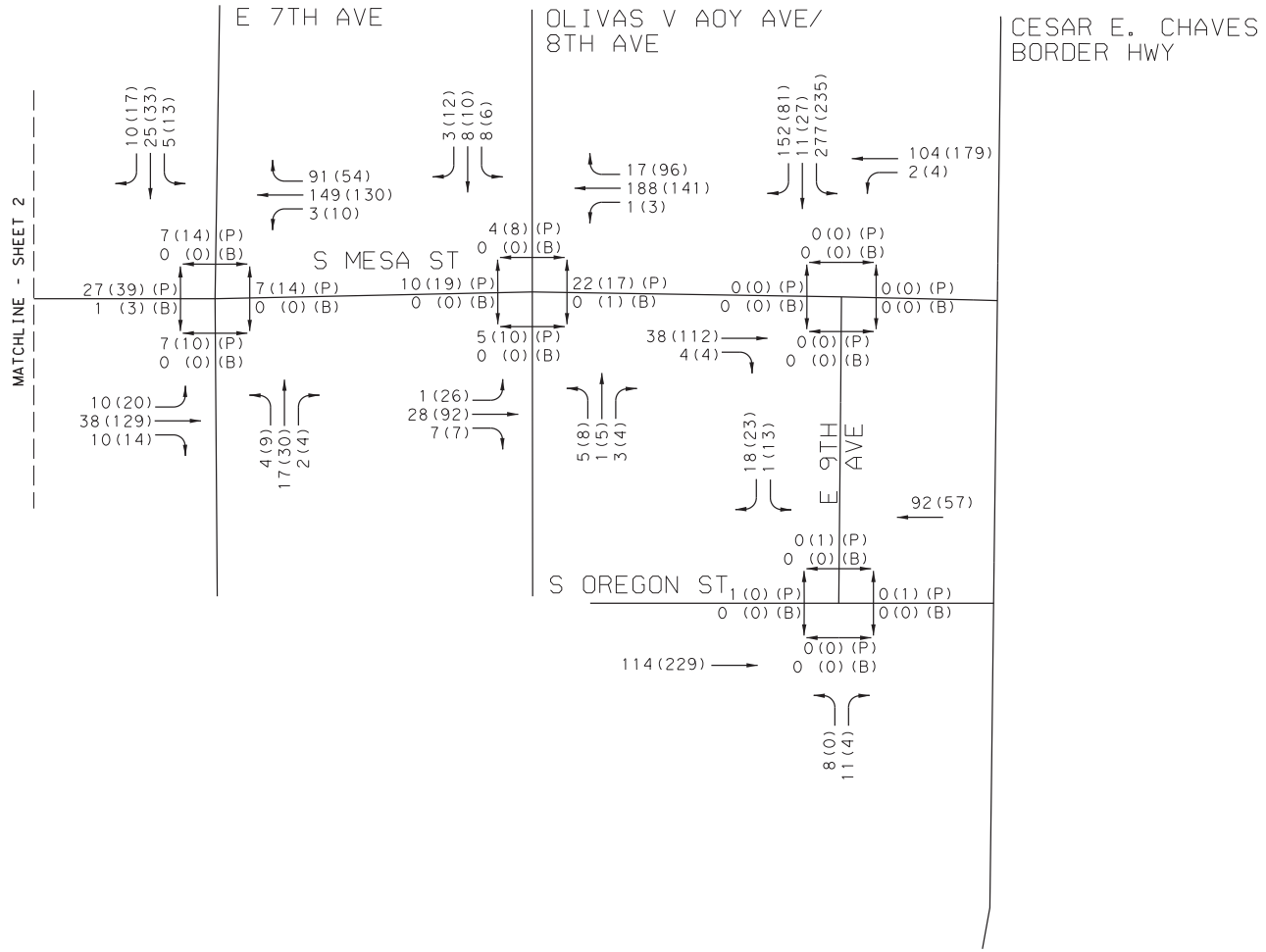
YEAR 2016 PEAK HOUR TRAFFIC VOLUMES

SH 20 - MESA ST CORRIDOR STUDY

3RD AVE TO 6TH AVE

Kimley»Horn F-928

0001-02-059 SHEET 2 OF 3



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

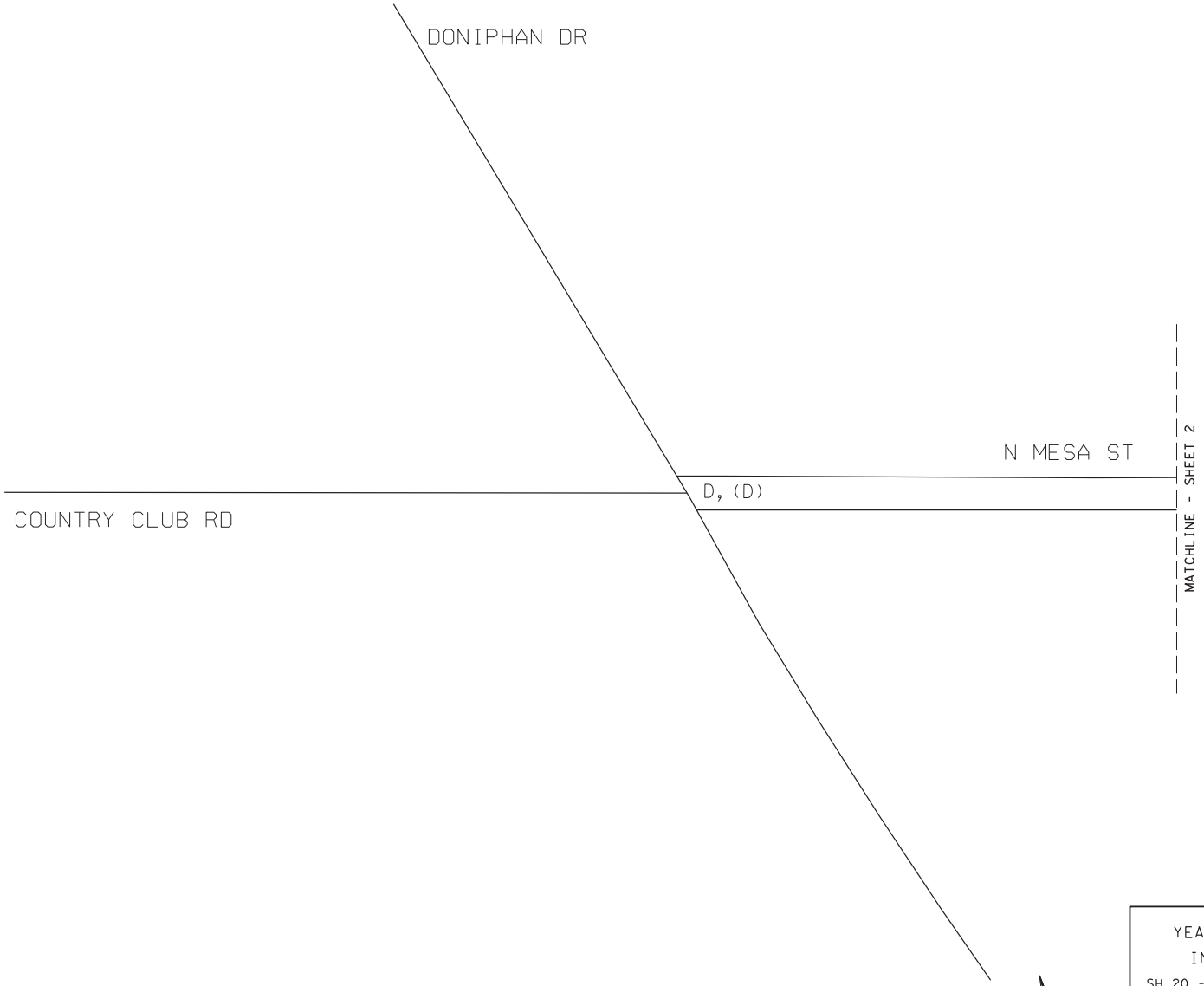
YEAR 2016 PEAK HOUR
TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
7TH AVE TO BORDER HWY

Kimley»Horn F-928

0001-02-059 SHEET 3 OF 3

2016 PEAK HOUR INTERSECTION LOS

(Section 1 – Doniphan Dr to Texas Ave)



LEGEND
AM(PM) - LOS

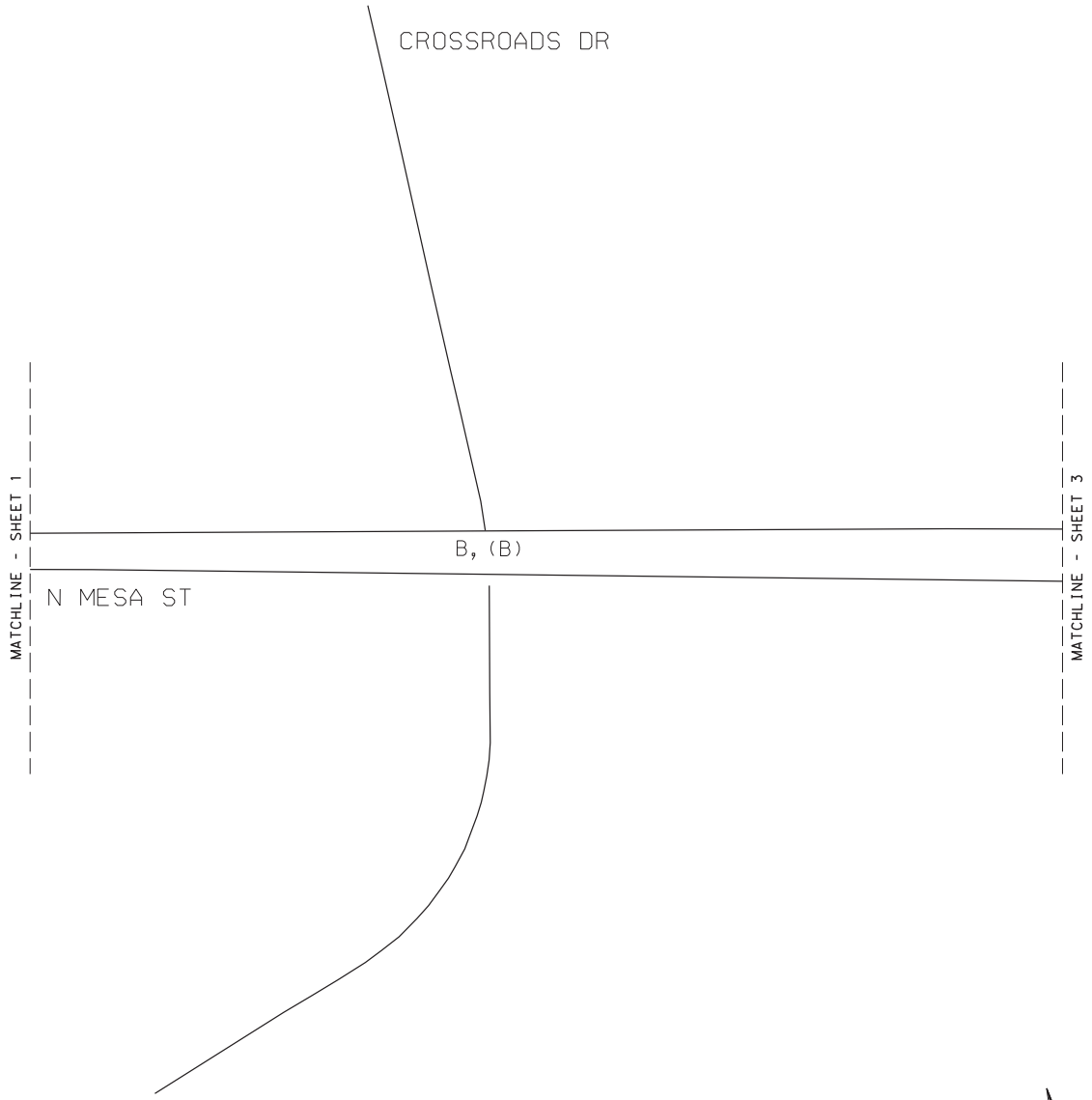
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
DONIPHAN DR

Kimley»Horn F-928

0001-02-059 SHEET 1 OF 26



LEGEND
AM(PM) - LOS

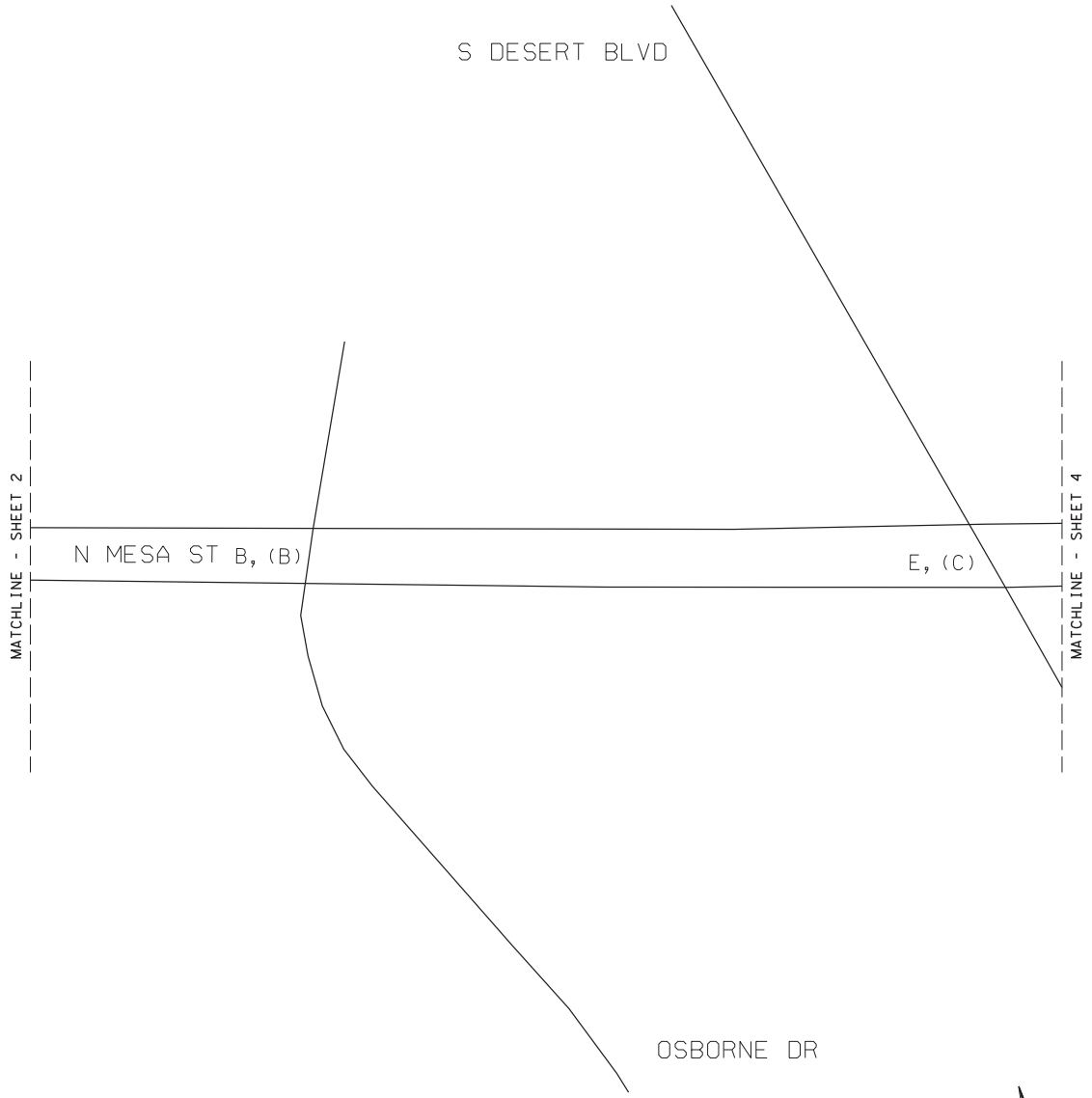
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
CROSSROADS DR

Kimley»Horn F-928

0001-02-059 SHEET 2 OF 26



LEGEND
AM(PM) - LOS

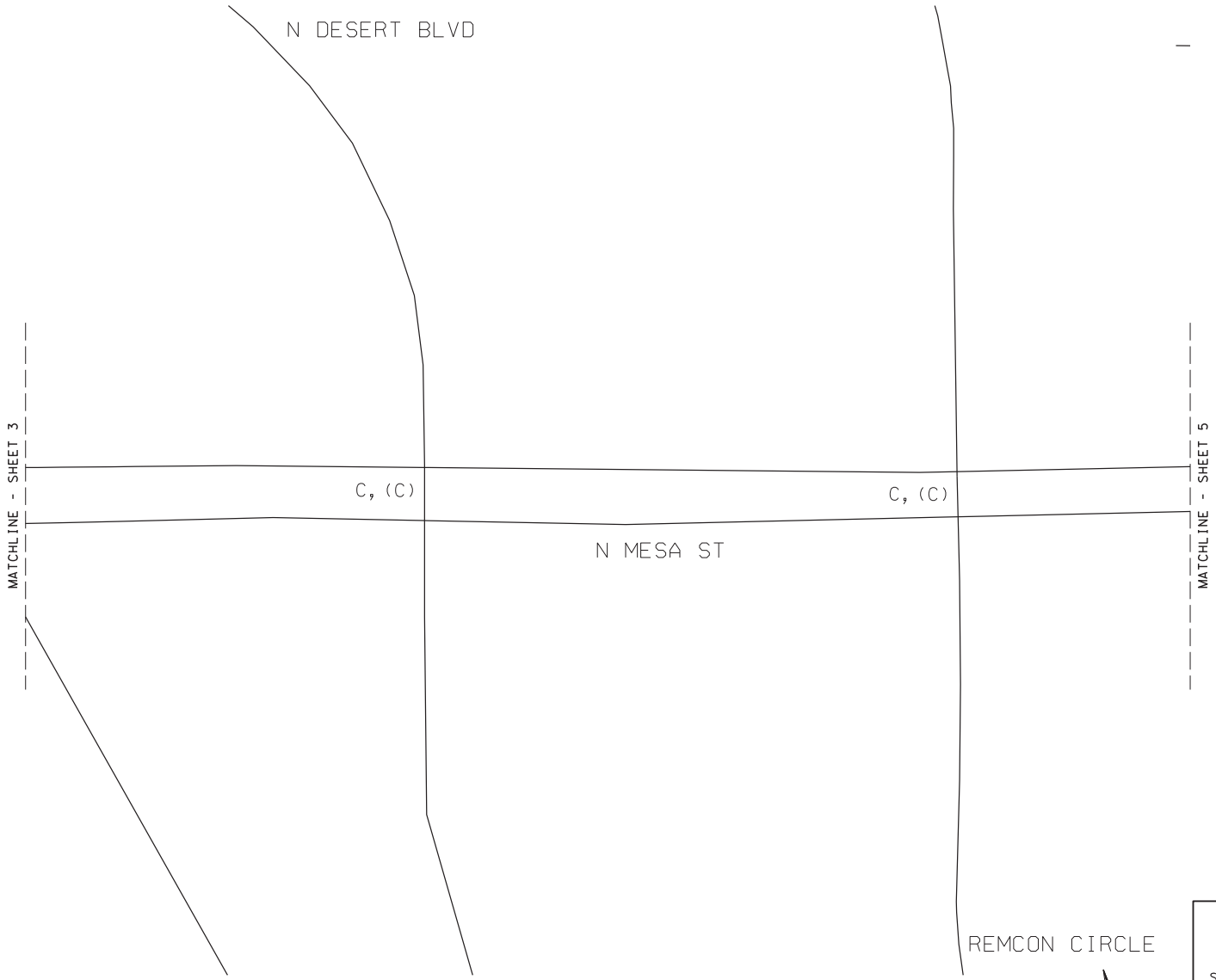
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
OSBORNE DR TO S DESERT BLVD

Kimley»Horn F-928

0001-02-059 SHEET 3 OF 26



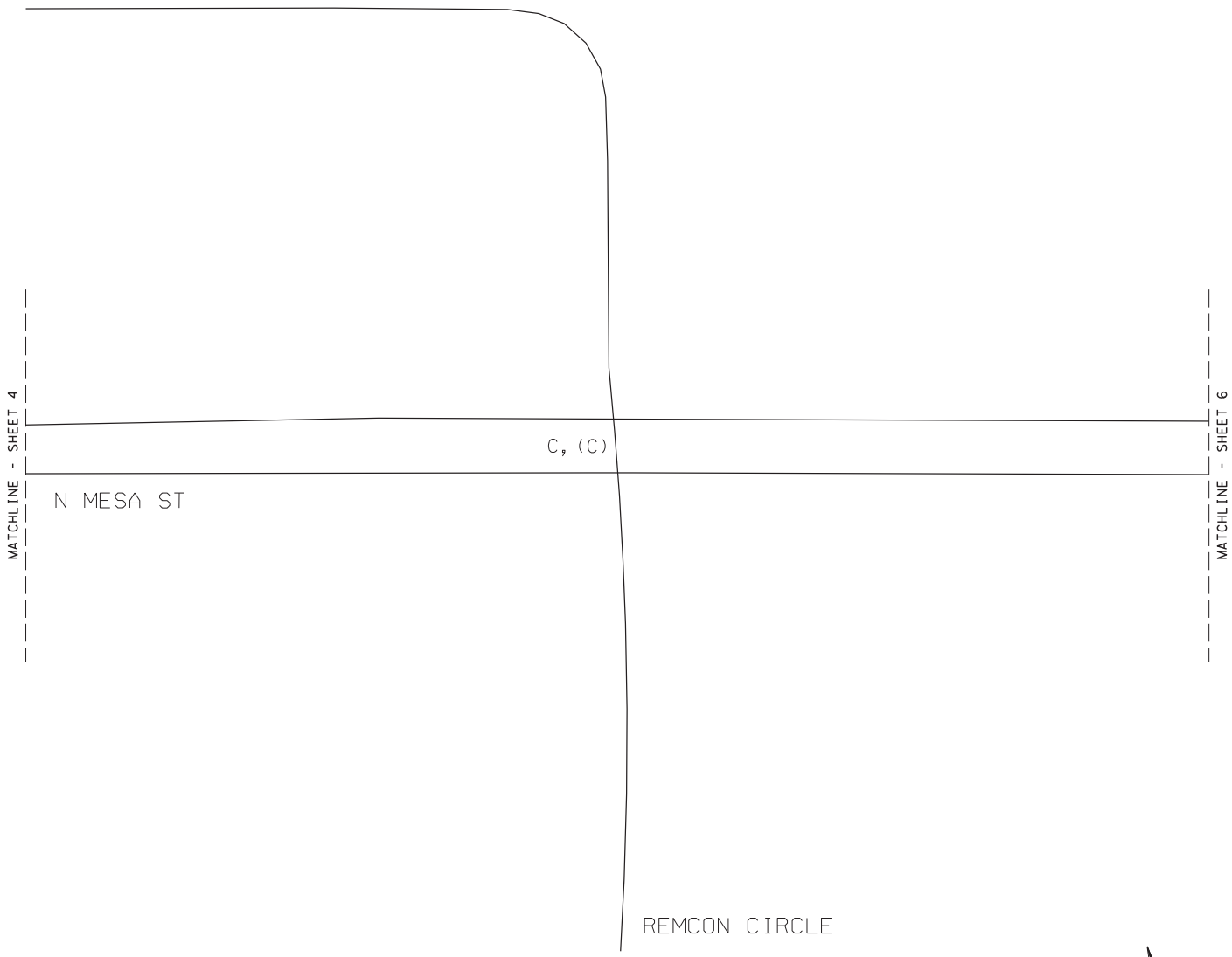
LEGEND
AM(PM) - LOS

SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
N DESERT BLVD TO REMCON CIR

Kimley»Horn F-928

0001-02-059 SHEET 4 OF 26



LEGEND
AM(PM) - LOS

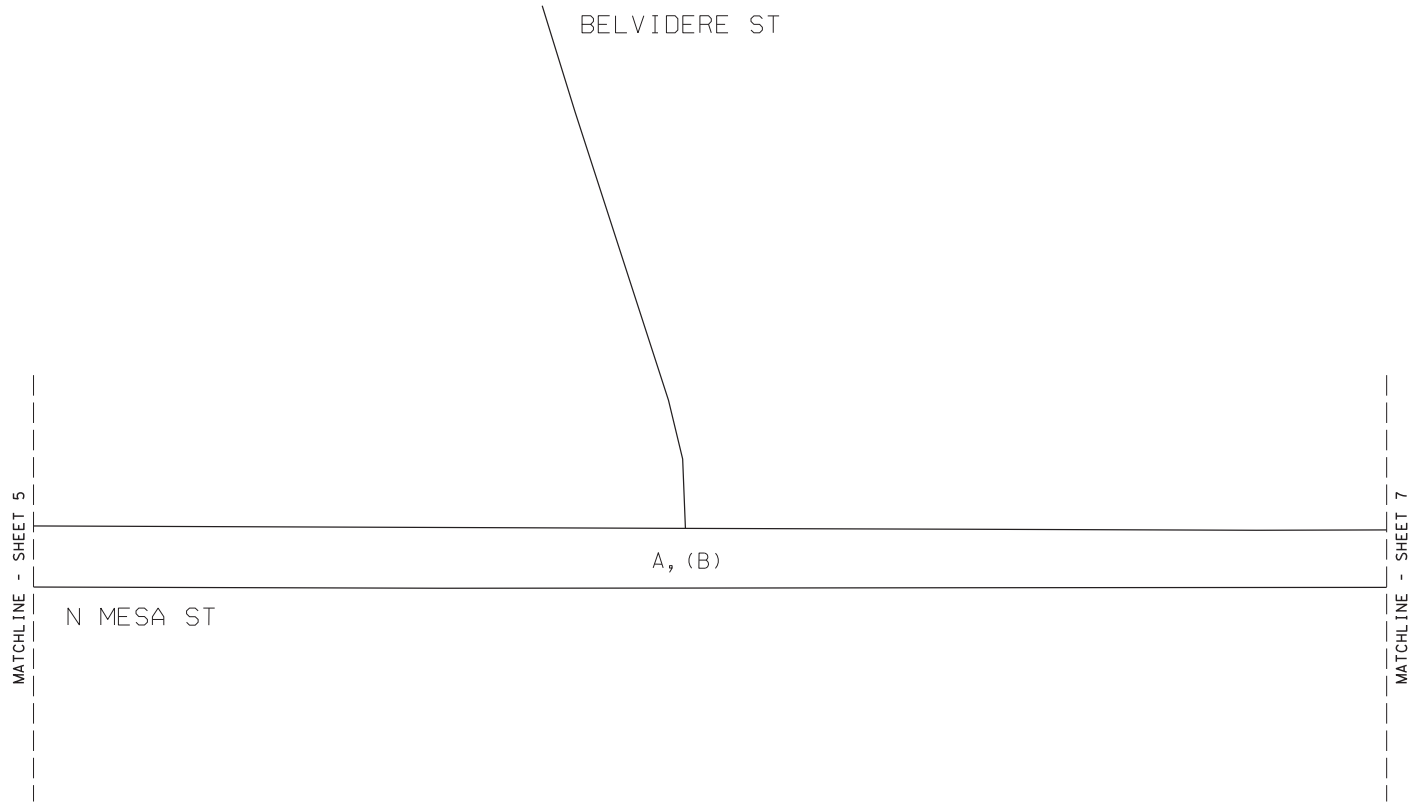
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
REMCON CIR

Kimley»Horn F-928

0001-02-059 SHEET 5 OF 26



LEGEND
AM(PM) - LOS

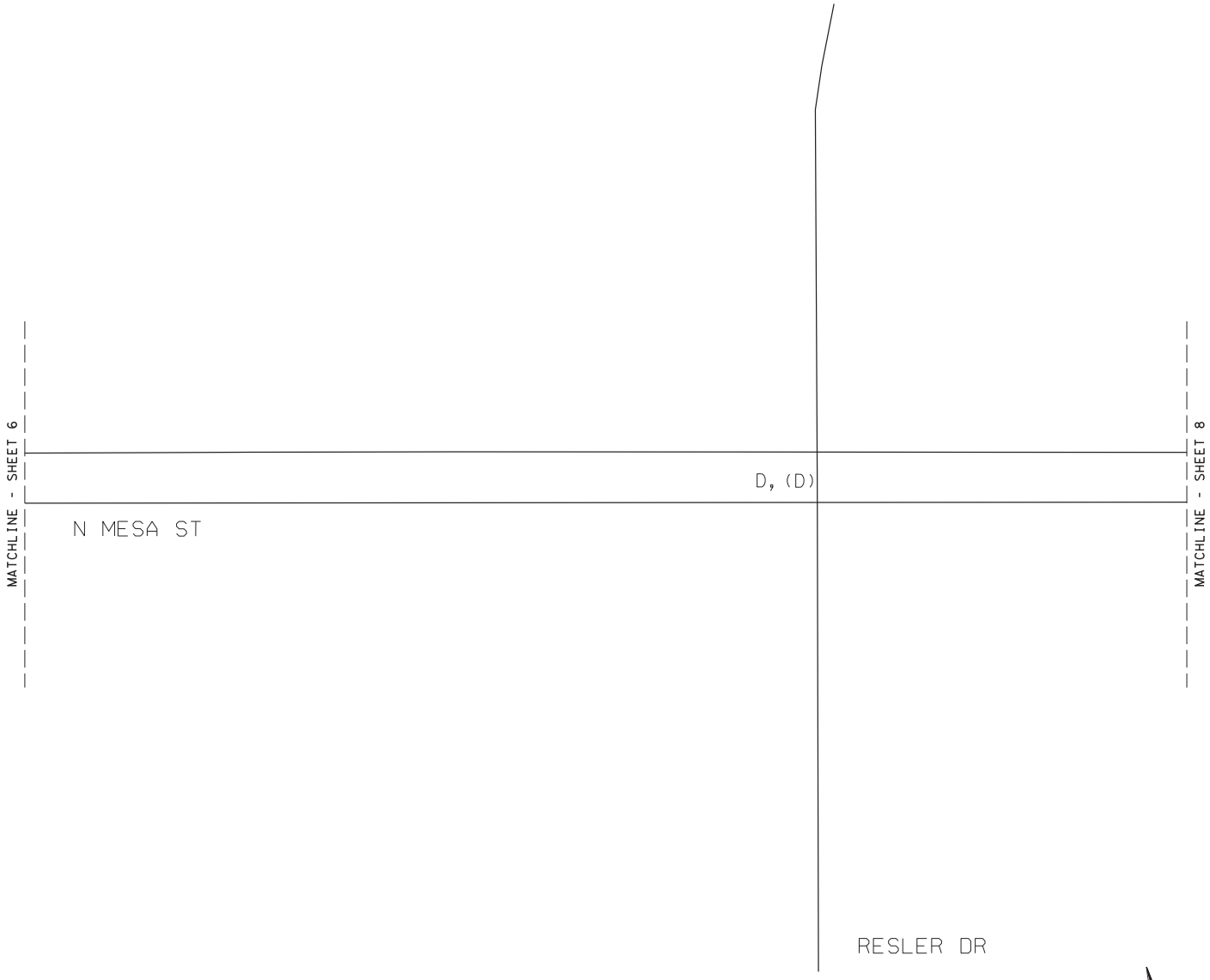
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
BELVIDERE ST

Kimley»Horn F-928

0001-02-059 SHEET 6 OF 26



LEGEND
AM(PM) - LOS

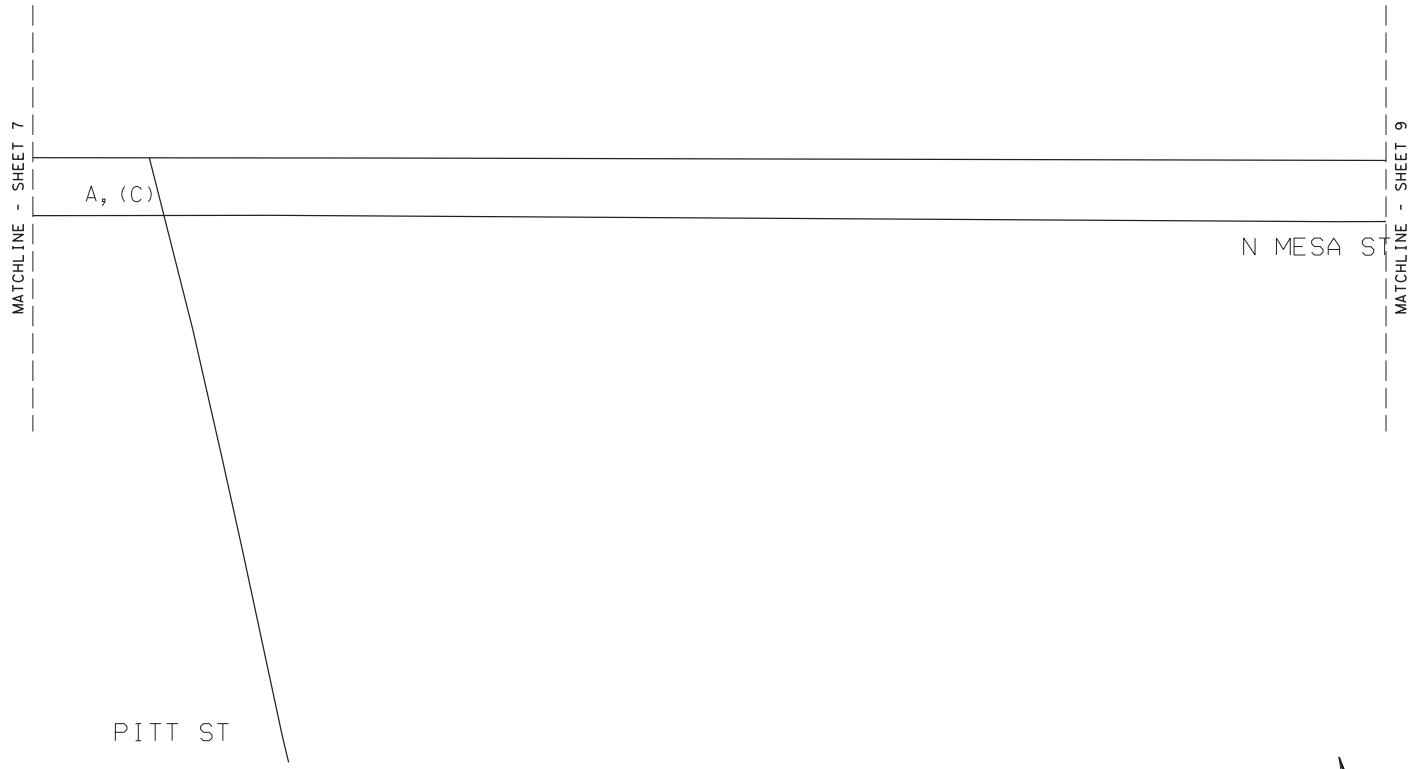
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
RESLER DR

Kimley»Horn F-928

0001-02-059 SHEET 7 OF 26



LEGEND
AM(PM) - LOS

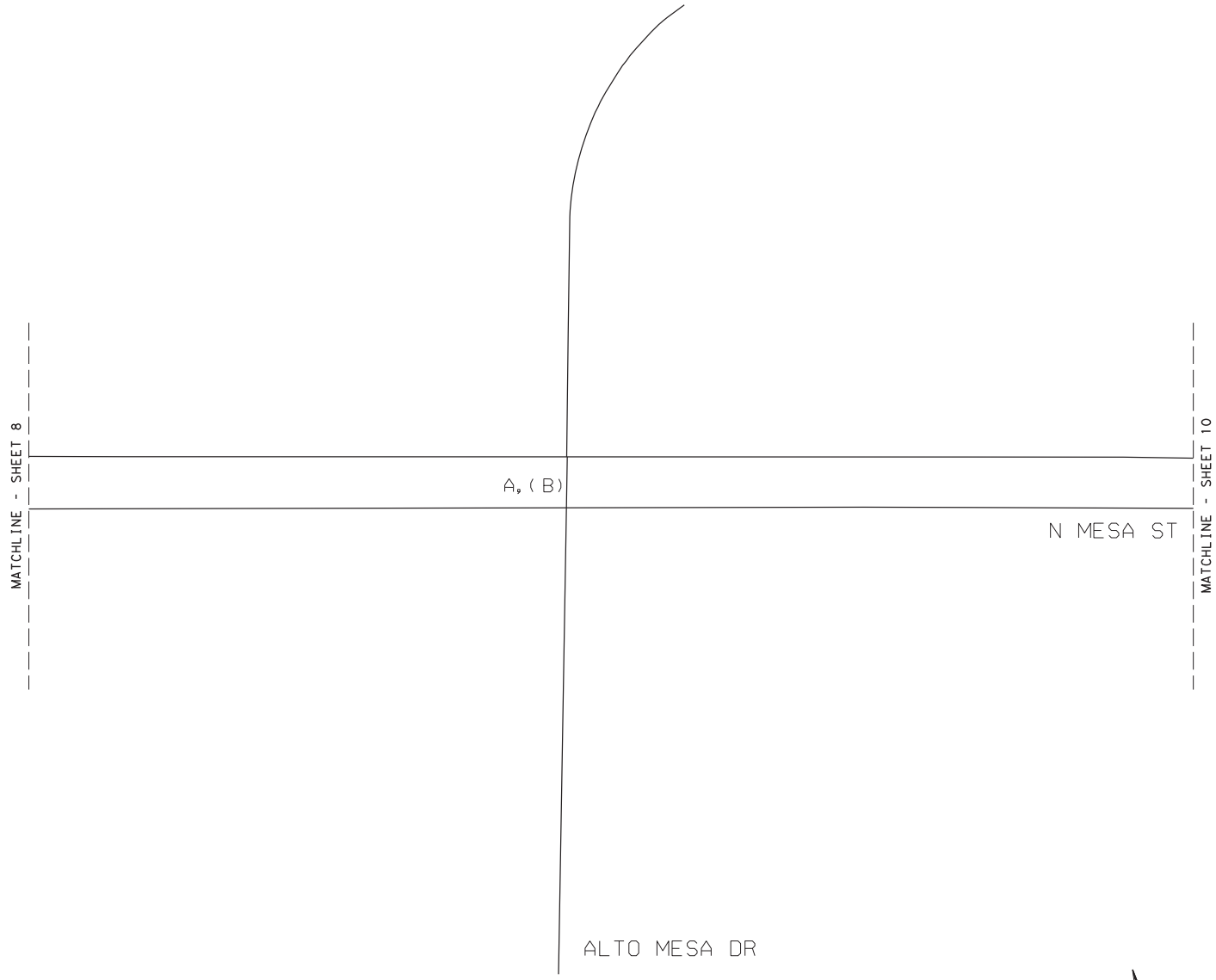
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
PITT ST

Kimley»Horn F-928

0001-02-059 SHEET 8 OF 26



LEGEND
AM(PM) - LOS

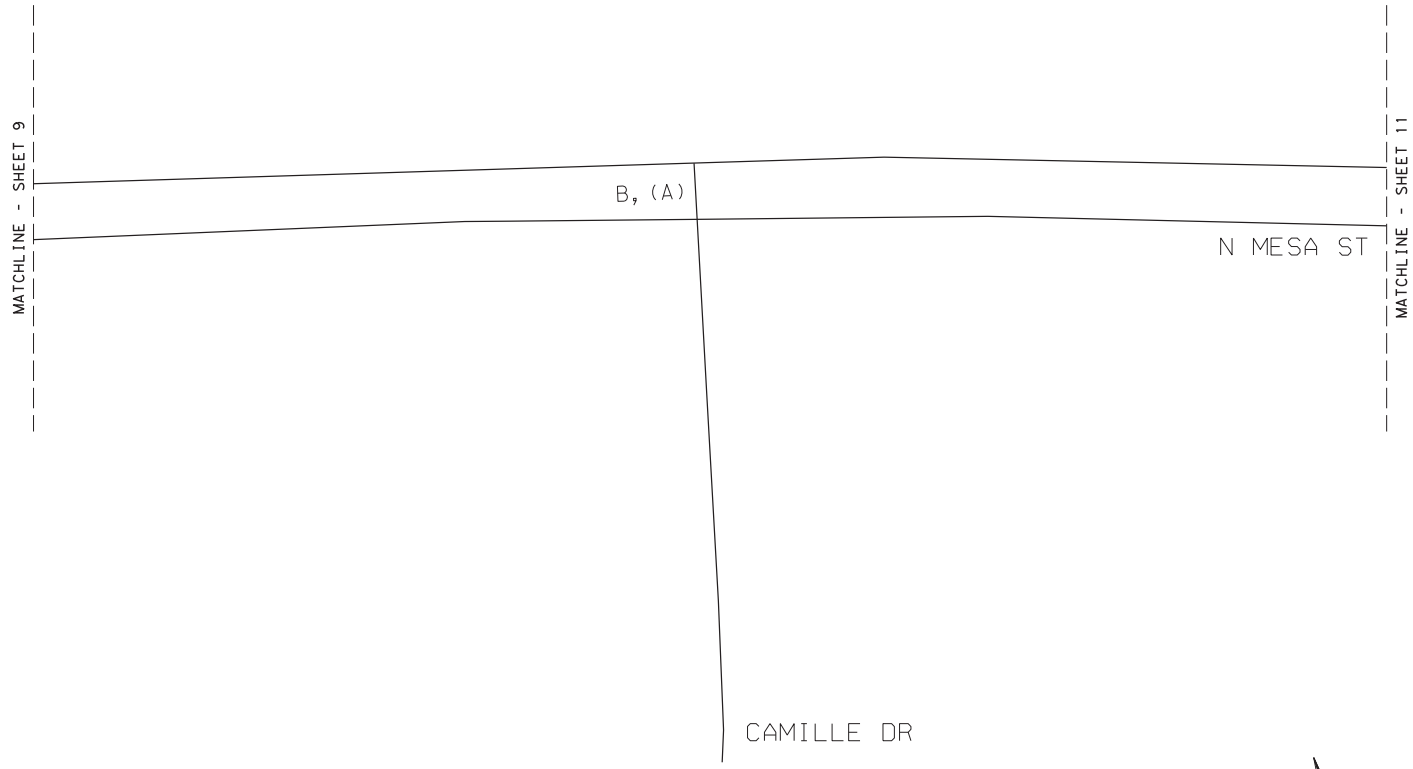
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
ALTO MESA DR

Kimley»Horn F-928

0001-02-059 SHEET 9 OF 26



LEGEND
AM(PM) - LOS

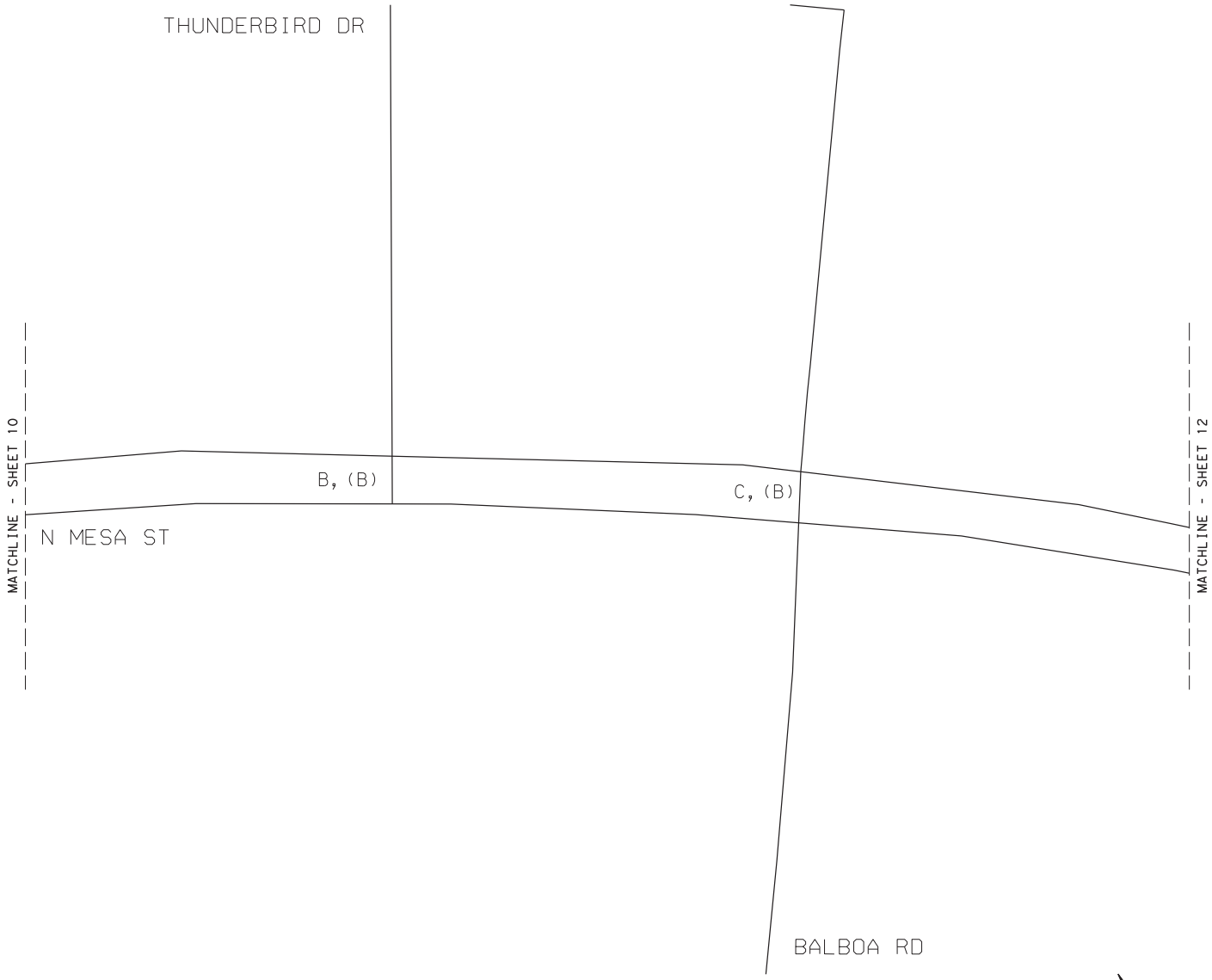
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
CAMILLE DR

Kimley»Horn F-928

0001-02-059 SHEET 10 OF 26



LEGEND
AM(PM) - LOS

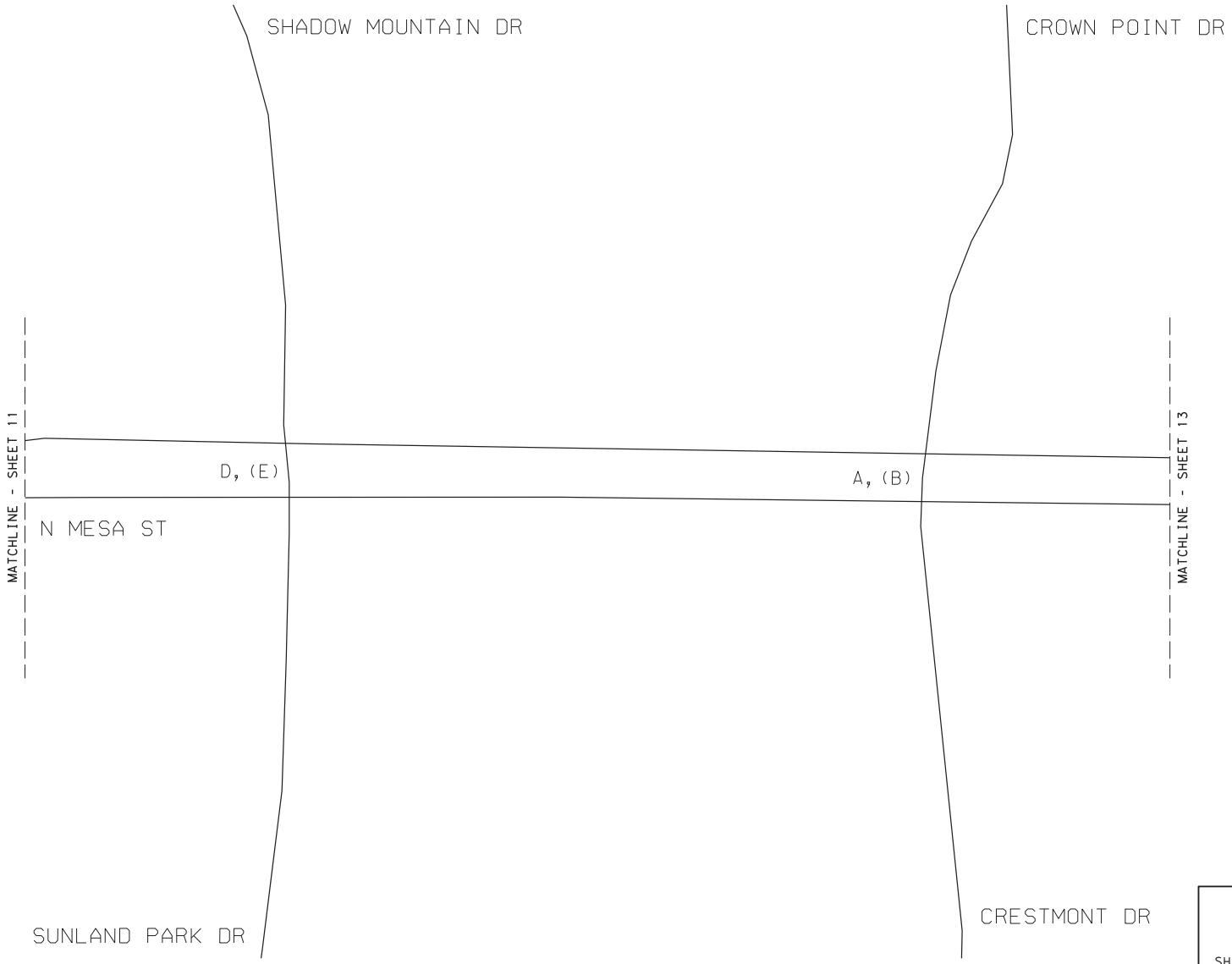
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
THUNDERBIRD DR TO BALBOA RD

Kimley»Horn F-928

0001-02-059 SHEET 11 OF 26



LEGEND
AM(PM) - LOS

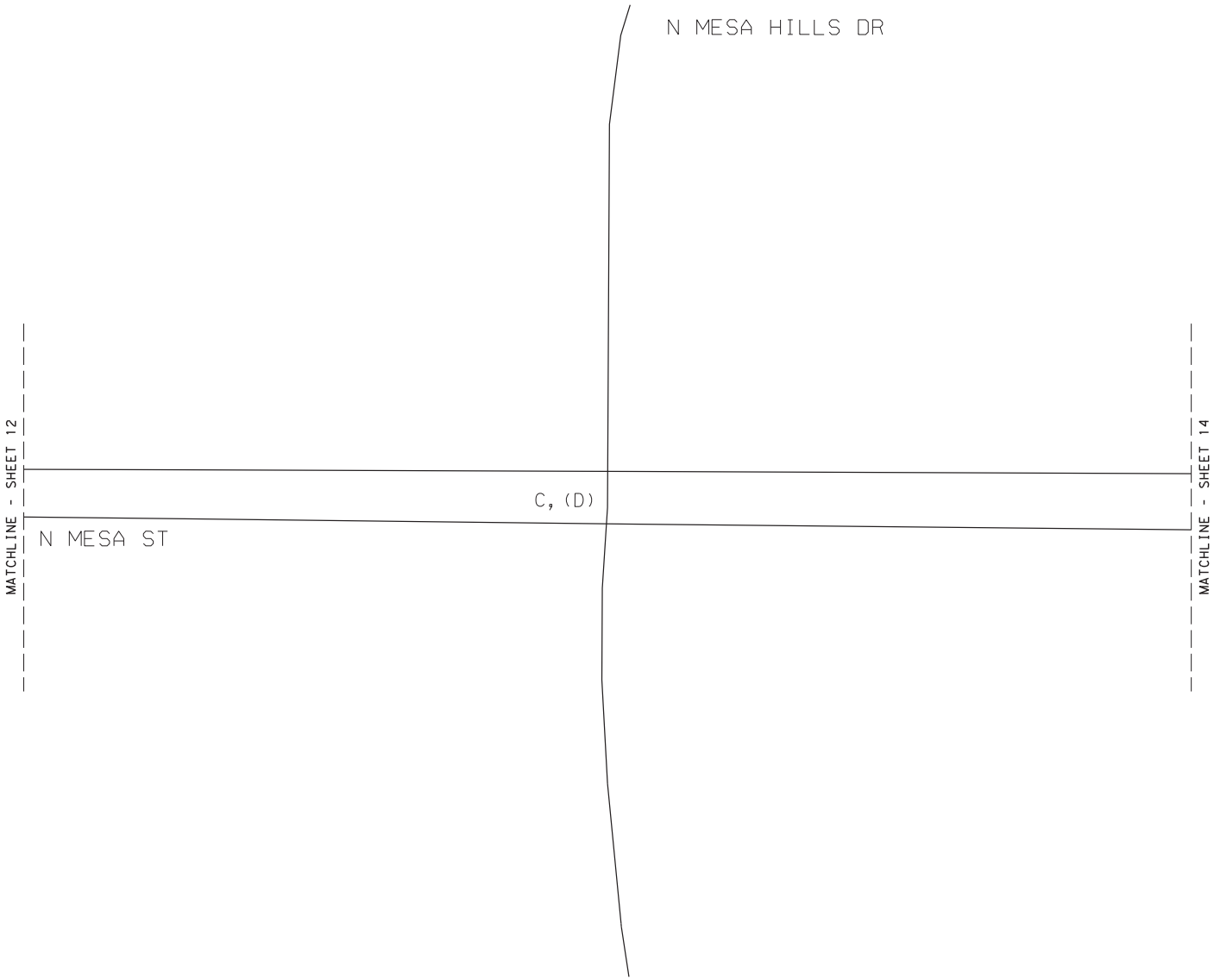
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
SUNLAND PARK DR TO CRESTMONT DR

Kimley»Horn F-928

0001-02-059 SHEET 12 OF 26



LEGEND
AM(PM) - LOS

SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
N MESA HILLS DR

Kimley»Horn F-928

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LEGEND
AM(PM) - LOS

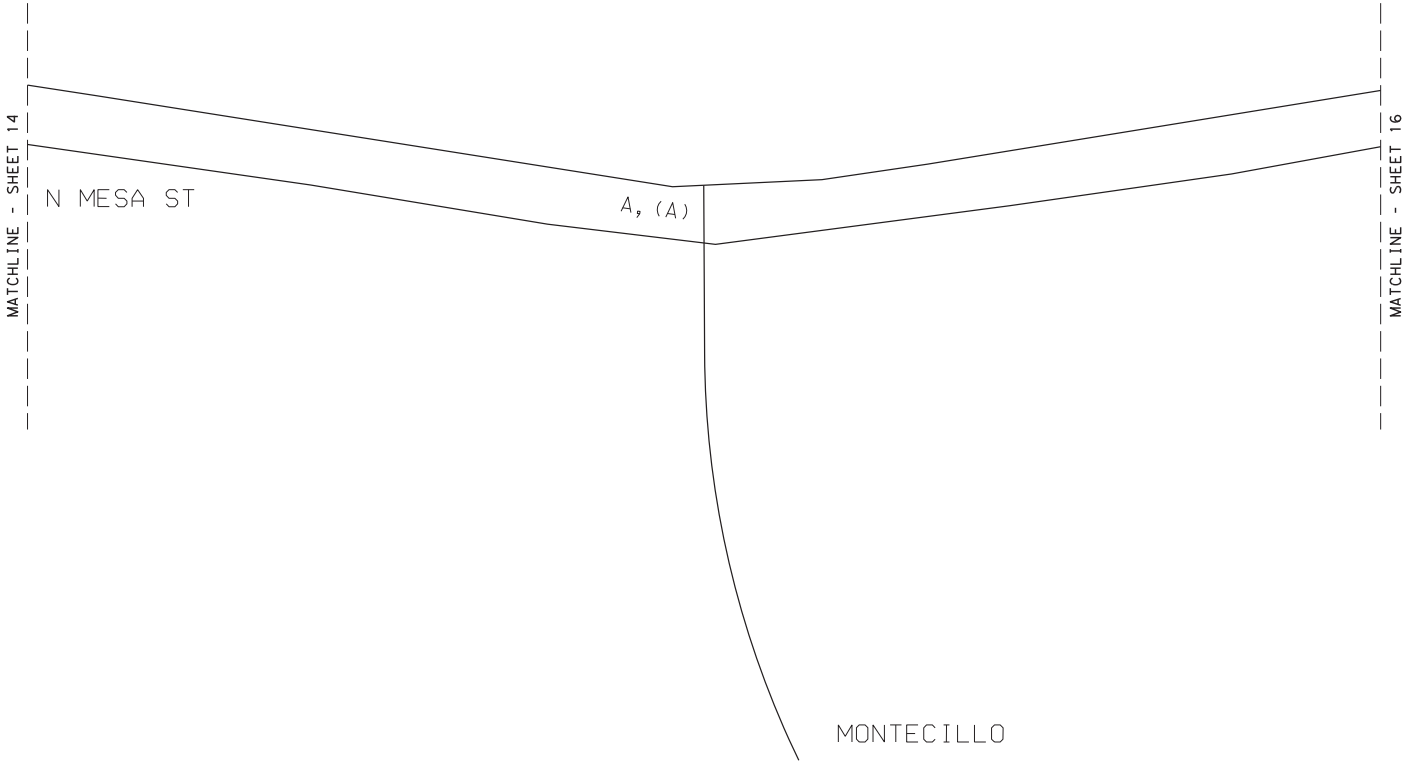
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
FESTIVAL DR

Kimley»Horn F-928

0001-02-059 SHEET 14 OF 26



LEGEND
AM(PM) - LOS

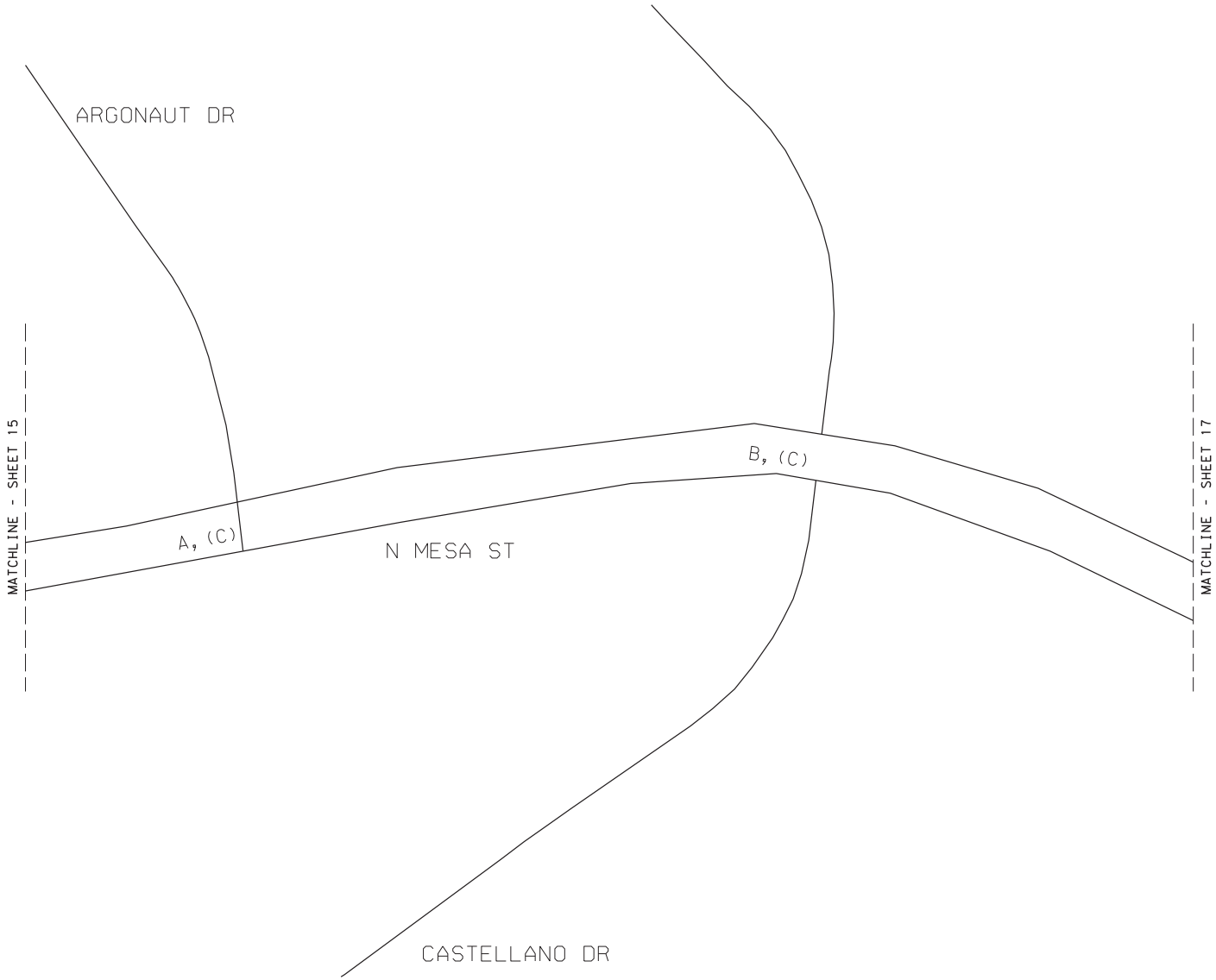
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
MONTECILLO

Kimley»Horn F-928

0001-02-059 SHEET 15 OF 26



LEGEND
AM(PM) - LOS

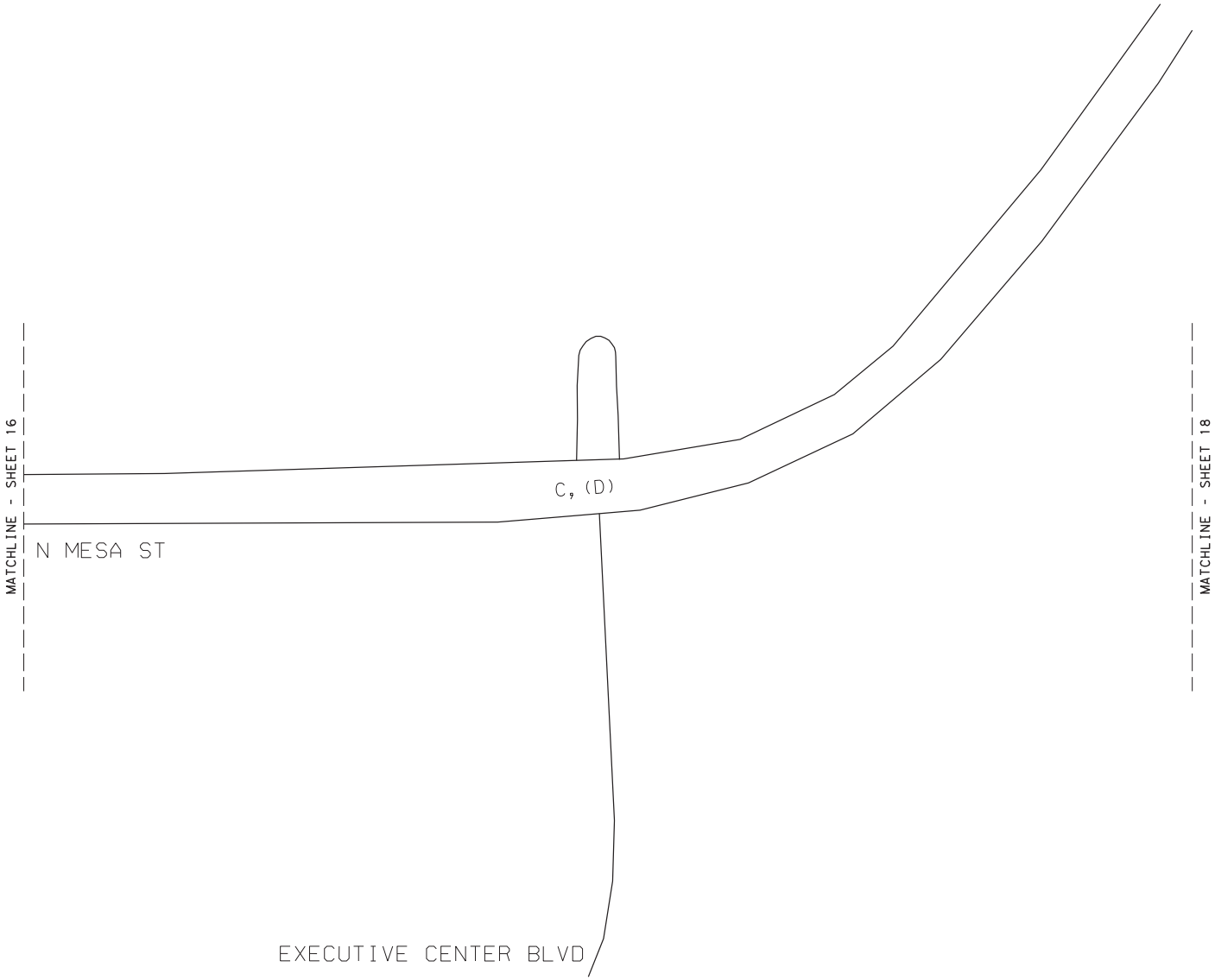
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
ARGONAUT DR TO CASTELLANO DR

Kimley»Horn F-928

0001-02-059 SHEET 16 OF 26



LEGEND
AM(PM) - LOS

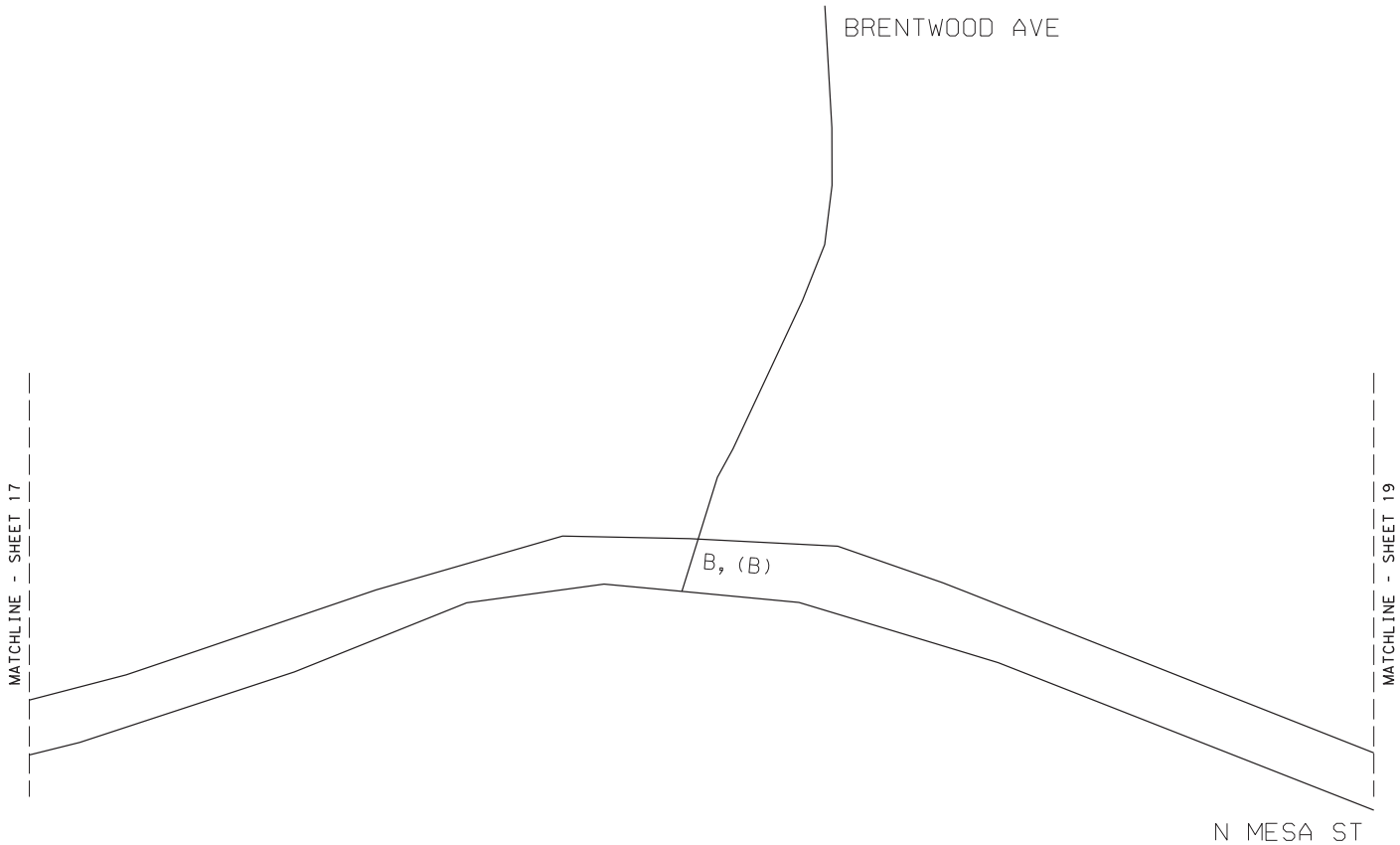
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
EXECUTIVE CENTER BLVD

Kimley»Horn F-928

0001-02-059 SHEET 17 OF 26



LEGEND
AM(PM) - LOS

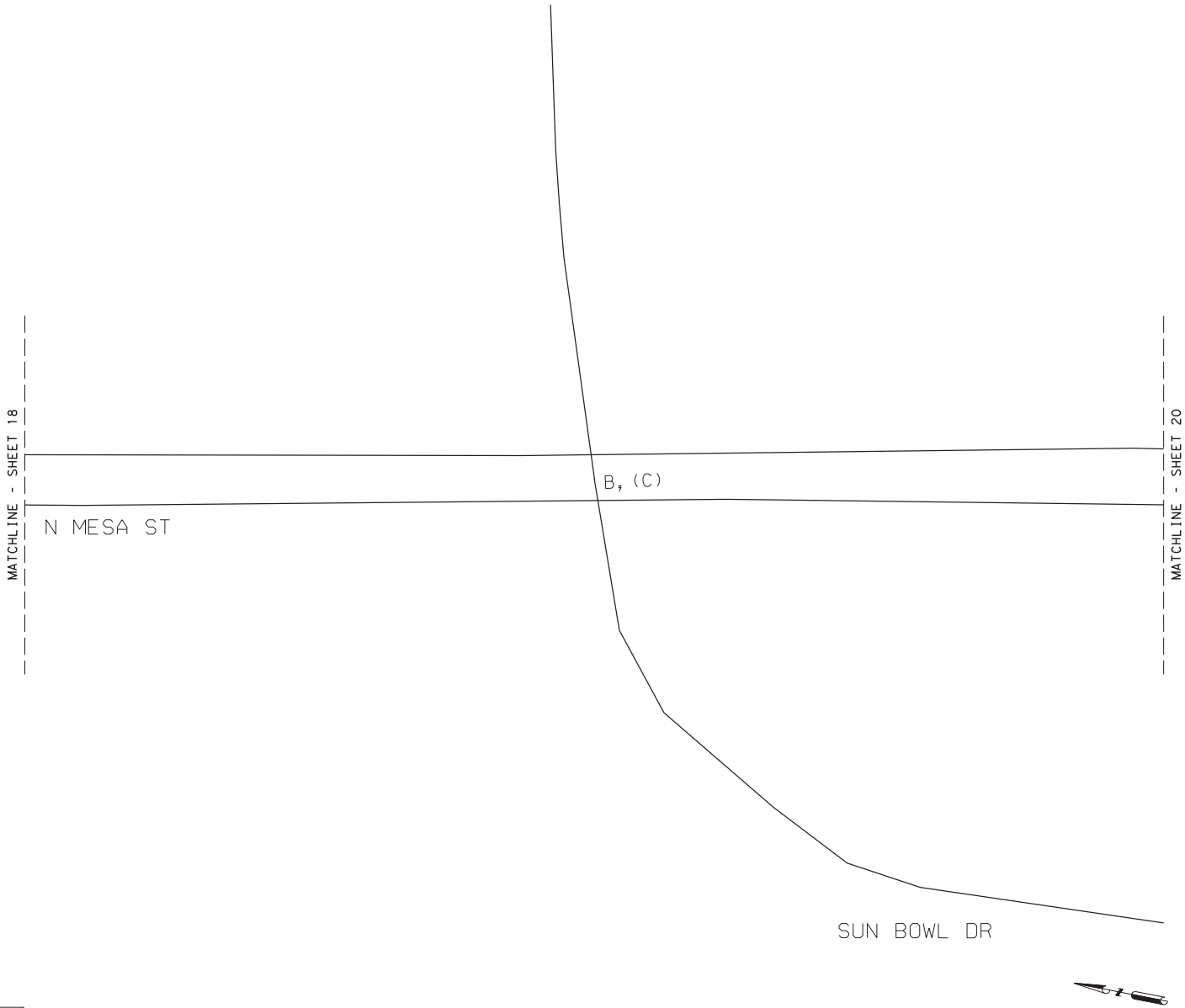
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
BRENTWOOD AVE

Kimley»Horn F-928

0001-02-059 SHEET 18 OF 26



LEGEND
AM(PM) - LOS

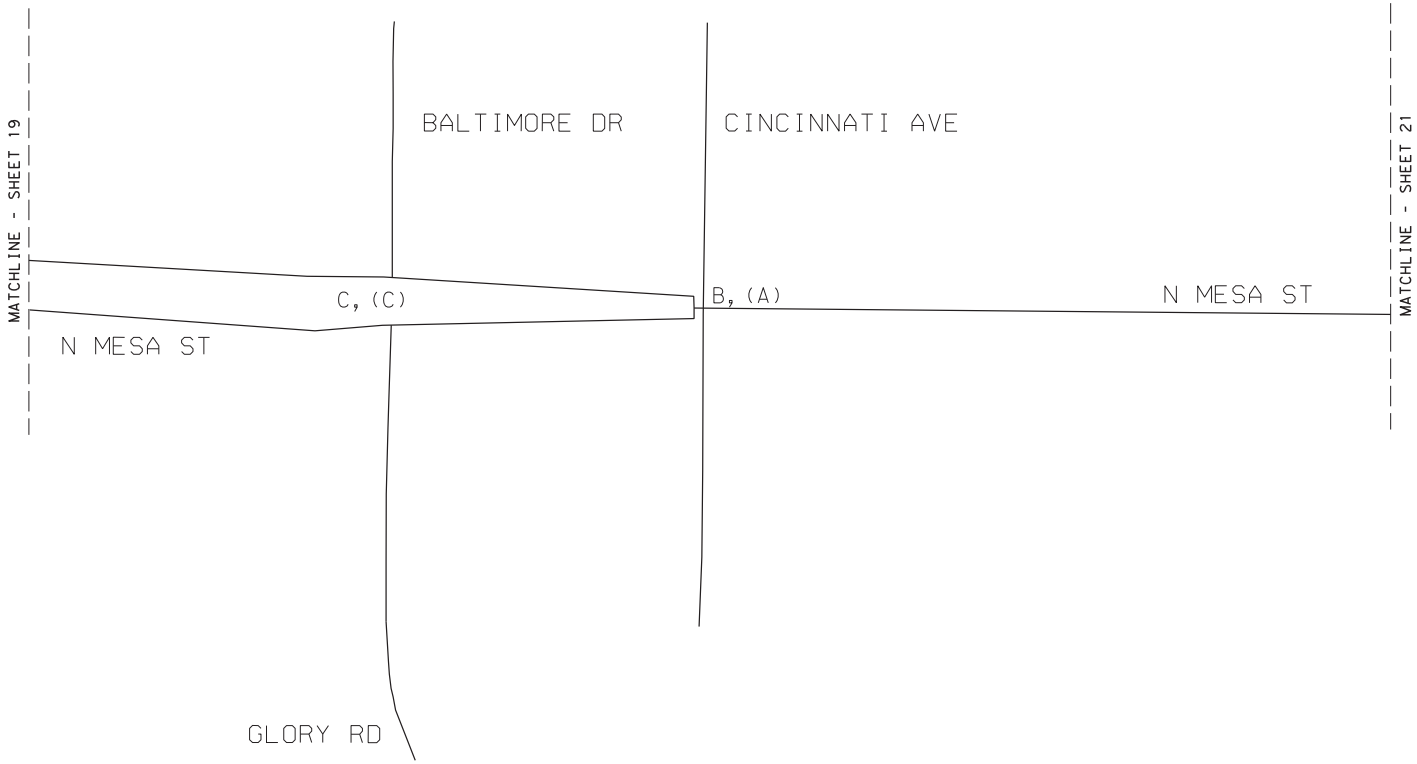
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
SUN BOWL DR

Kimley»Horn F-928

0001-02-059 SHEET 19 OF 26



LEGEND
AM(PM) - LOS

SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
GLORY RD TO CINCINNATI AVE

Kimley»Horn F-928

0001-02-059 SHEET 20 OF 26

LEGEND
AM(PM) - LOS

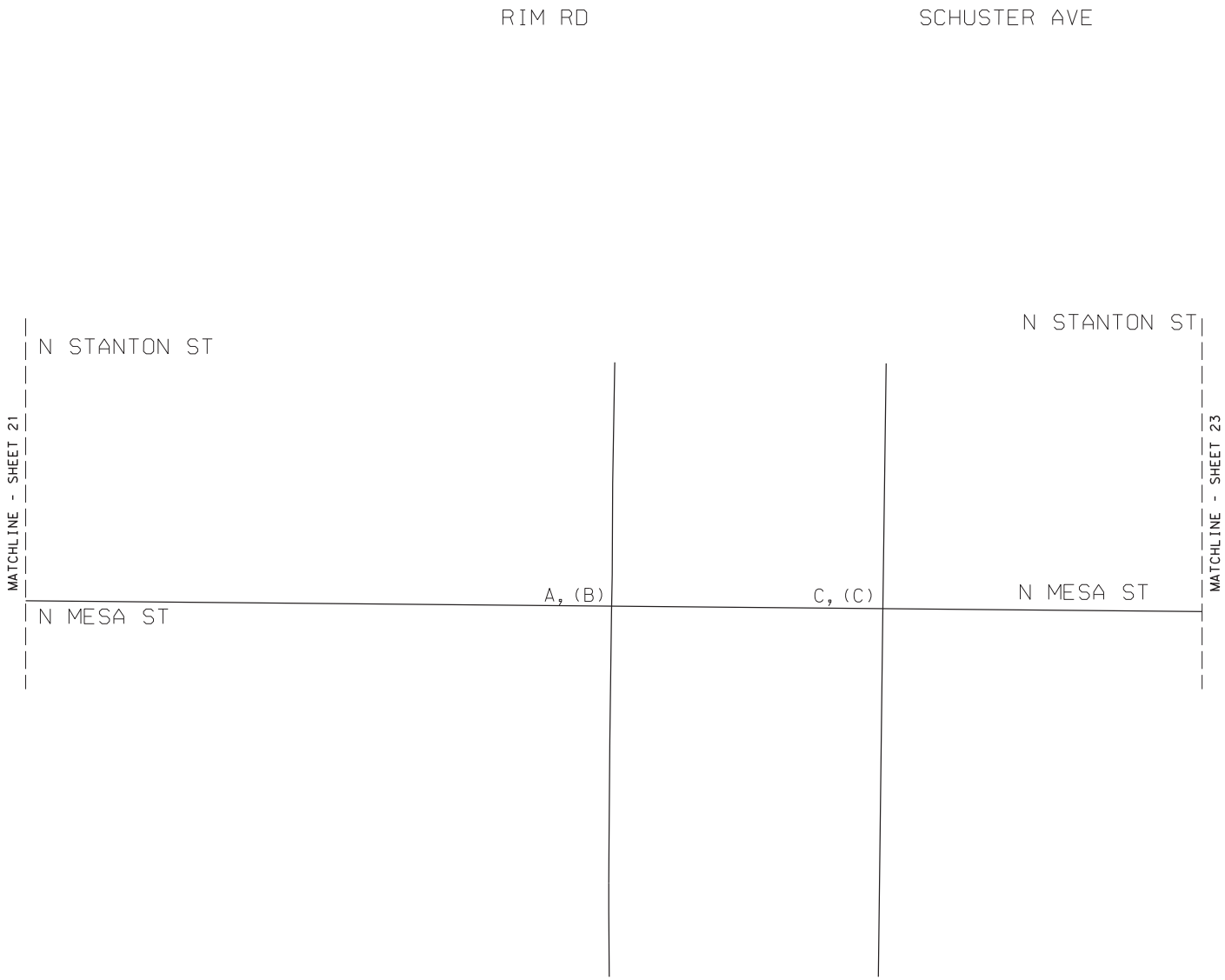
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
KERBEY AVE TO UNIVERSITY AVE

Kimley»Horn F-928

0001-02-059 SHEET 21 OF 26



LEGEND
AM(PM) - LOS

SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
RIM RD TO SCHUSTER AVE

Kimley»Horn F-928

0001-02-059 SHEET 22 OF 26

LEGEND
AM(PM) - LOS

SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
RIVER AVE

Kimley»Horn F-928

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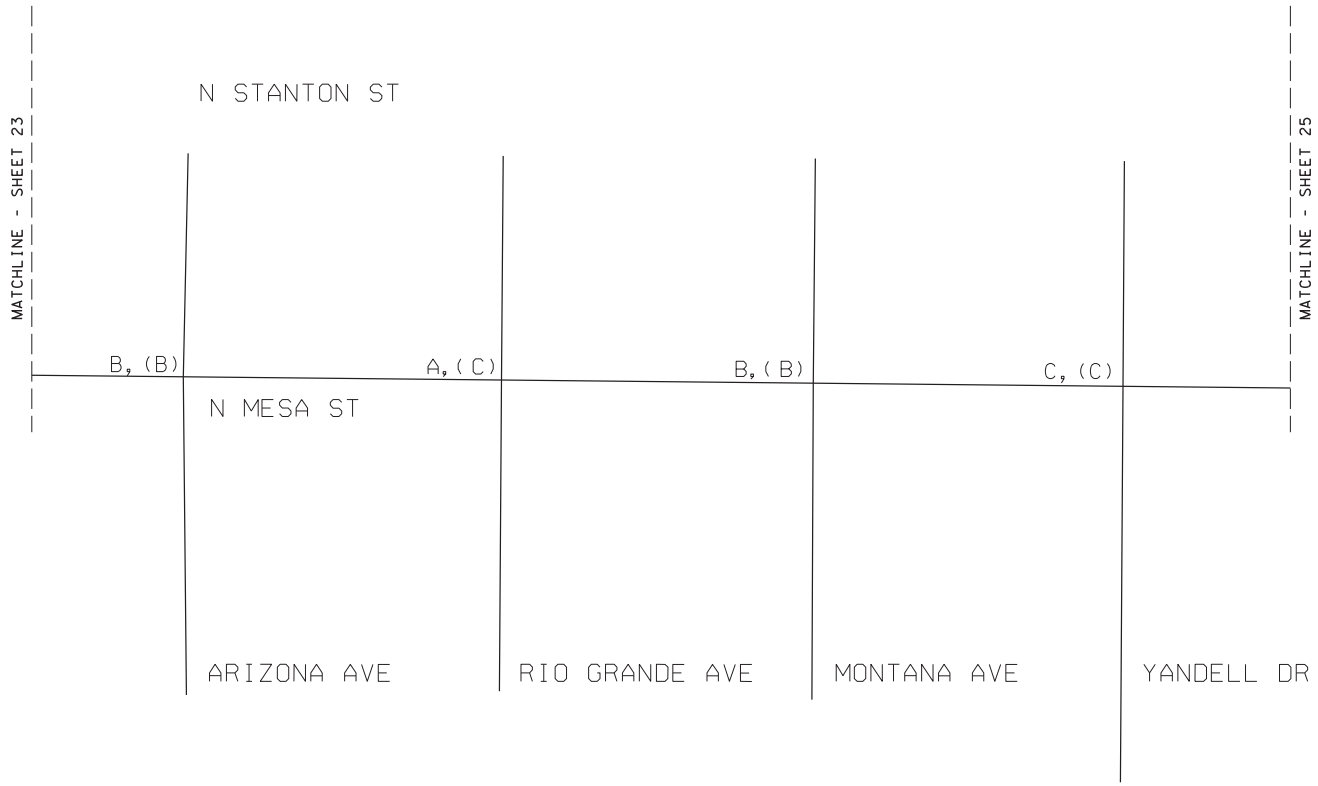


LEGEND
AM(PM) - LOS

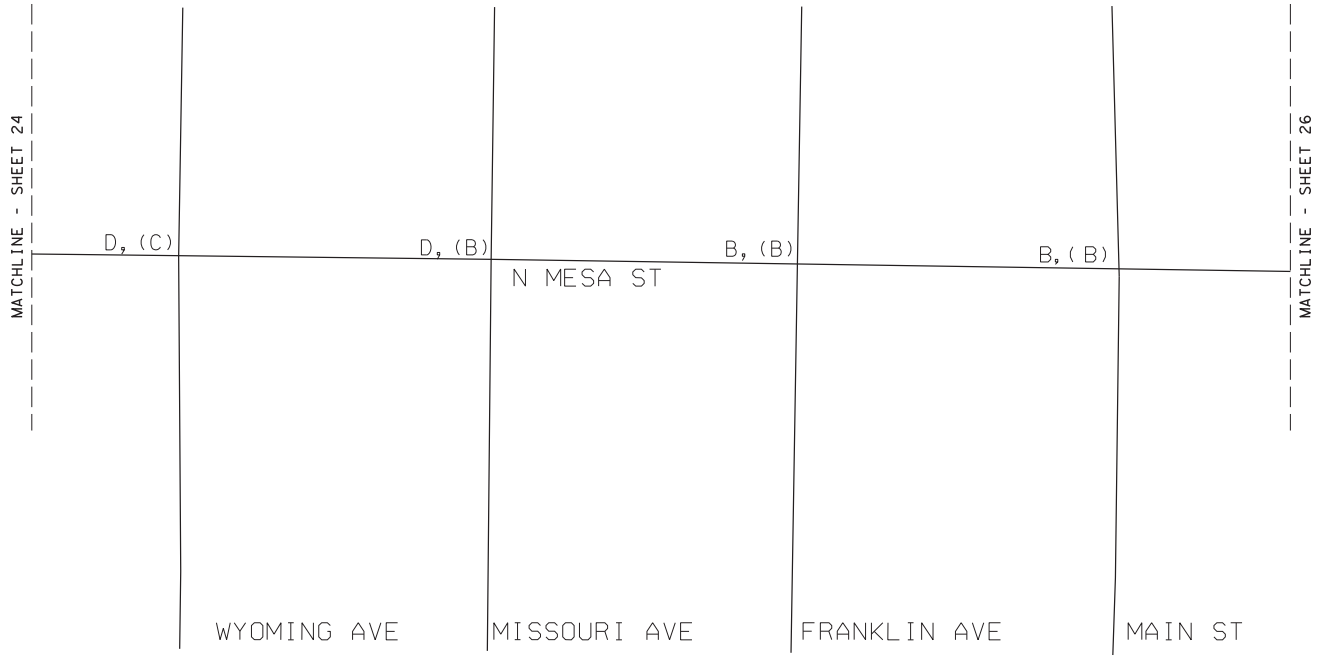
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
ARIZONA AVE TO YANDELL DR

Kimley»Horn F-928

0001-02-059 SHEET 24 OF 26



LEGEND
AM(PM) - LOS

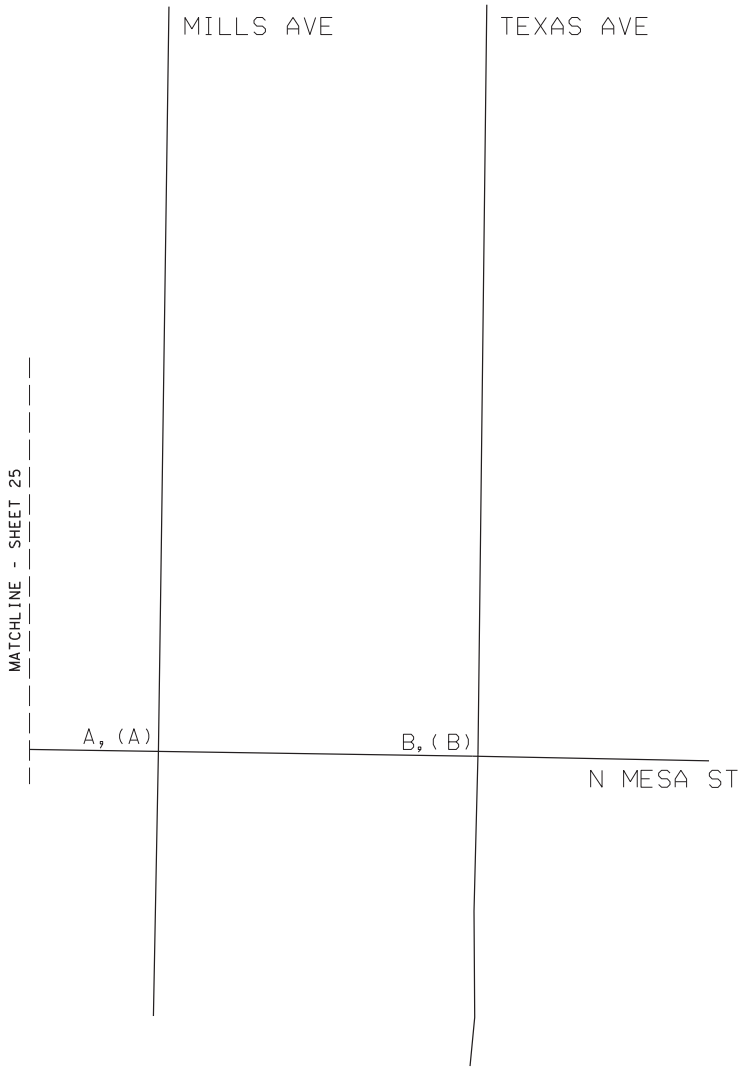
SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
WYOMING AVE TO MAIN ST

Kimley»Horn F-928

0001-02-059 SHEET 25 OF 26



LEGEND
AM(PM) - LOS

SEE SIGNALIZED INTERSECTION SHEETS FOR DETAILS

NOT TO SCALE

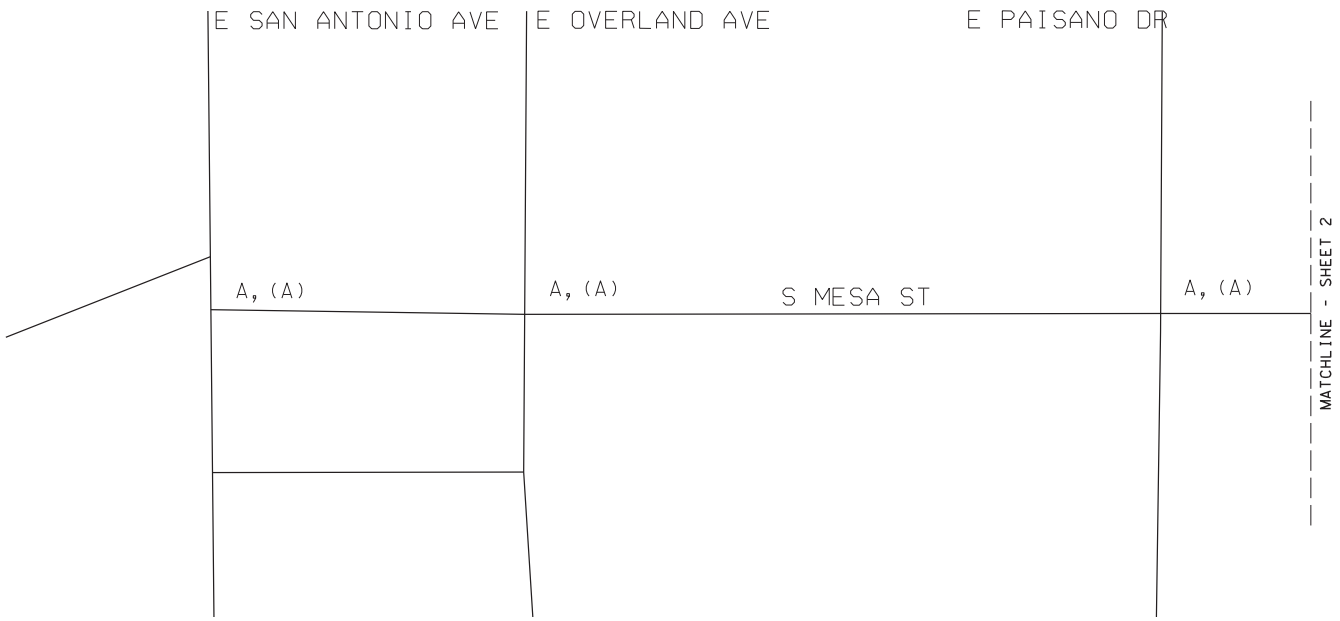
YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
MILLS AVE TO TEXAS AVE

Kimley»Horn F-928

0001-02-059 SHEET 26 OF 26

2016 PEAK HOUR INTERSECTION LOS

(Section 2 – San Antonio Ave to LP 375)



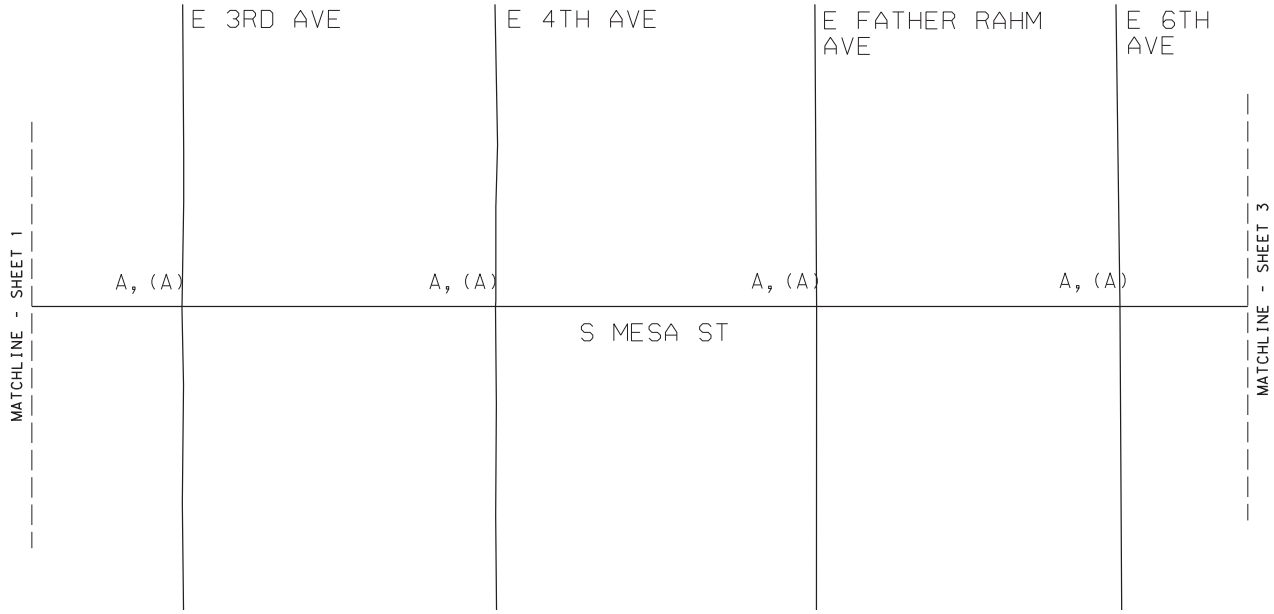
LEGEND
AM, (PM) LOS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
SAN ANTONIO AVE TO PAISANO DR

Kimley»Horn F-928

0001-02-059 SHEET 1 OF 3



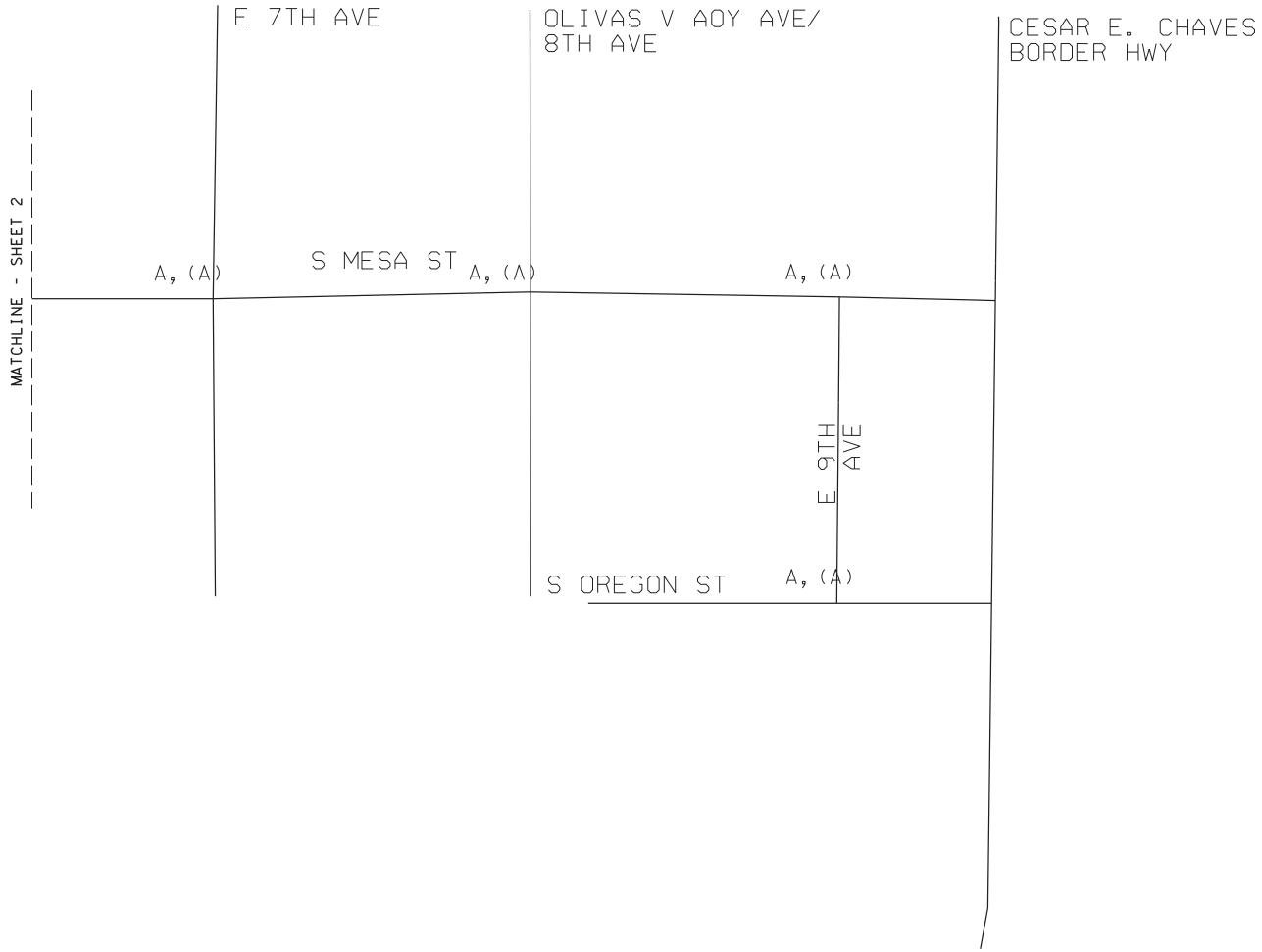
LEGEND
AM, (PM) LOS

NOT TO SCALE

YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
3RD AVE TO 6TH AVE

Kimley»Horn F-928

0001-02-059 SHEET 2 OF 3



LEGEND
AM, (PM) LOS

NOT TO SCALE

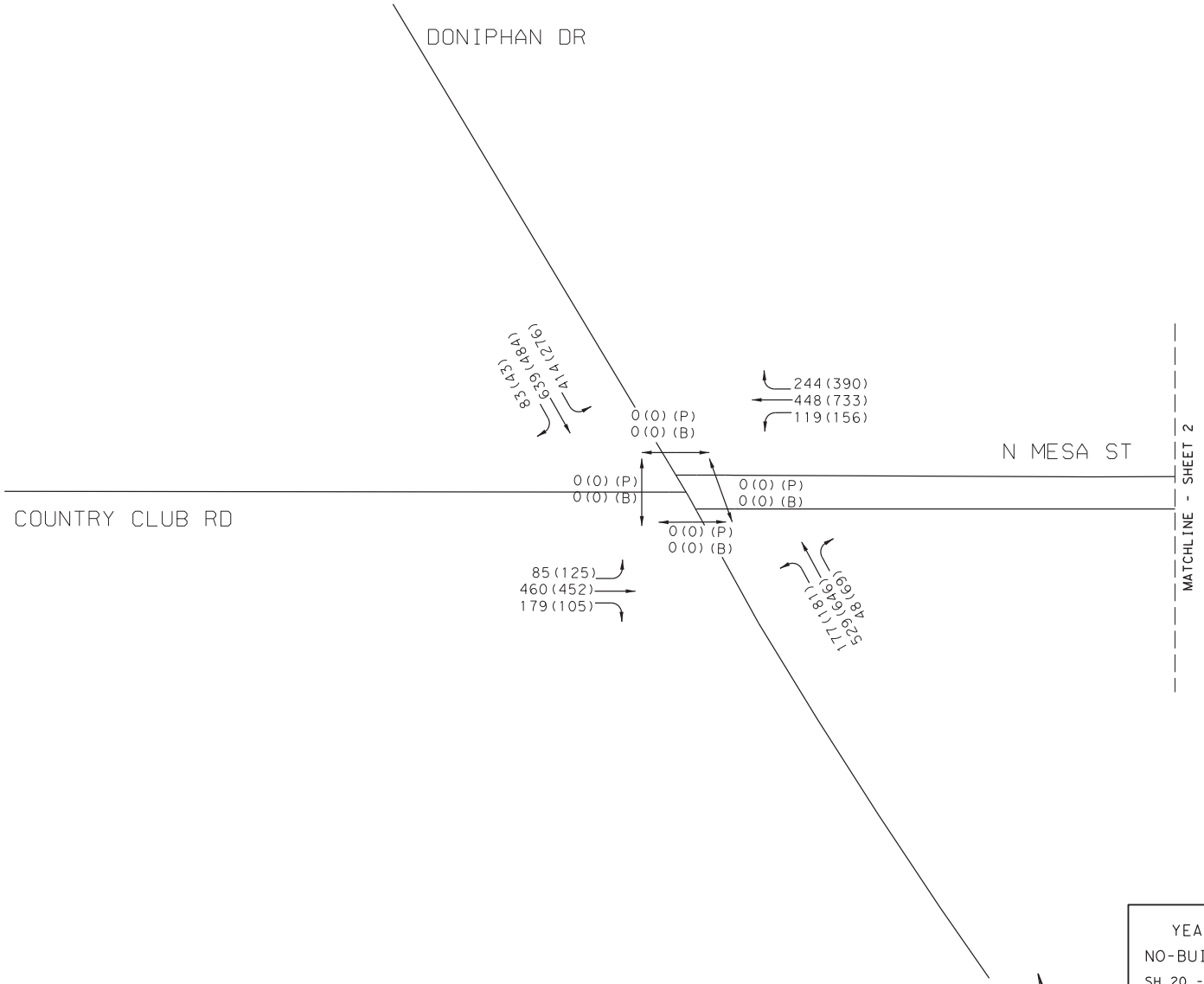
YEAR 2016 PEAK HOUR
INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
7TH AVE TO BORDER HWY

Kimley»Horn F-928

0001-02-059 SHEET 3 OF 3

2020 NO-BUILD PEAK HOUR

(Section 1 – Doniphan Dr to Texas Ave)



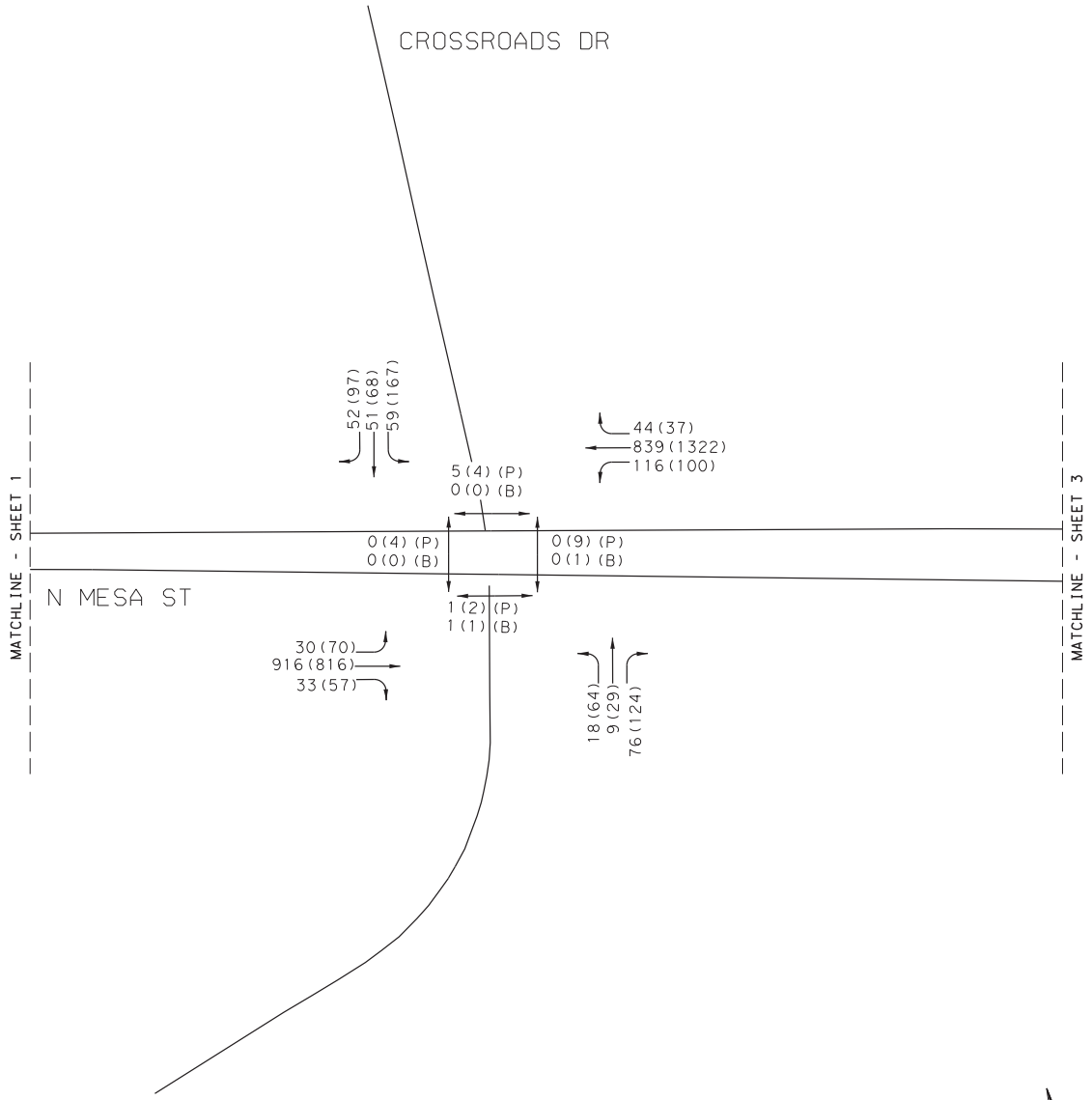
LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
DONIPHAN DR

Kimley»Horn F-928

0001-02-059 SHEET 1 OF 26



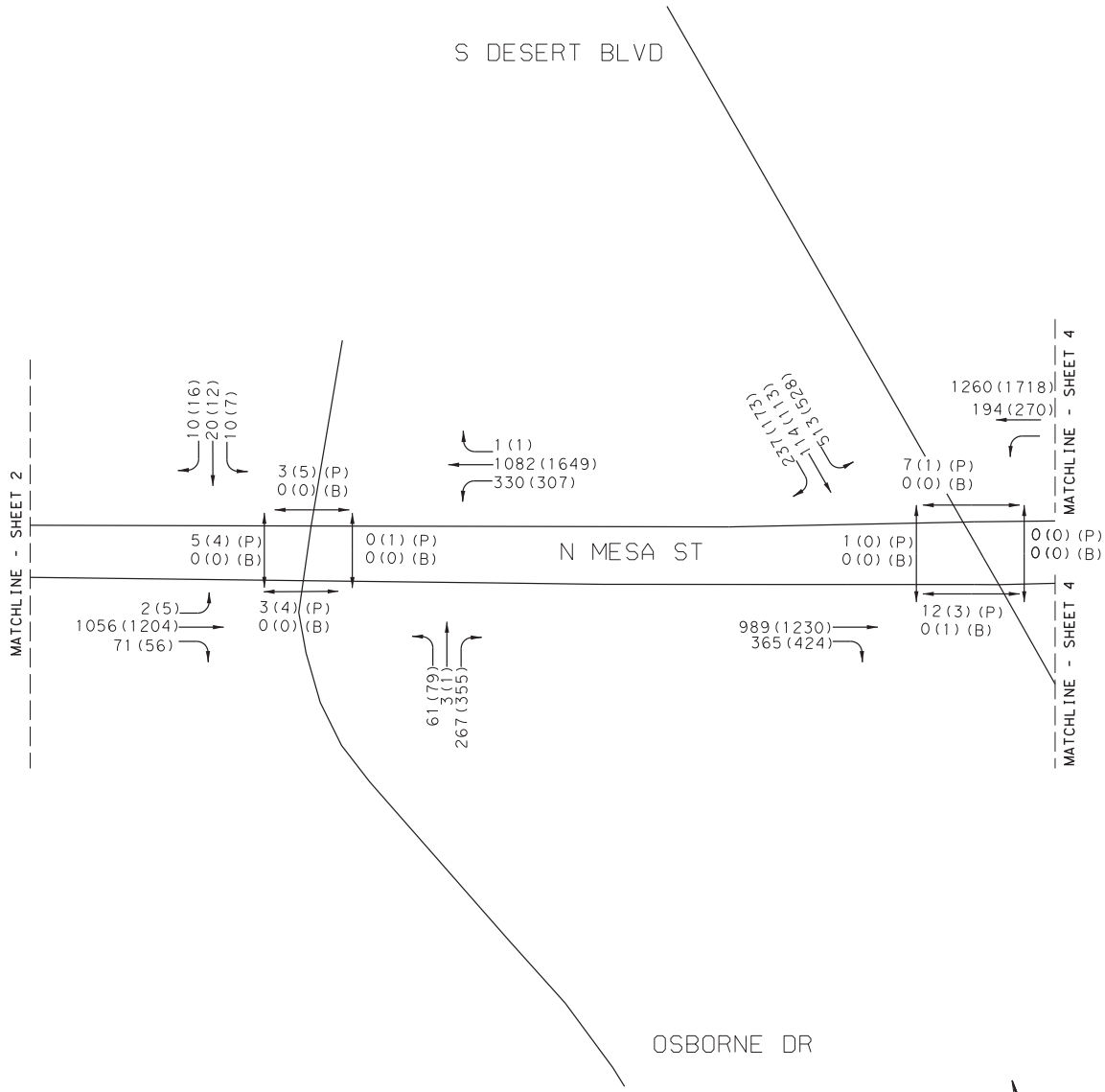
LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
CROSSROADS DR

Kimley»Horn F-928

0001-02-059 SHEET 2 OF 26



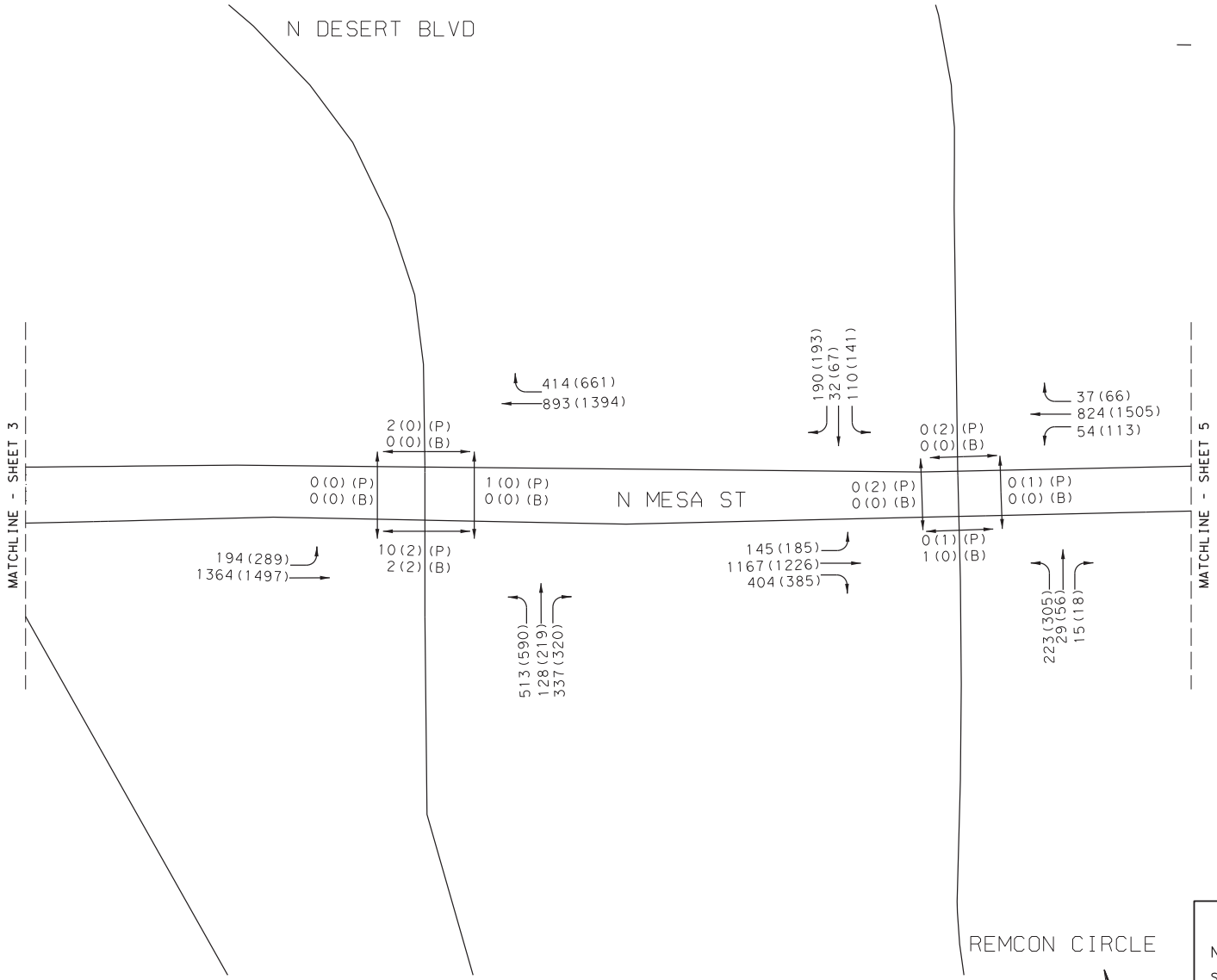
LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
OSBORNE DR TO S DESERT BLVD

Kimley»Horn F-928

0001-02-059 SHEET 3 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
N DESERT BLVD TO REMCON CIR

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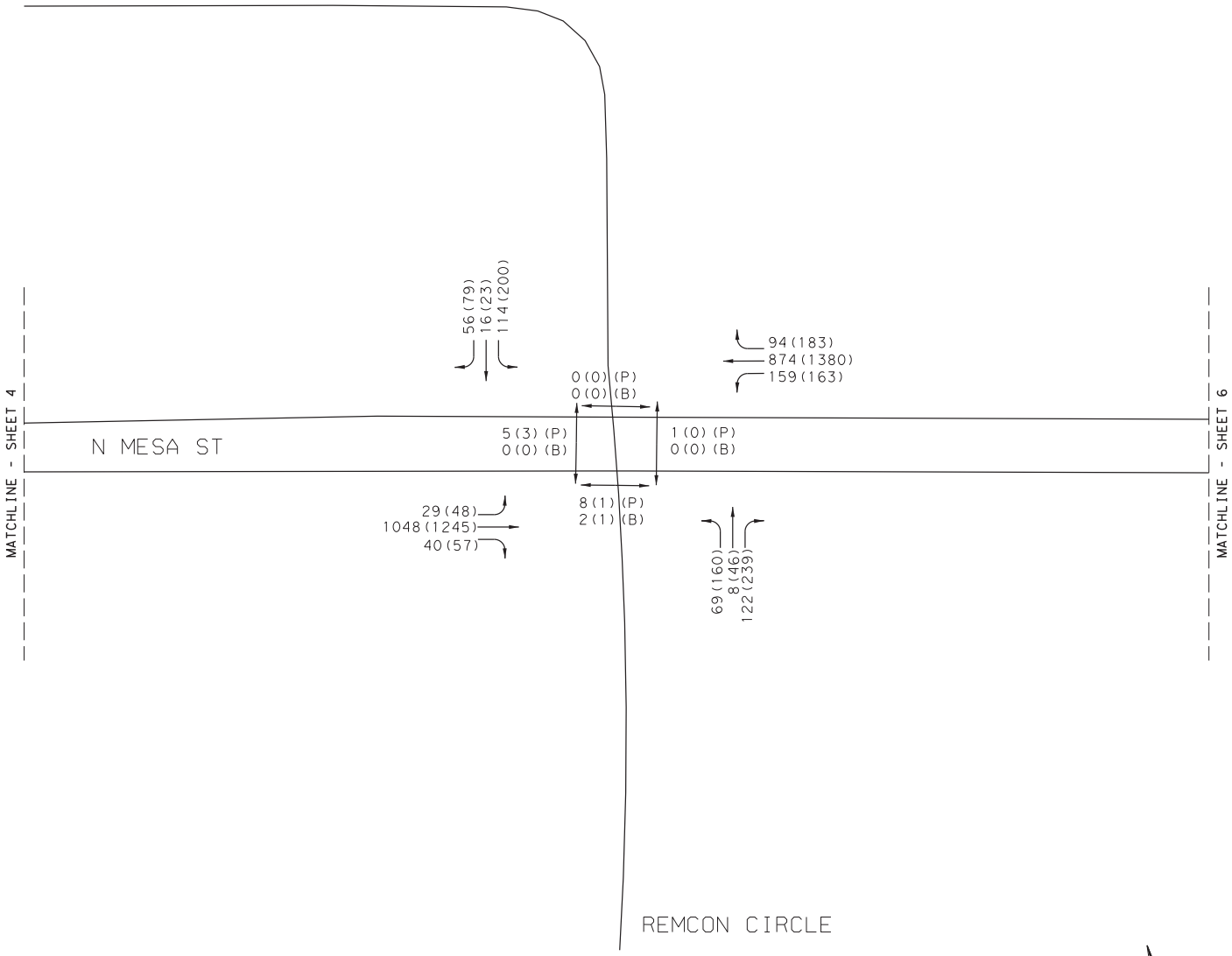
0001-02-059 SHEET 4 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
REMCON CIR

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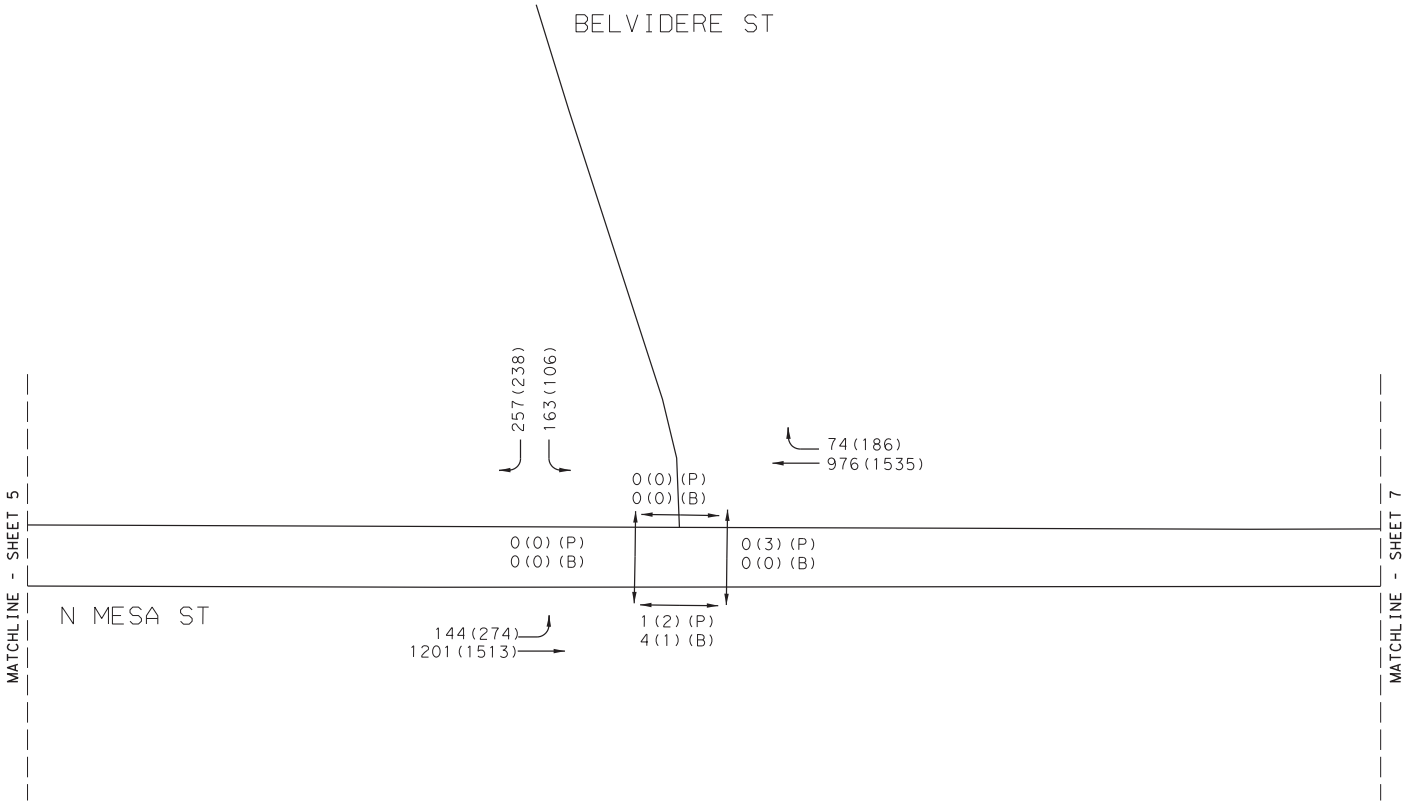

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
BELVIDERE ST

Kimley»Horn F-928

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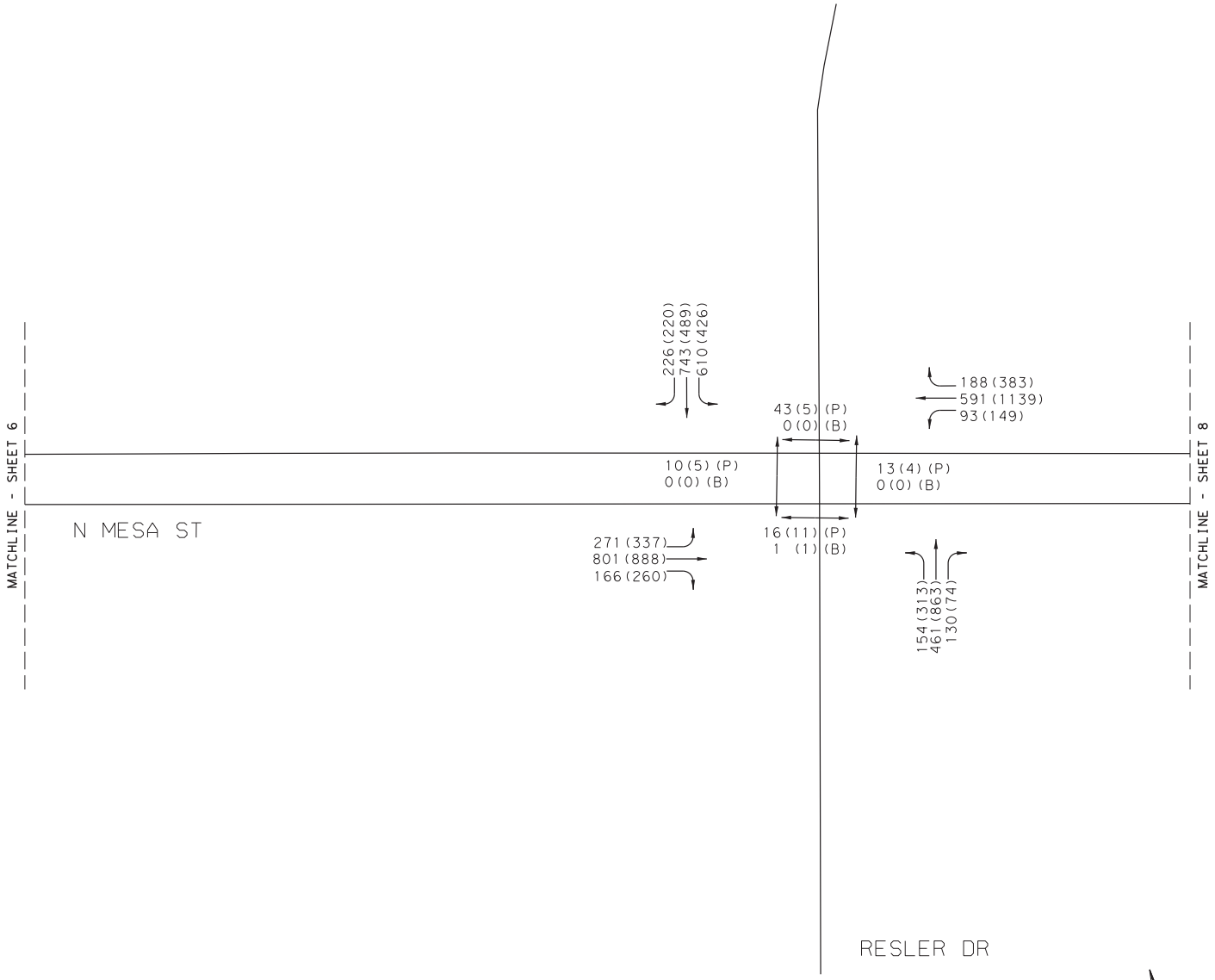

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
RESLER DR

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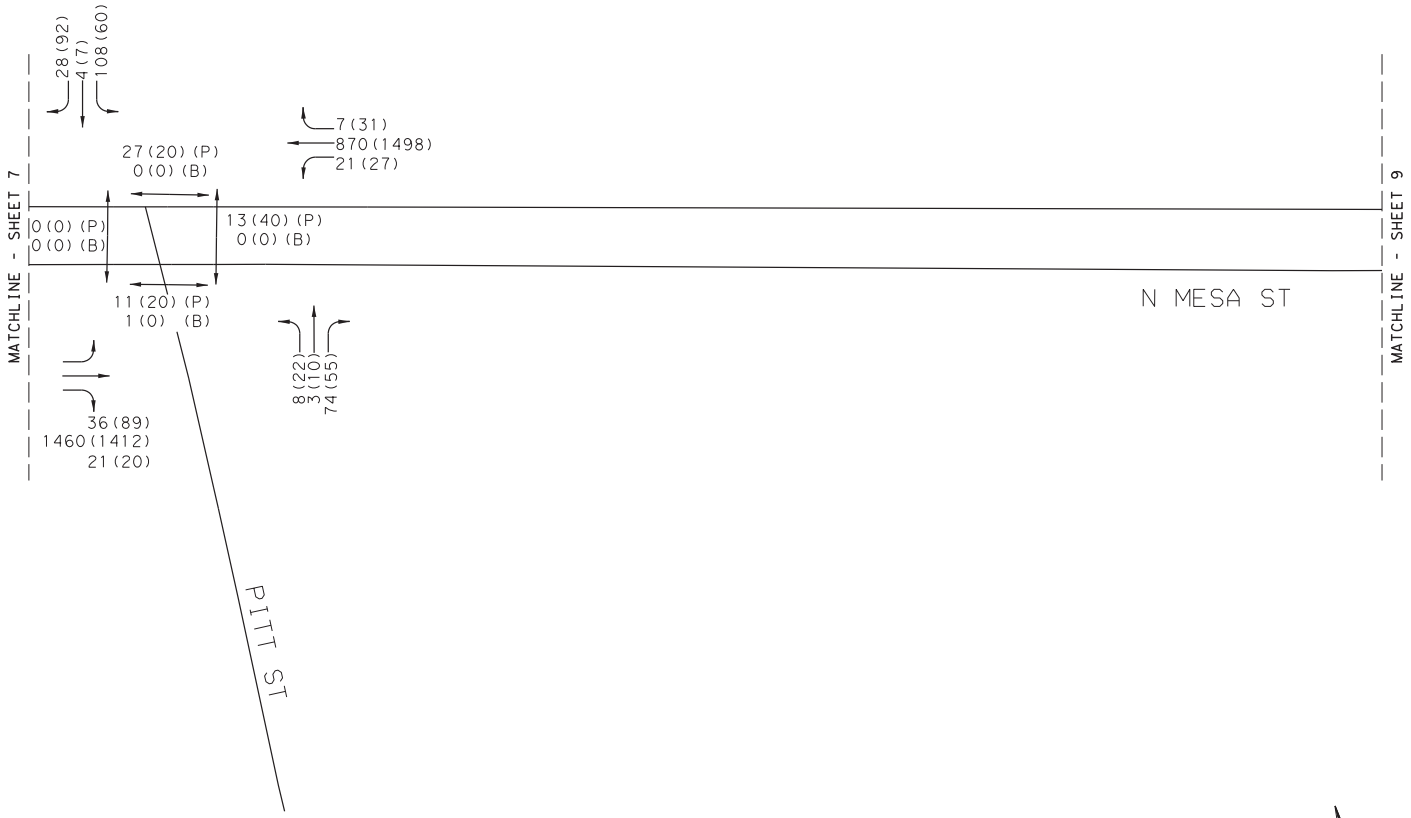

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
PITT ST

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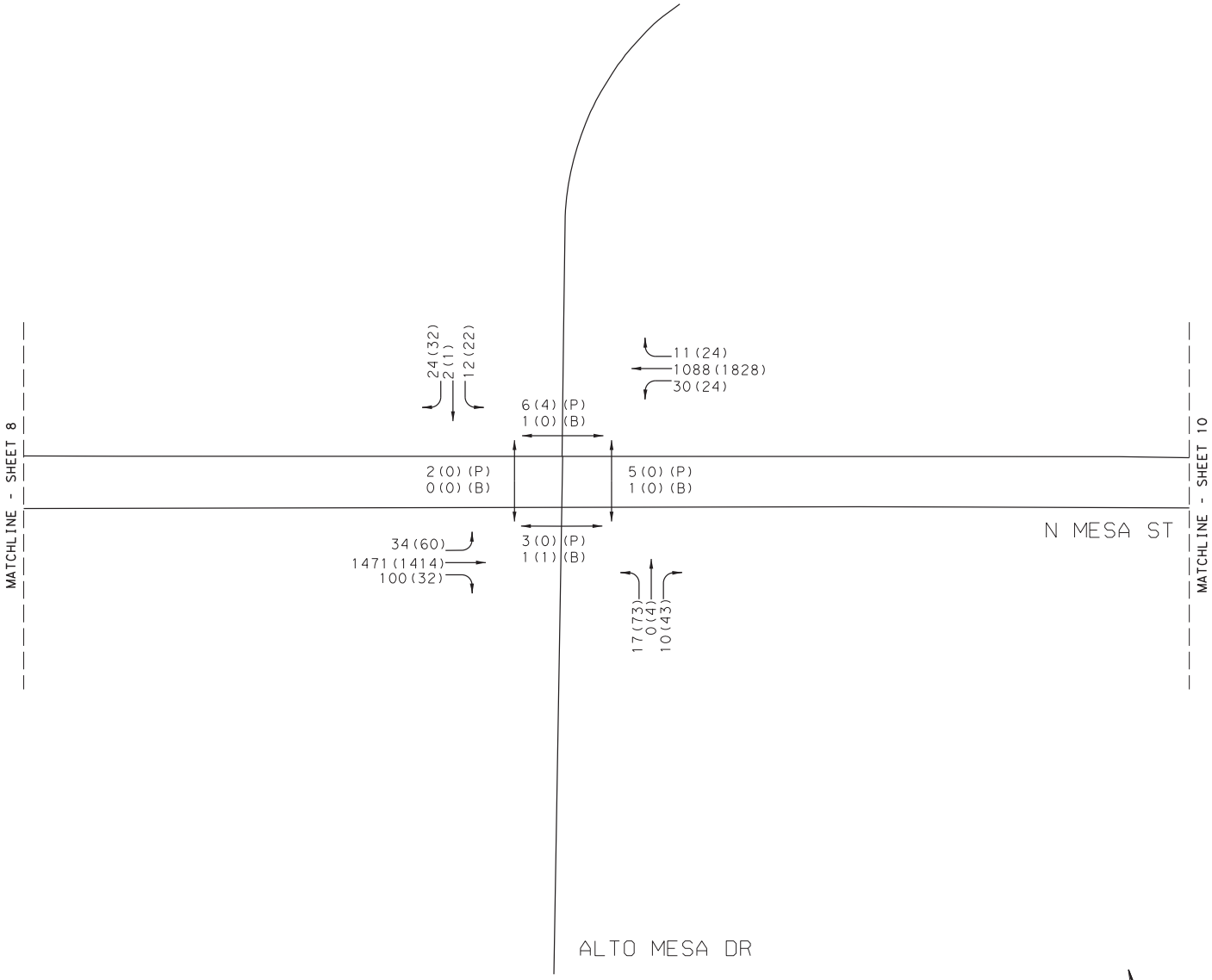

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
ALTO MESA DR

Kimley»Horn F-928

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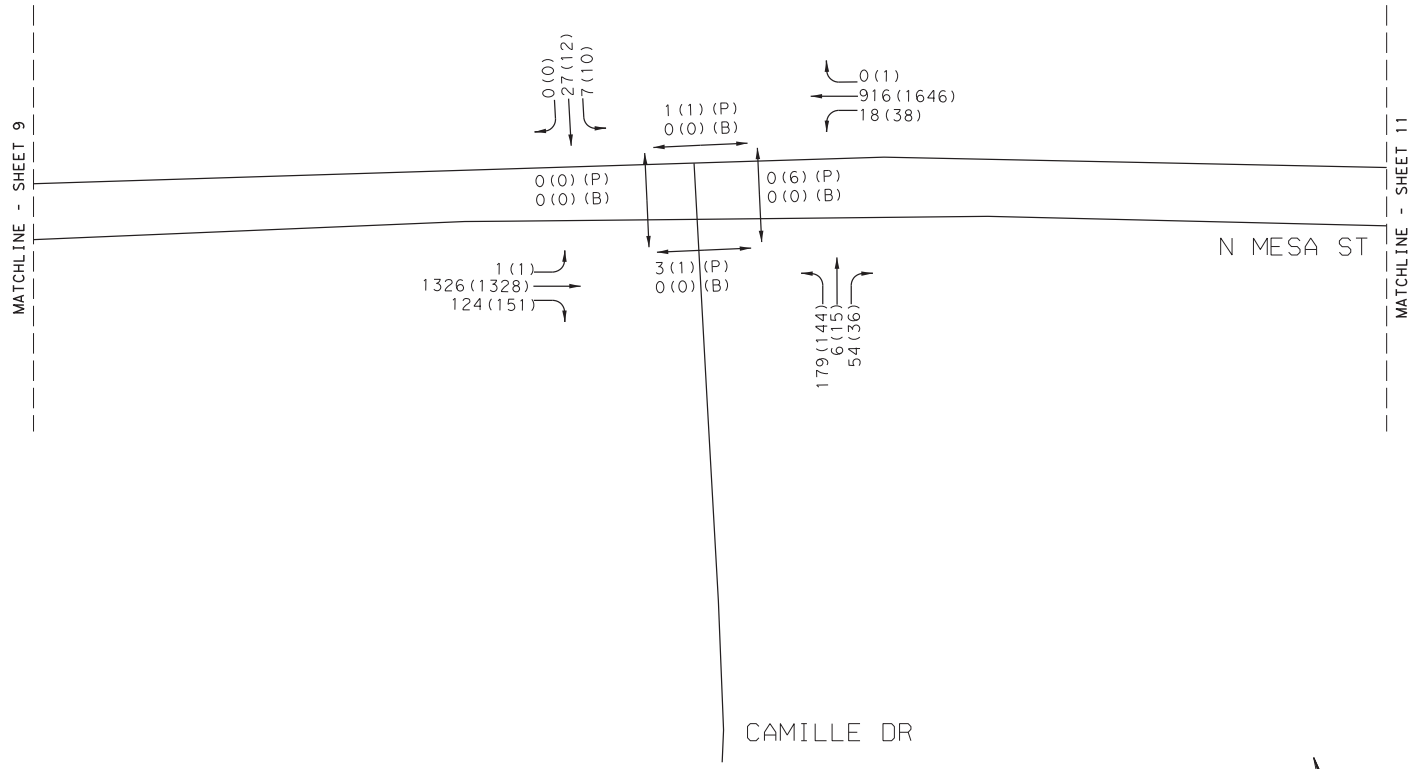

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
CAMILLE DR

Kimley»Horn F-928

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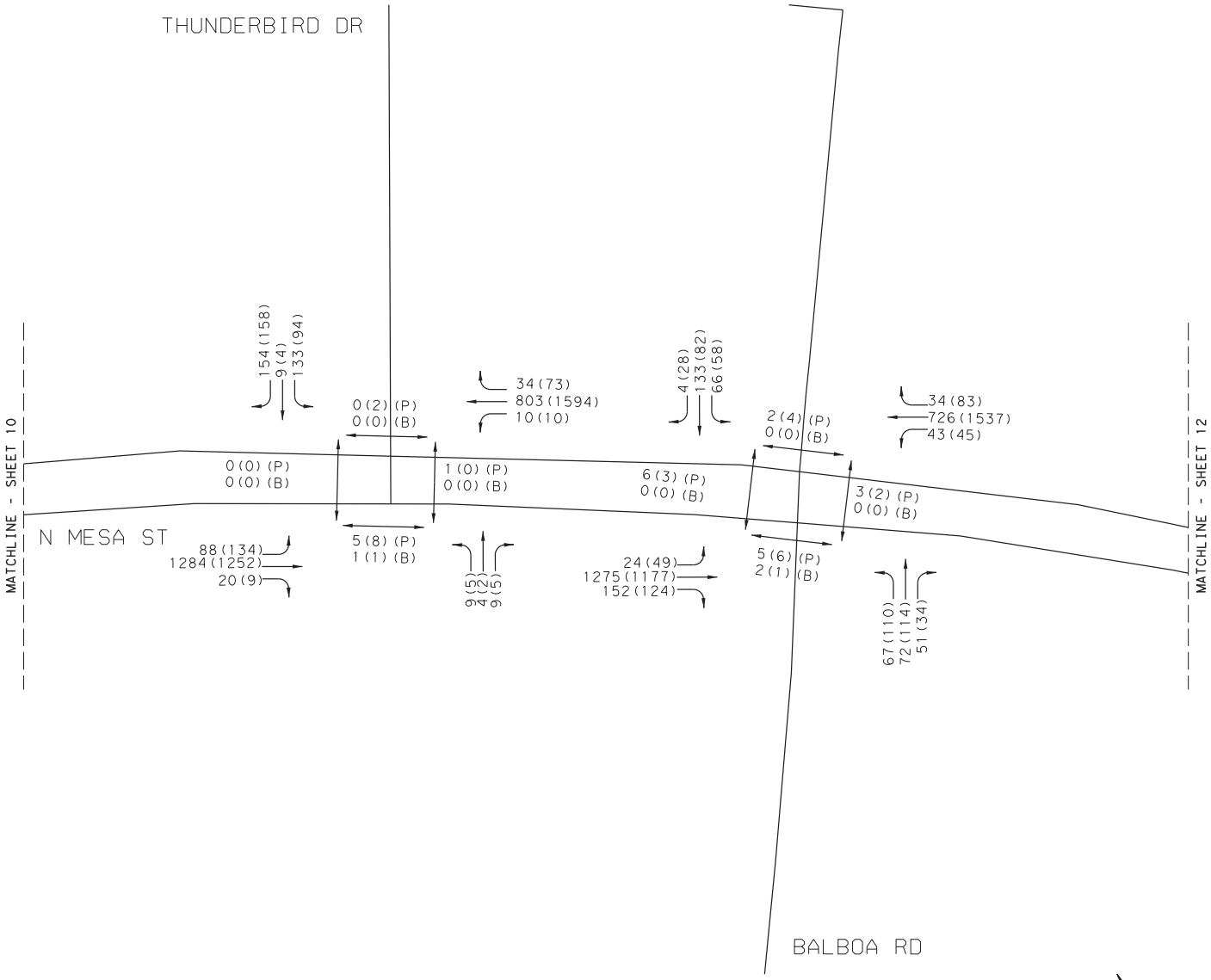

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
THUNDERBIRD DR TO BALBOA RD

Kimley»Horn F-928

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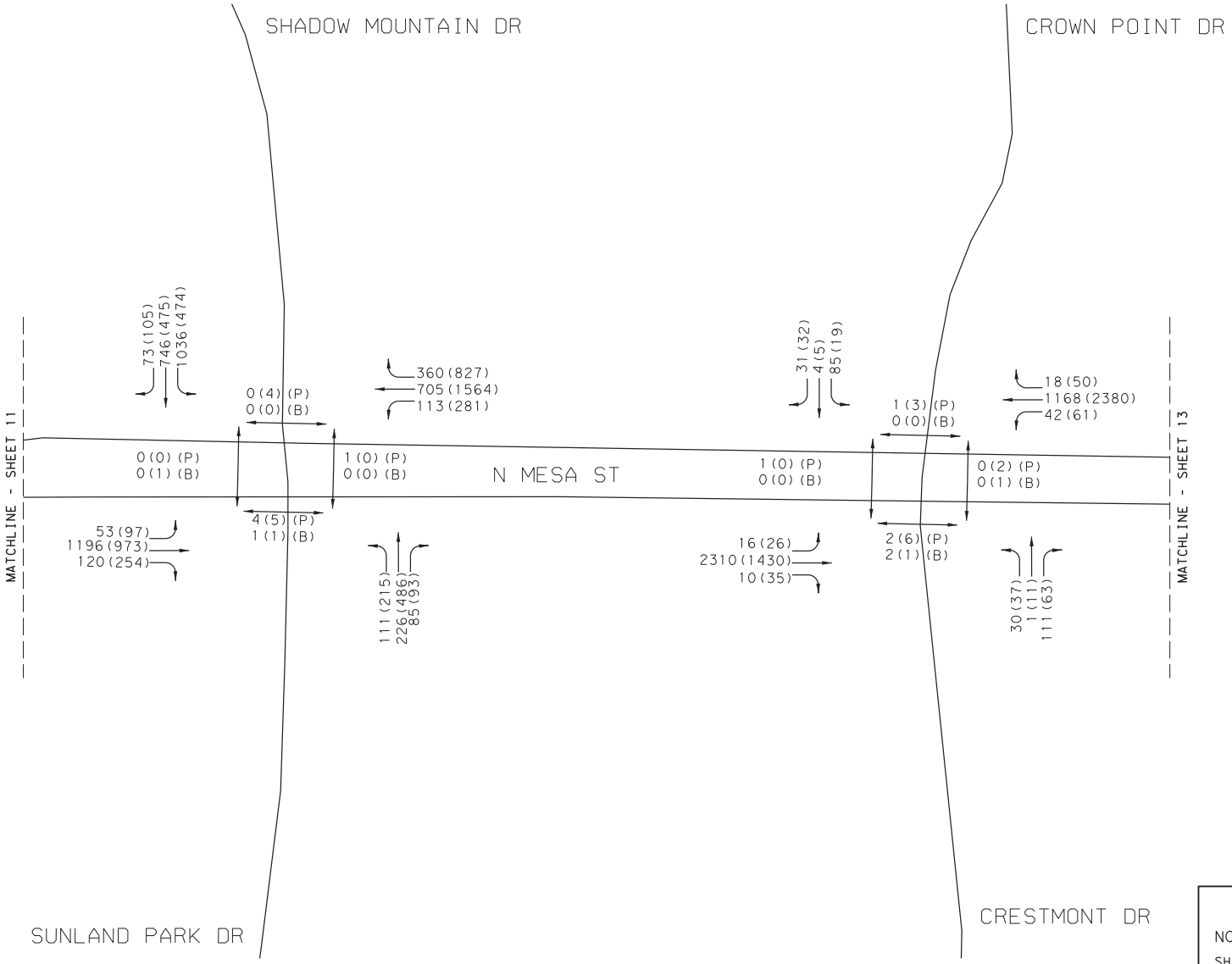

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
SUNLAND PARK DR TO CRESTMONT DR

Kimley»Horn F-928

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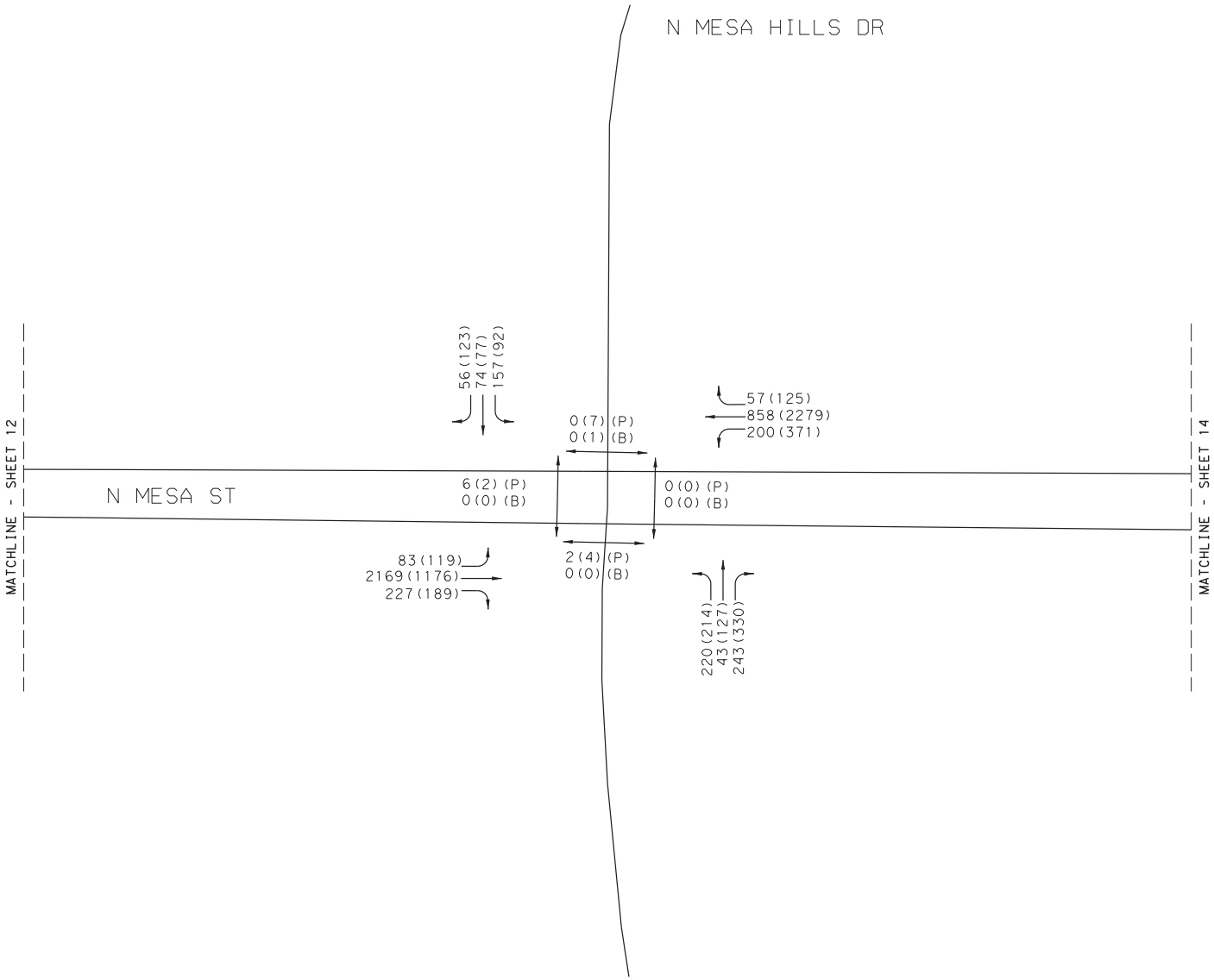

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
N MESA HILLS DR

Kimley»Horn F-928

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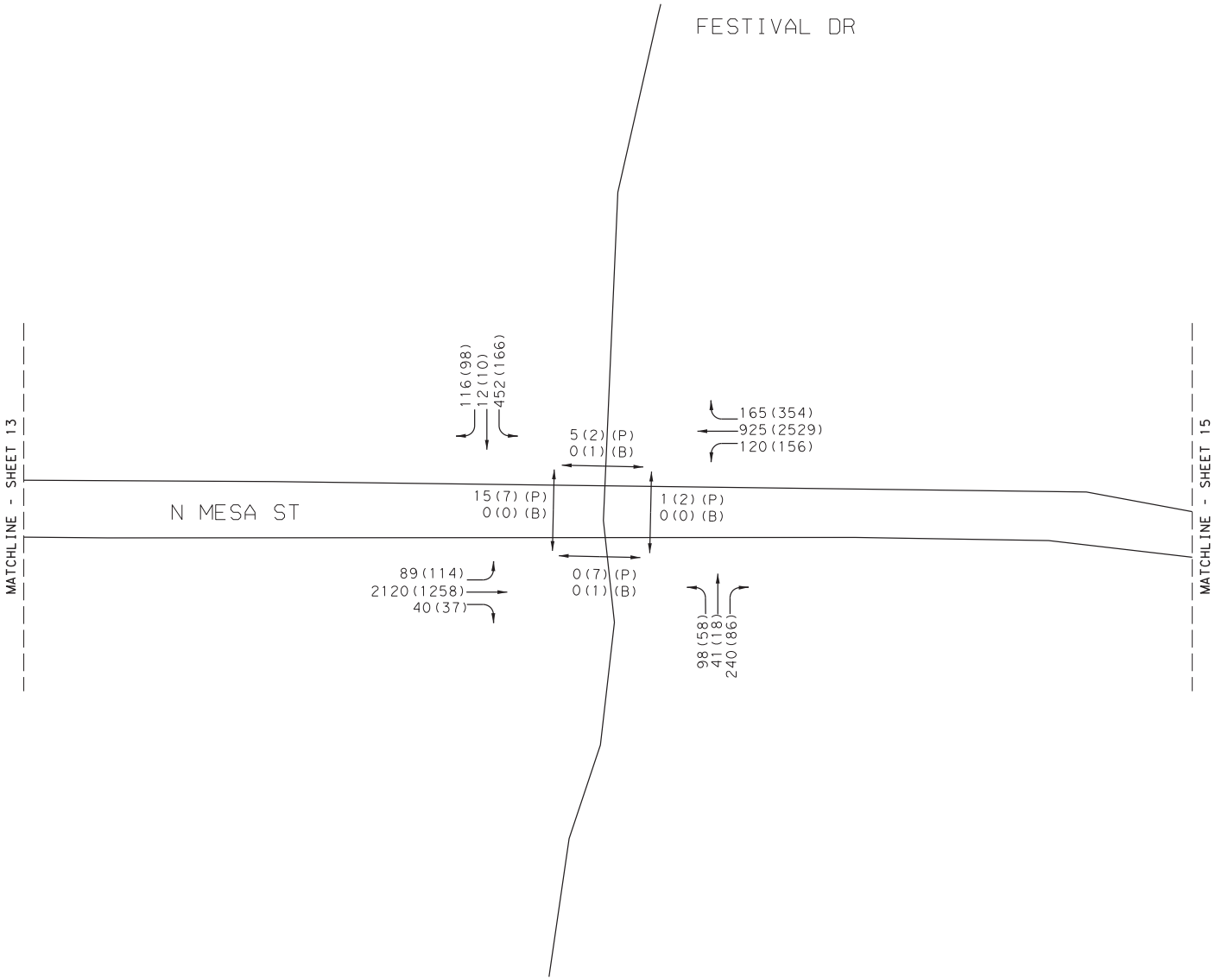

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
FESTIVAL DR

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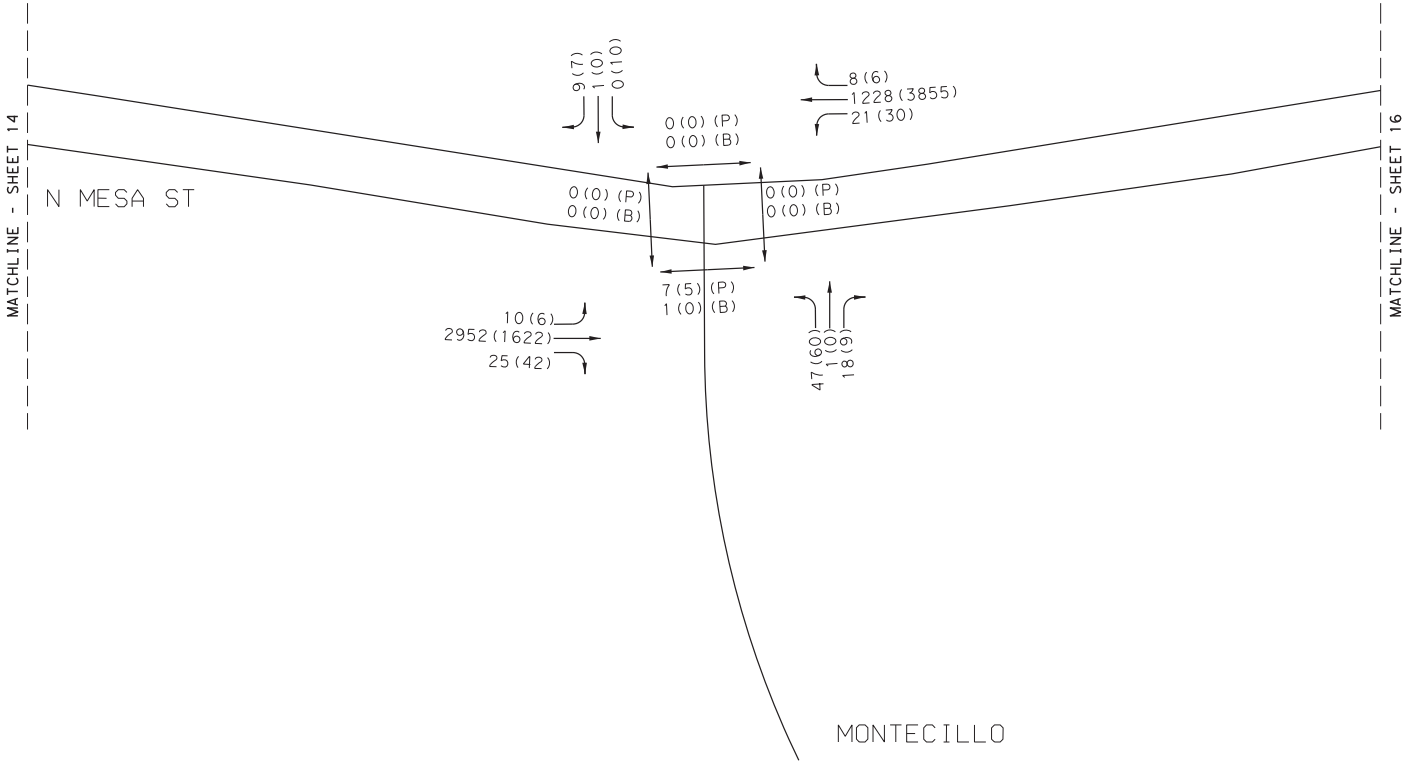

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
MONTECILLO

Kimley»Horn F-928

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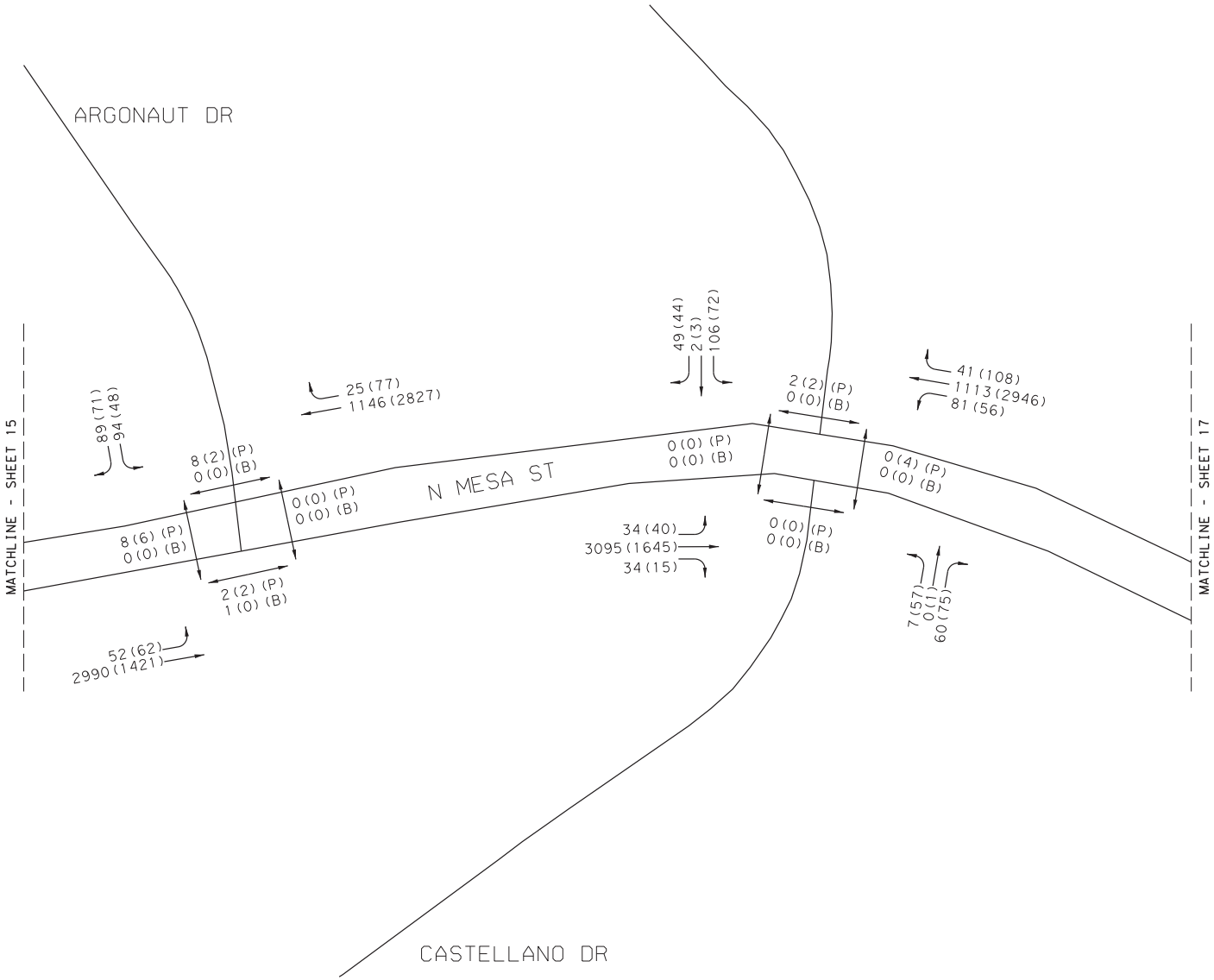

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
ARGONAUT DR TO CASTELLANO DR

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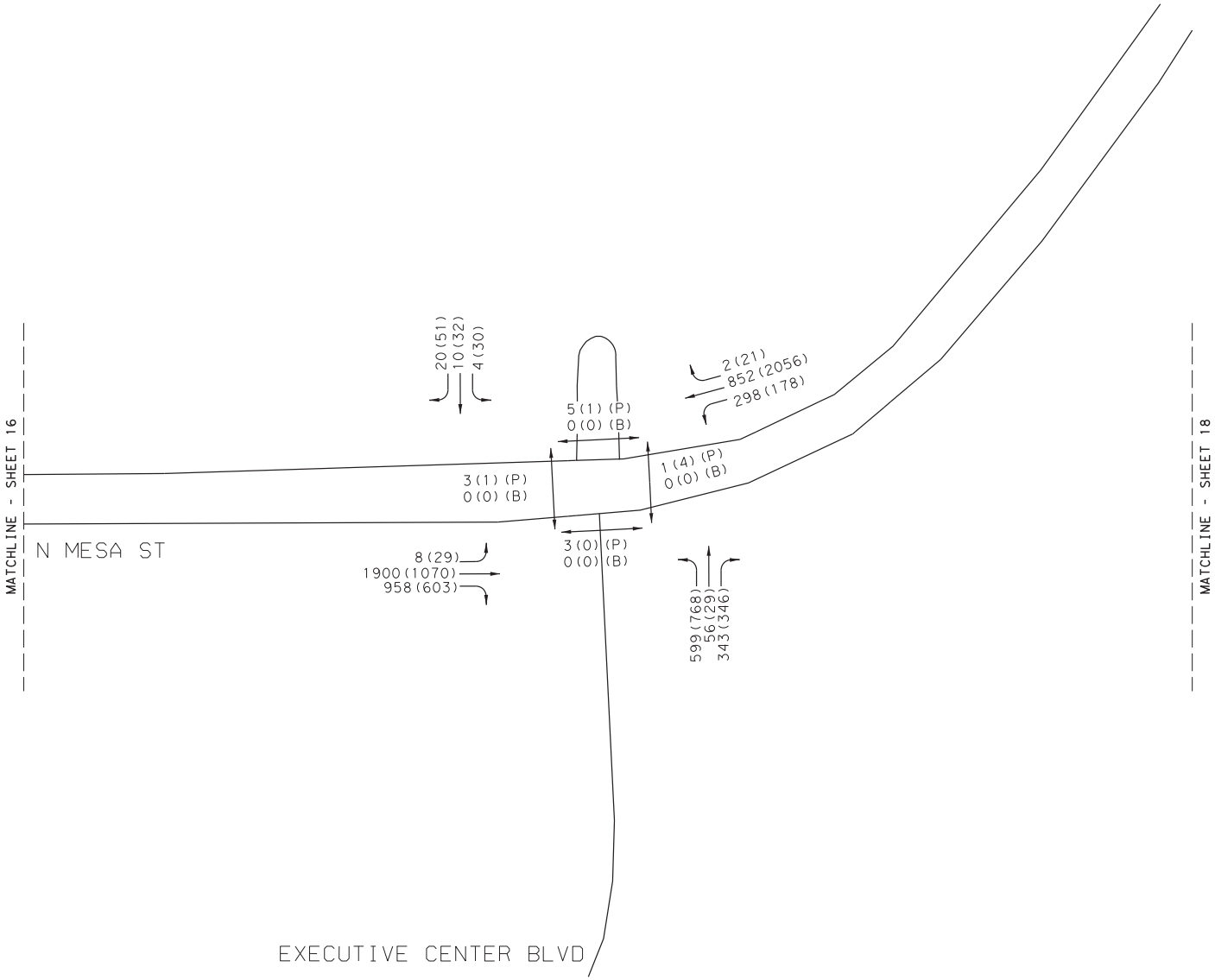

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
EXECUTIVE CENTER BLVD

Kimley»Horn F-928

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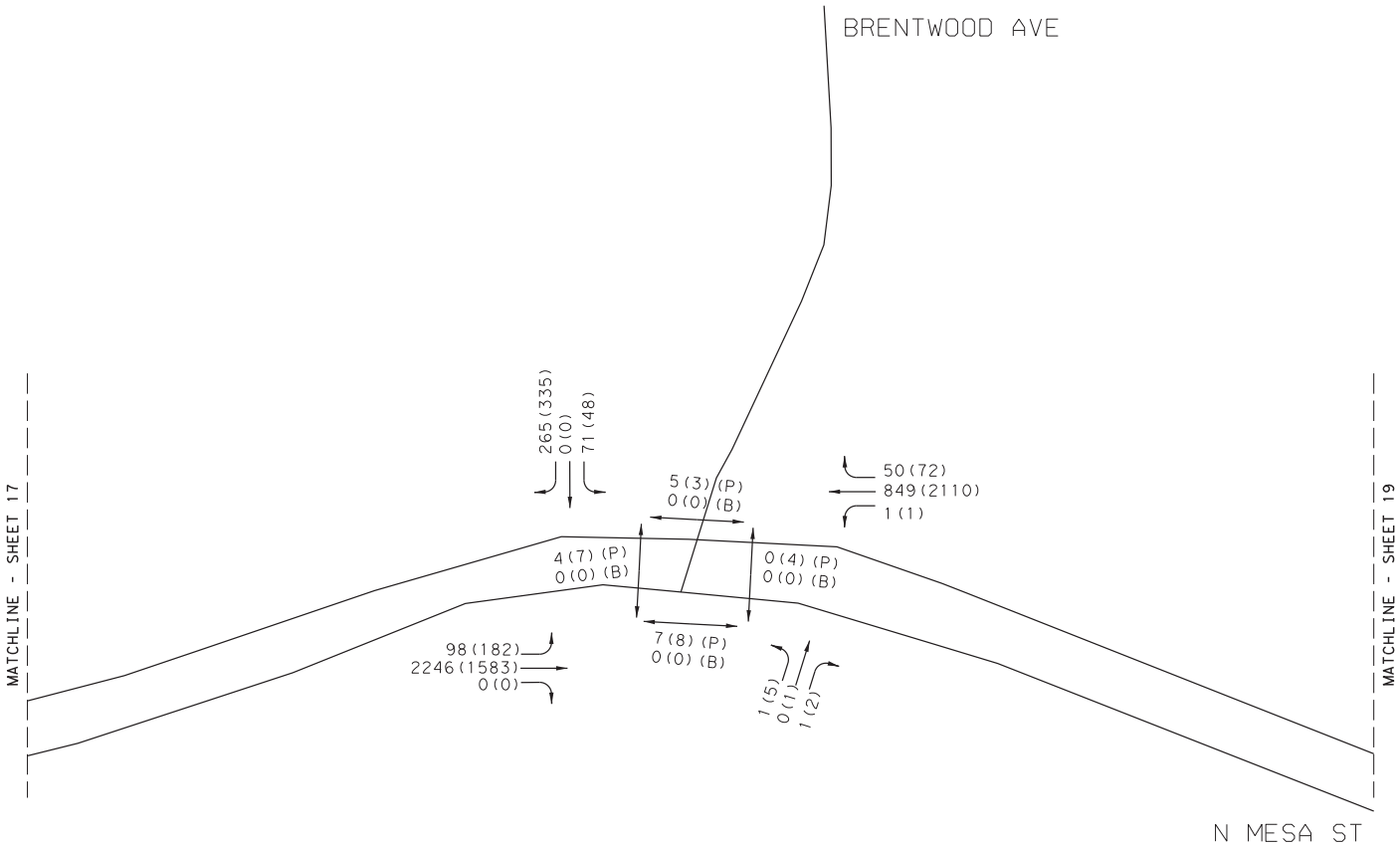

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
BRENTWOOD AVE

Kimley»Horn F-928

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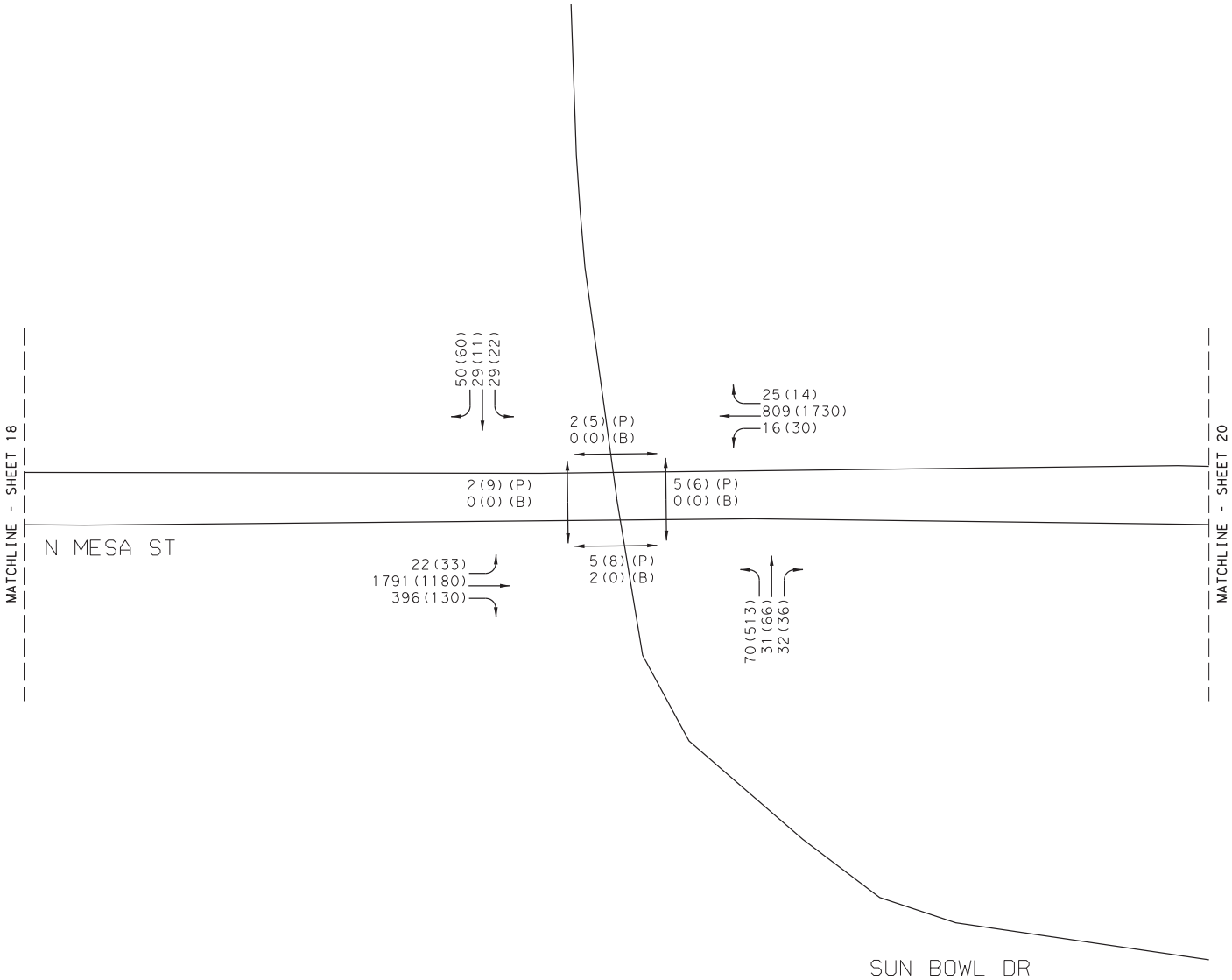

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
SUN BOWL DR

Kimley»Horn F-928

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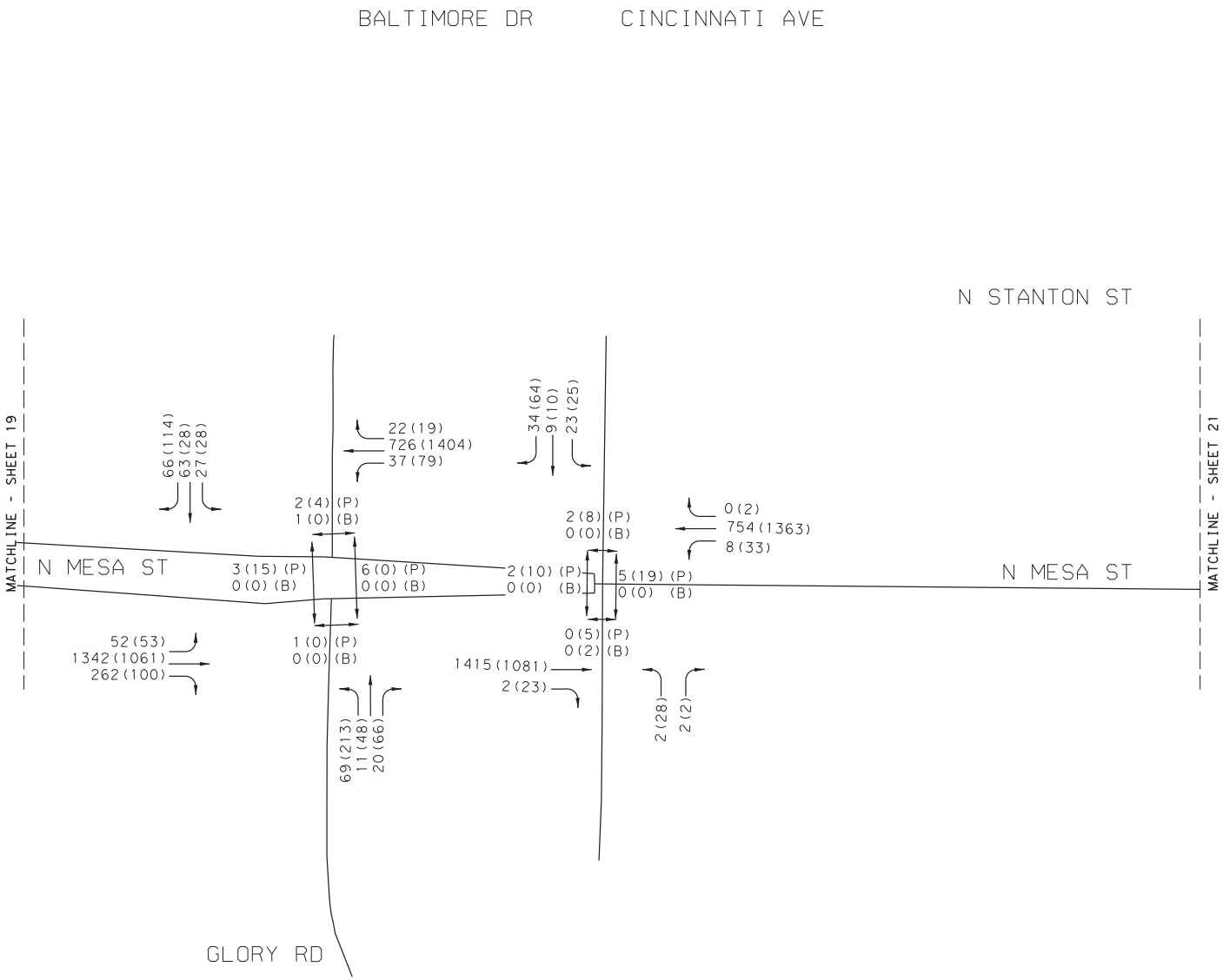

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
GLORY RD TO CINCINNATI AVE

Kimley»Horn F-928

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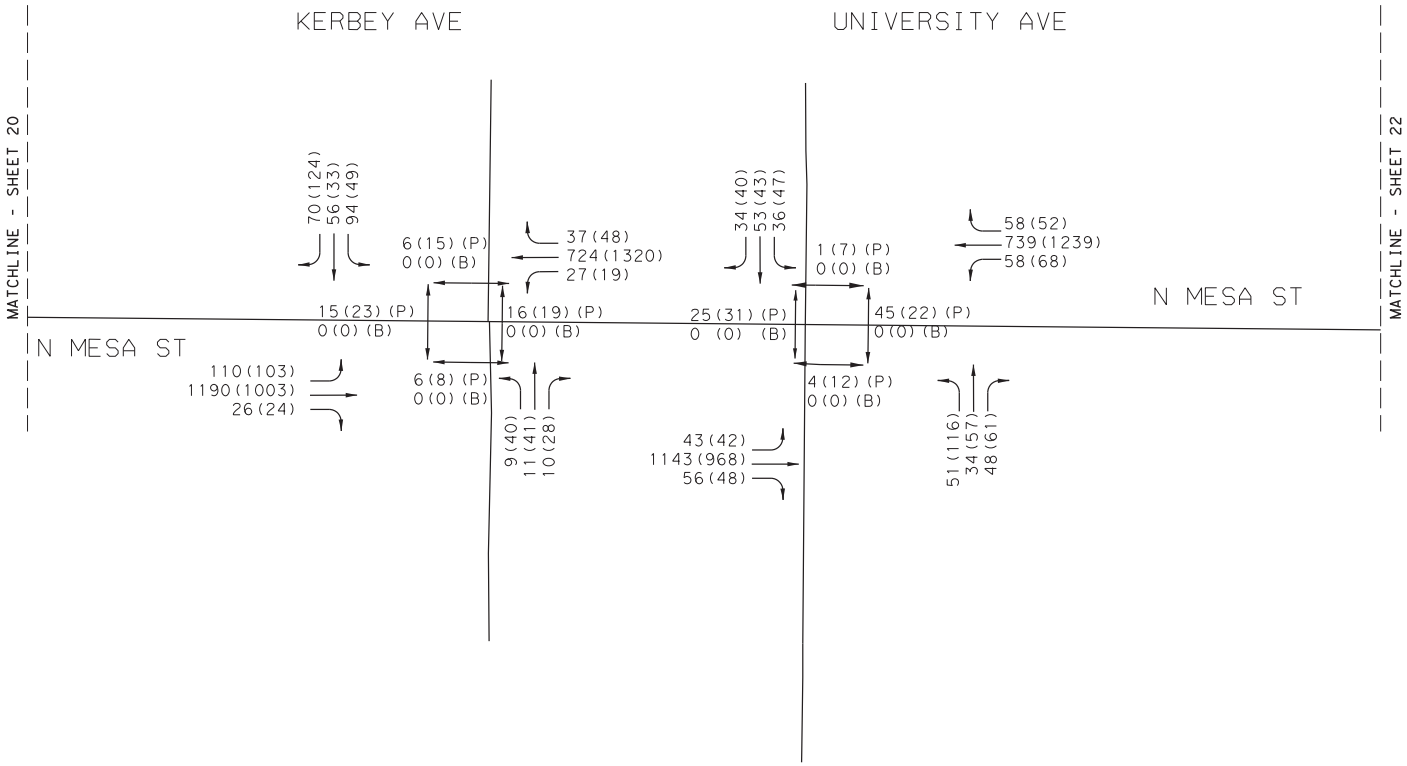


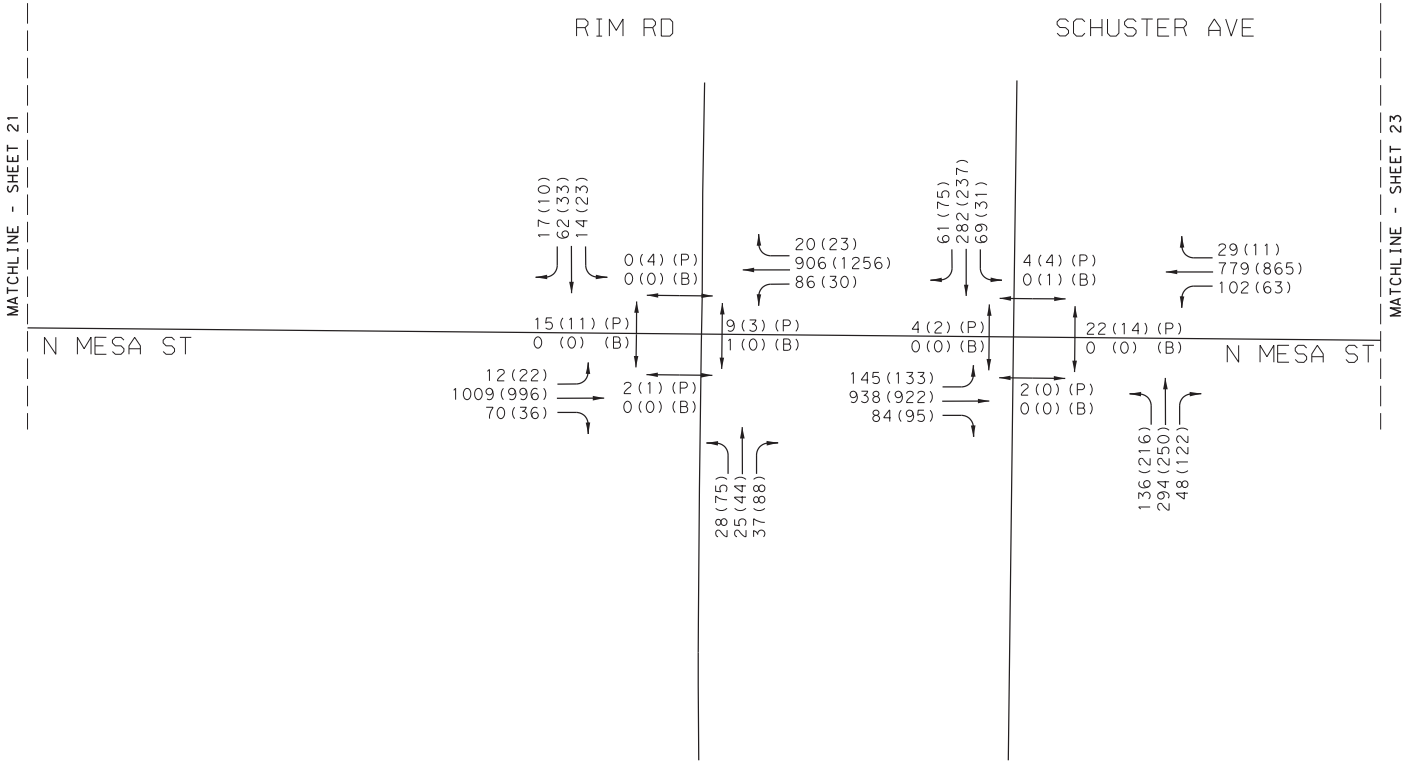
LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
KERBEY AVE TO UNIVERSITY AVE

Kimley»Horn F-928

0001-02-059 SHEET 21 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
RIM RD TO SCHUSTER AVE

Kimley»Horn F-928

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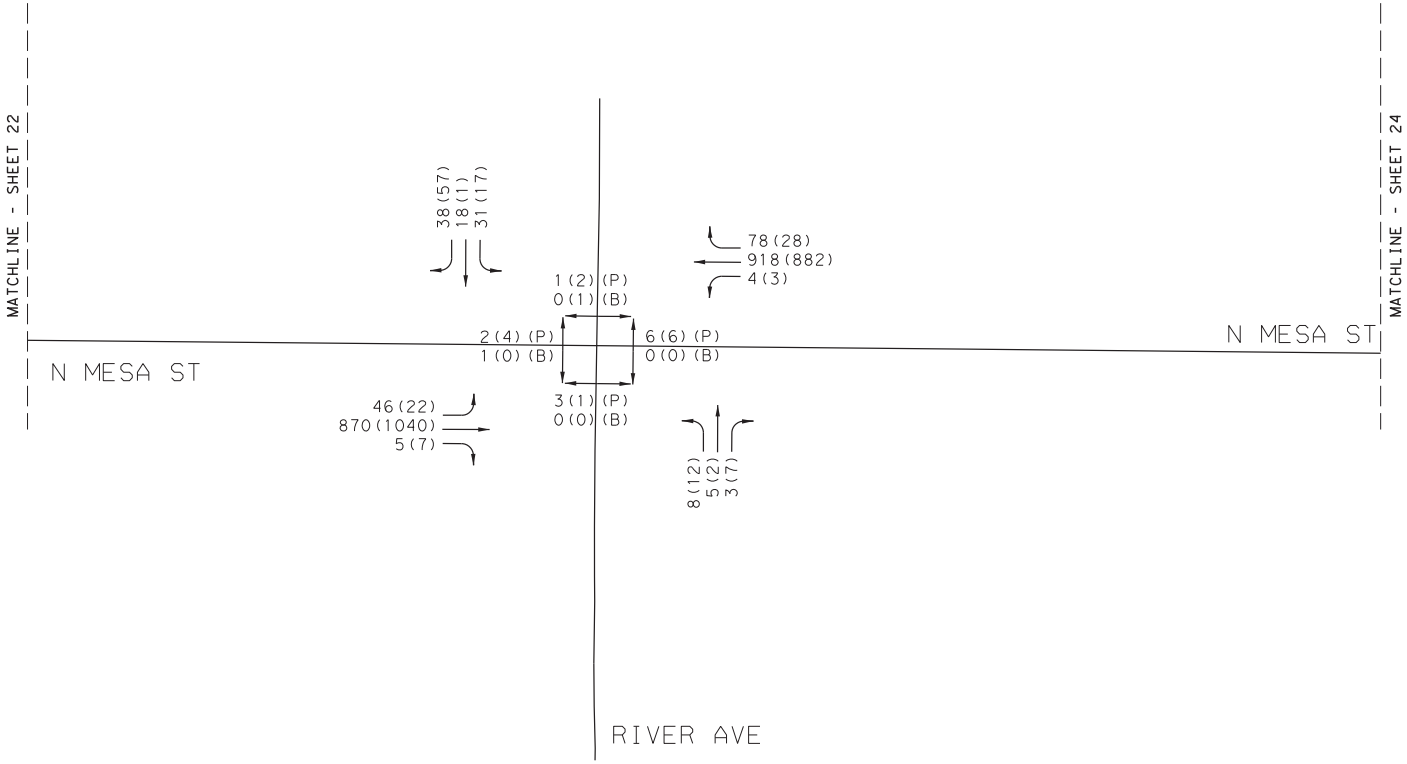

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
RIVER AVE

Kimley»Horn F-928

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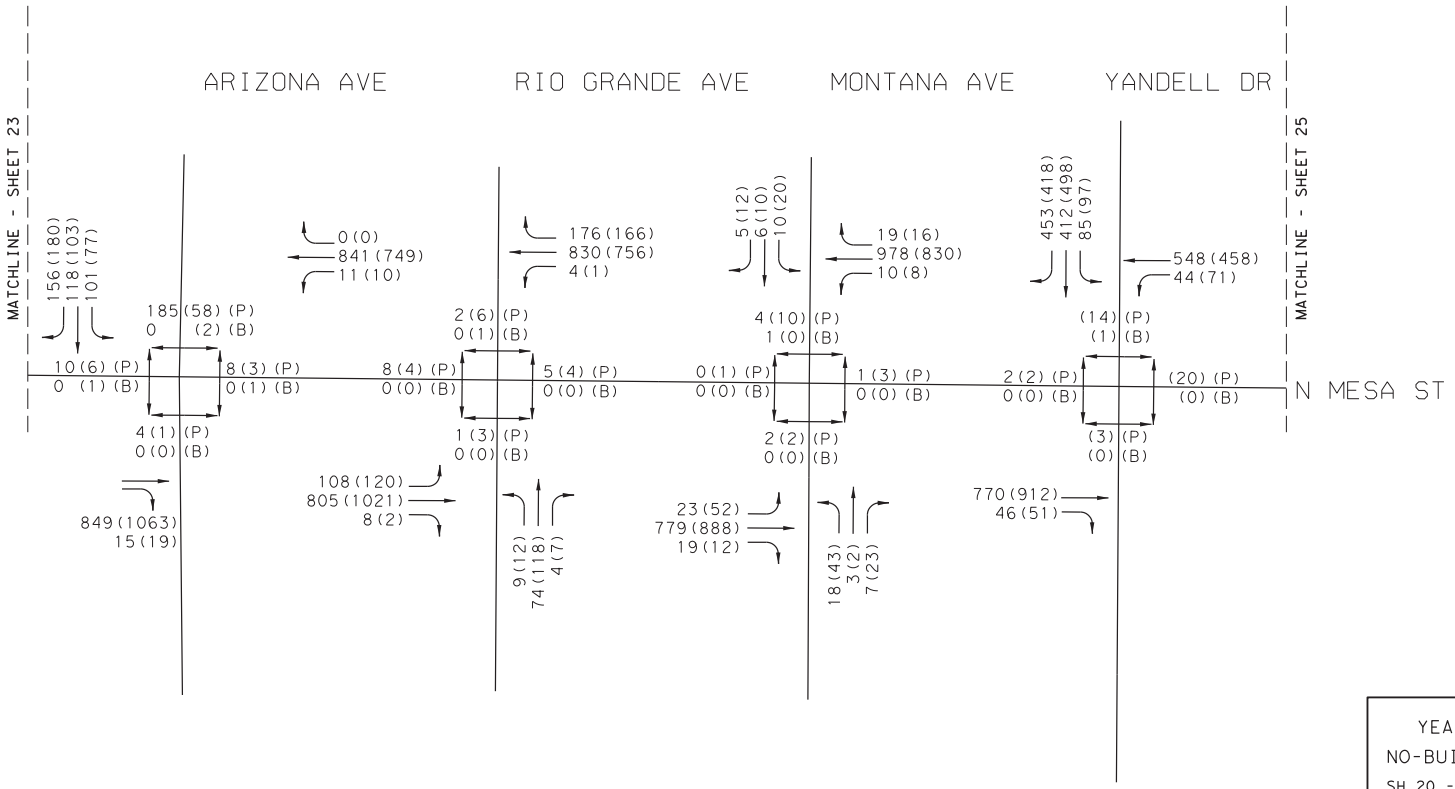

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
ARIZONA AVE TO YANDELL DR

Kimley»Horn F-928

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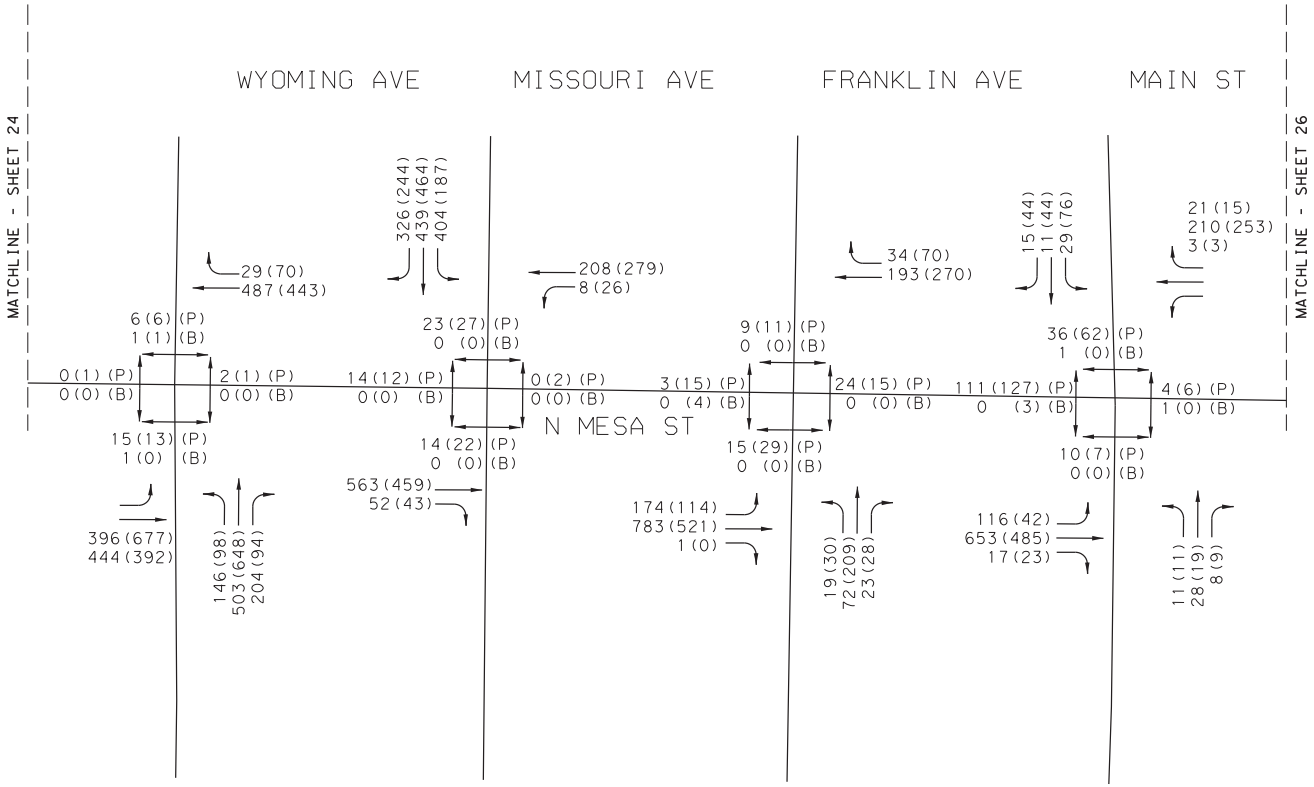


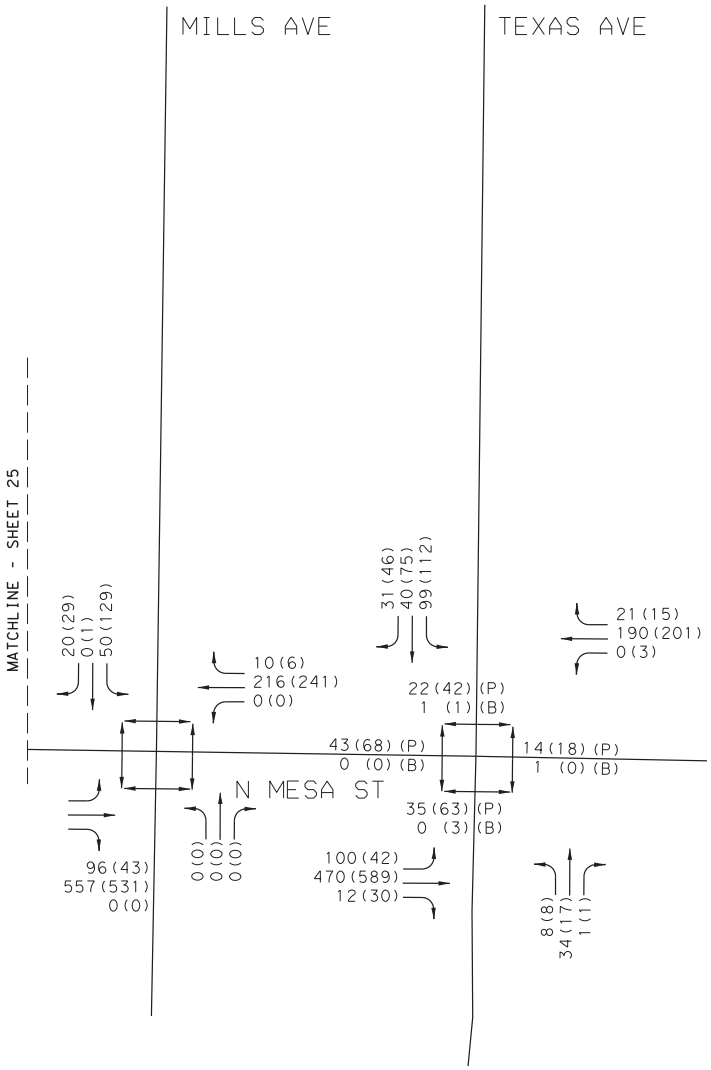
LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
WYOMING AVE TO MAIN ST

Kimley»Horn F-928

0001-02-059 SHEET 25 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
MILLS AVE TO TEXAS AVE

Kimley»Horn F-928

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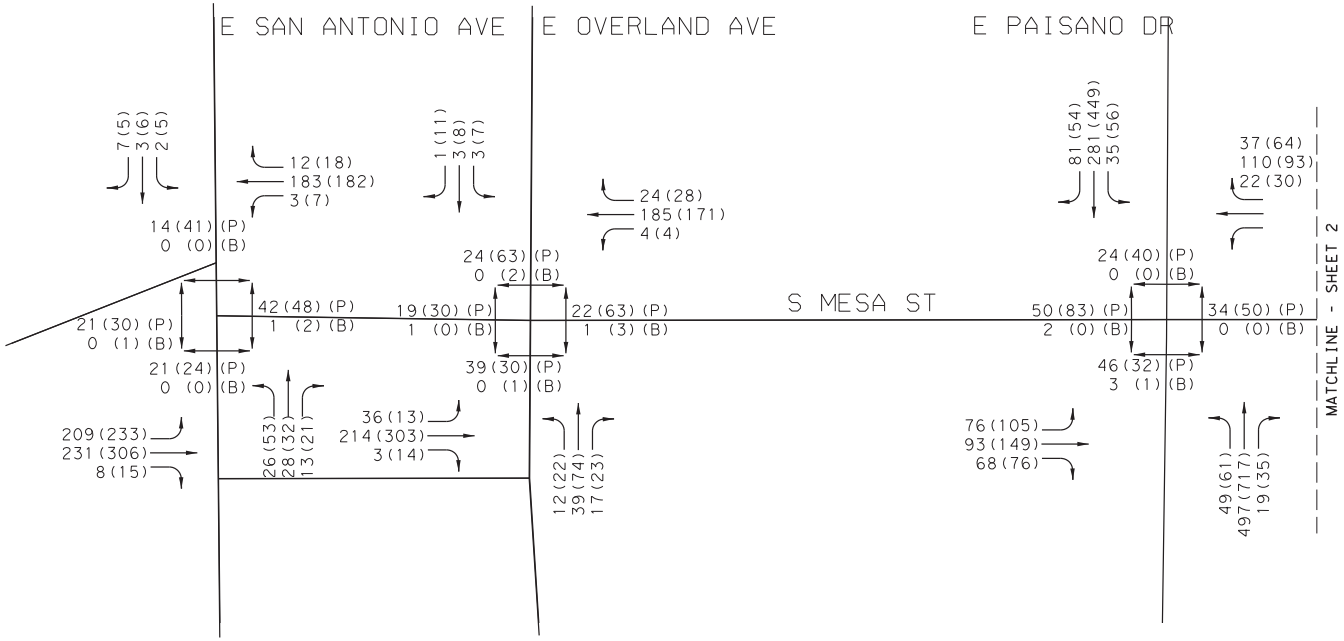
2020 NO-BUILD PEAK HOUR

(Section 2 – San Antonio Ave to LP 375)



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
SAN ANTONIO AVE TO PAISANO DR

Kimley»Horn F-928

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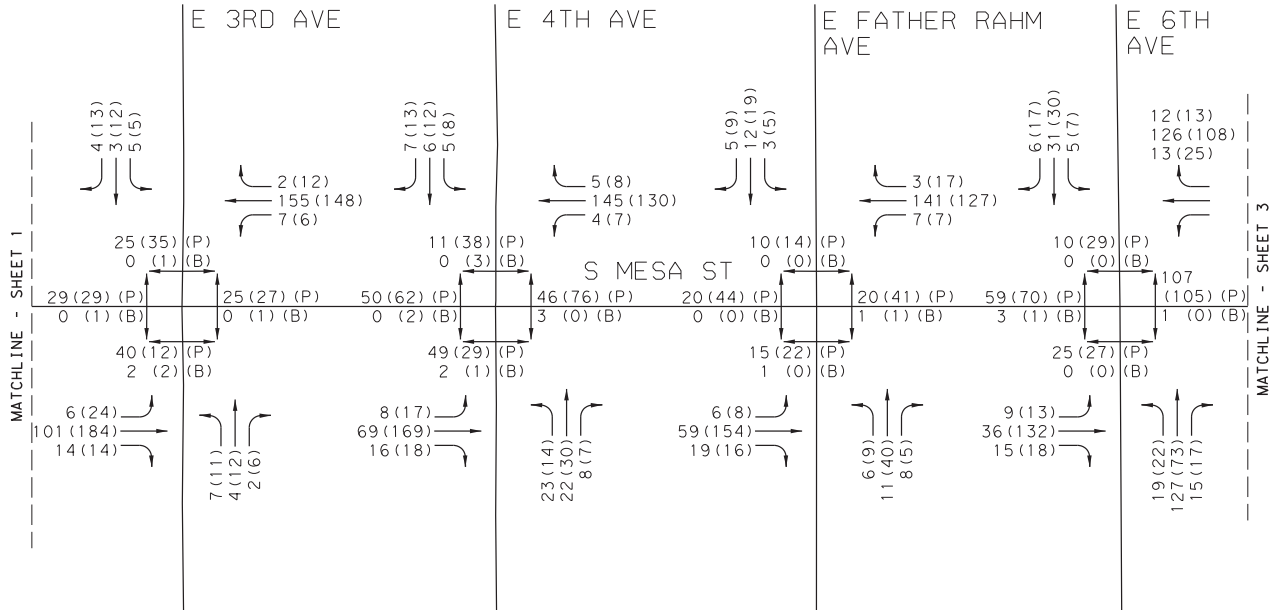


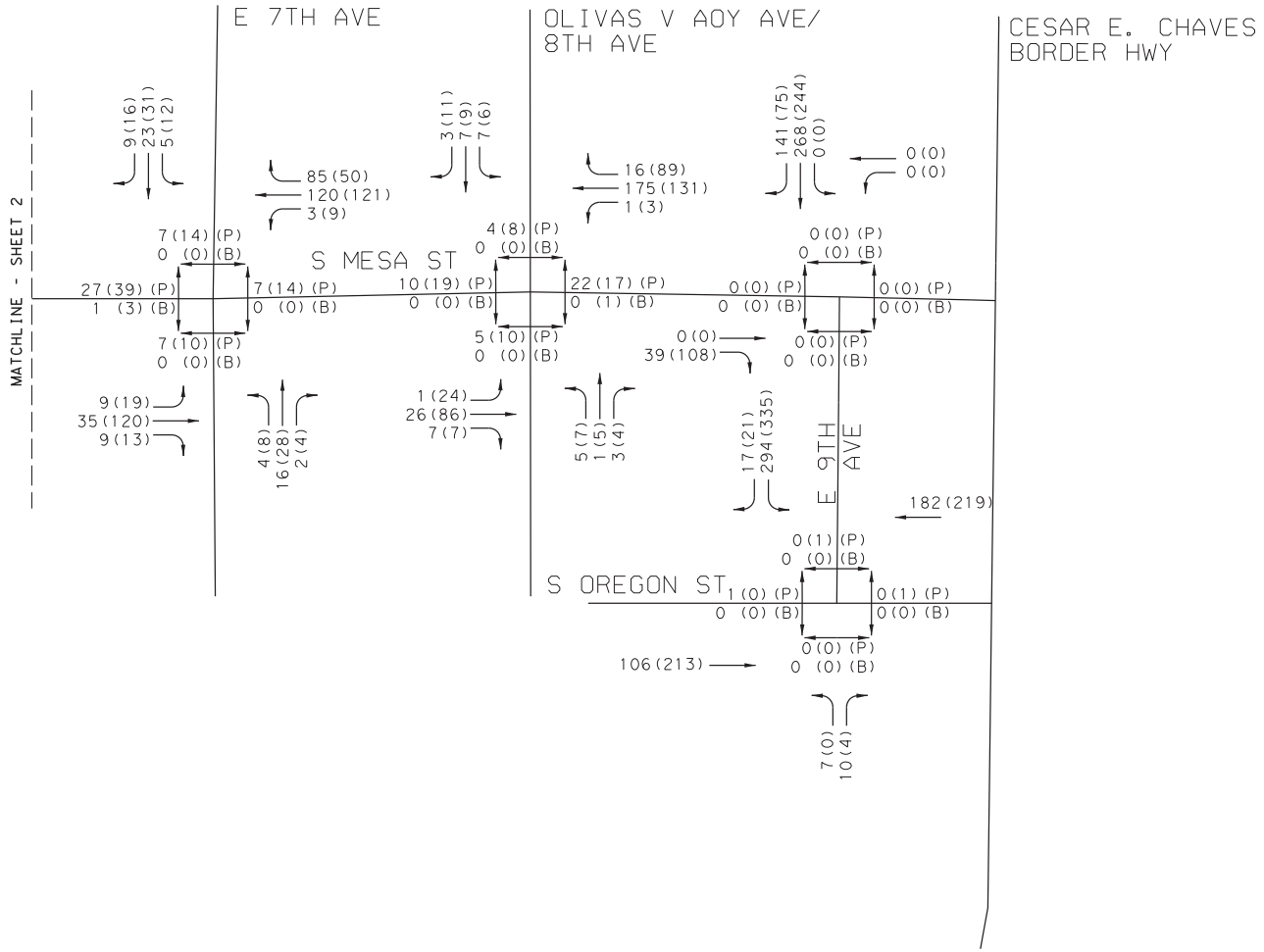
LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
3RD AVE TO 6TH AVE

Kimley»Horn F-928

0001-02-059 SHEET 2 OF 3



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
7TH AVE TO BORDER HWY

Kimley»Horn F-928

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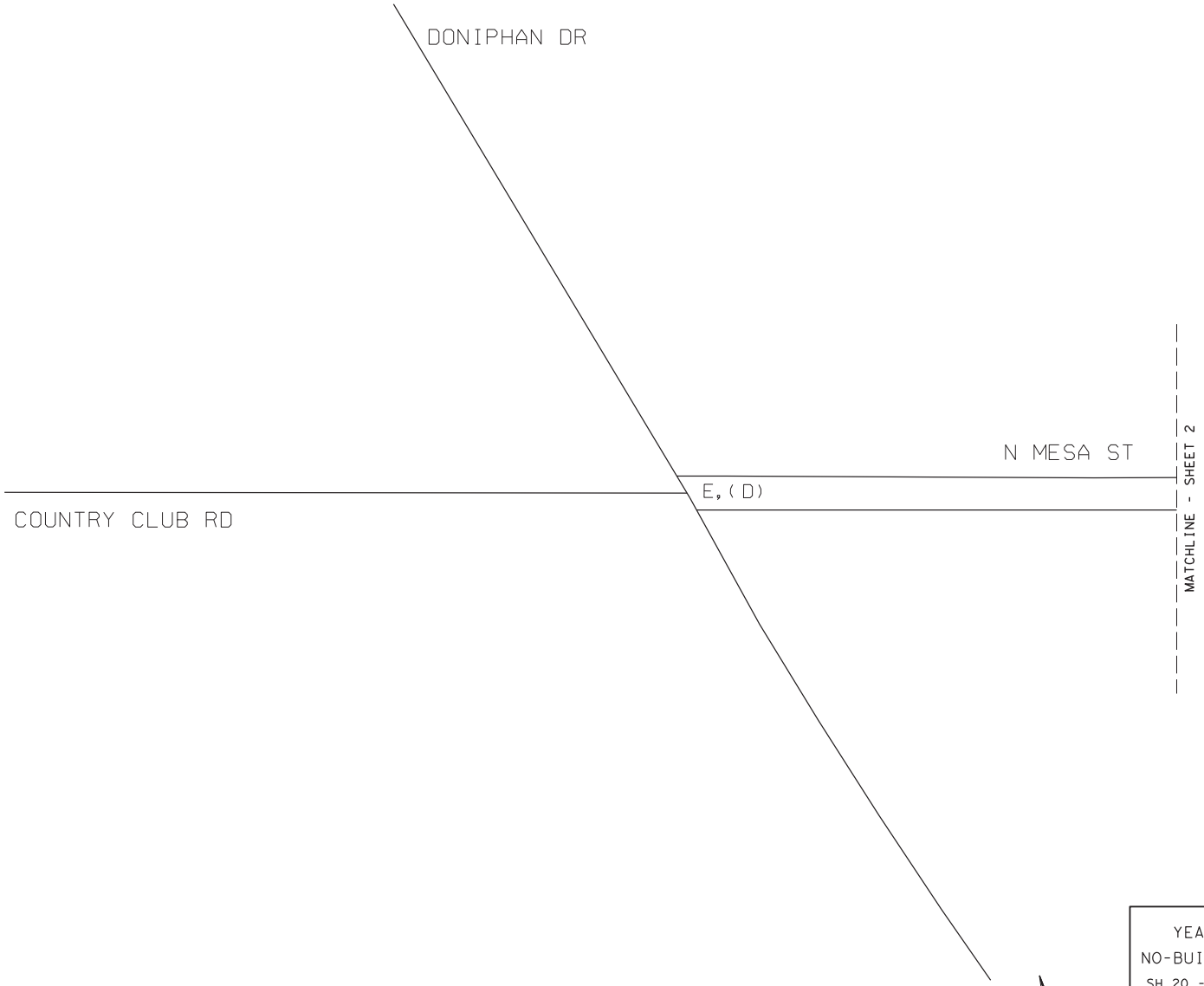
2020 NO-BUILD PEAK HOUR INTERSECTION LOS

(Section 1 – Doniphan Dr to Texas Ave)



LEGEND
AM, (PM) LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
DONIPHAN DR

Kimley»Horn F-928

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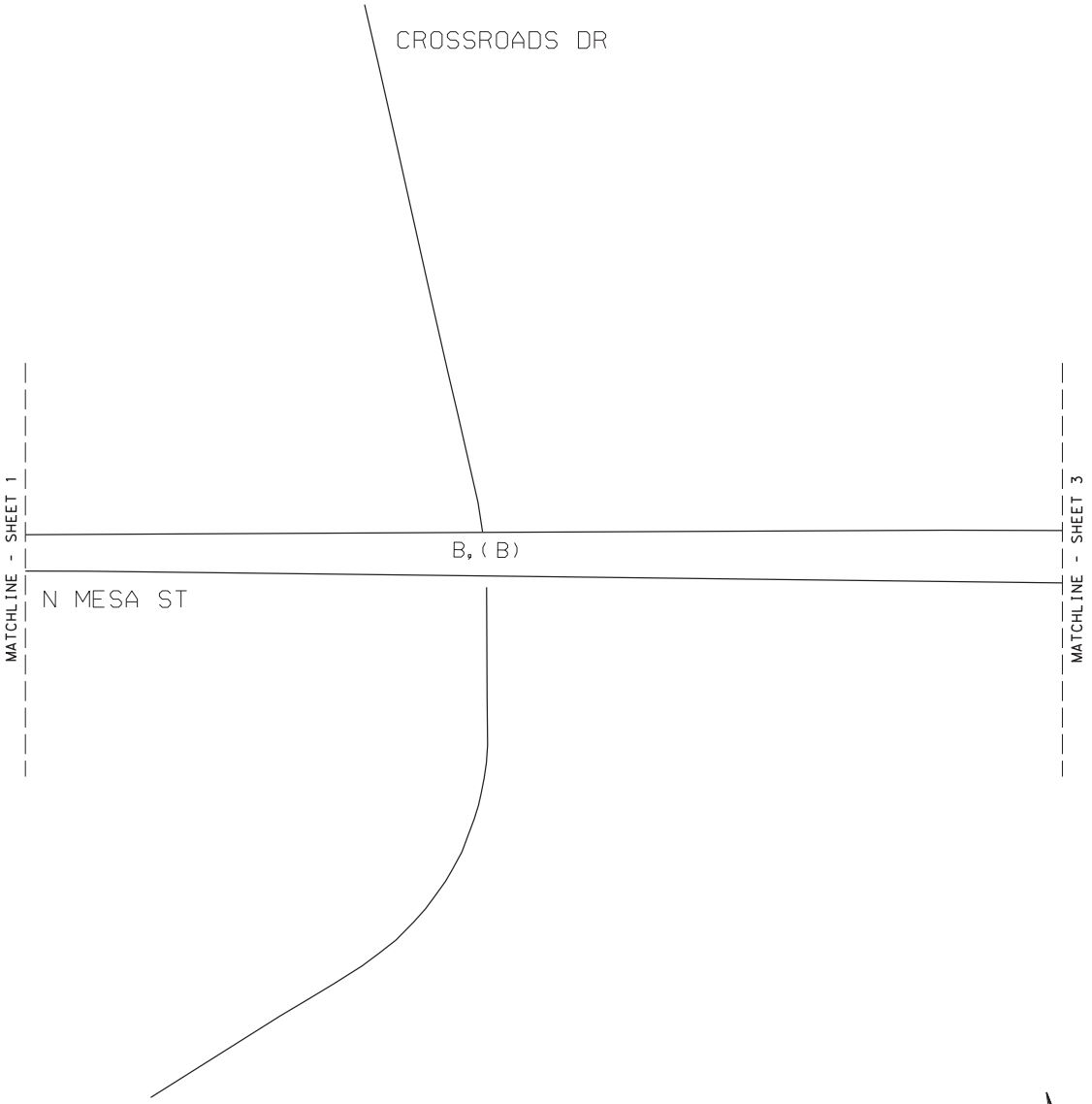

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
CROSSROADS DR

Kimley»Horn F-928

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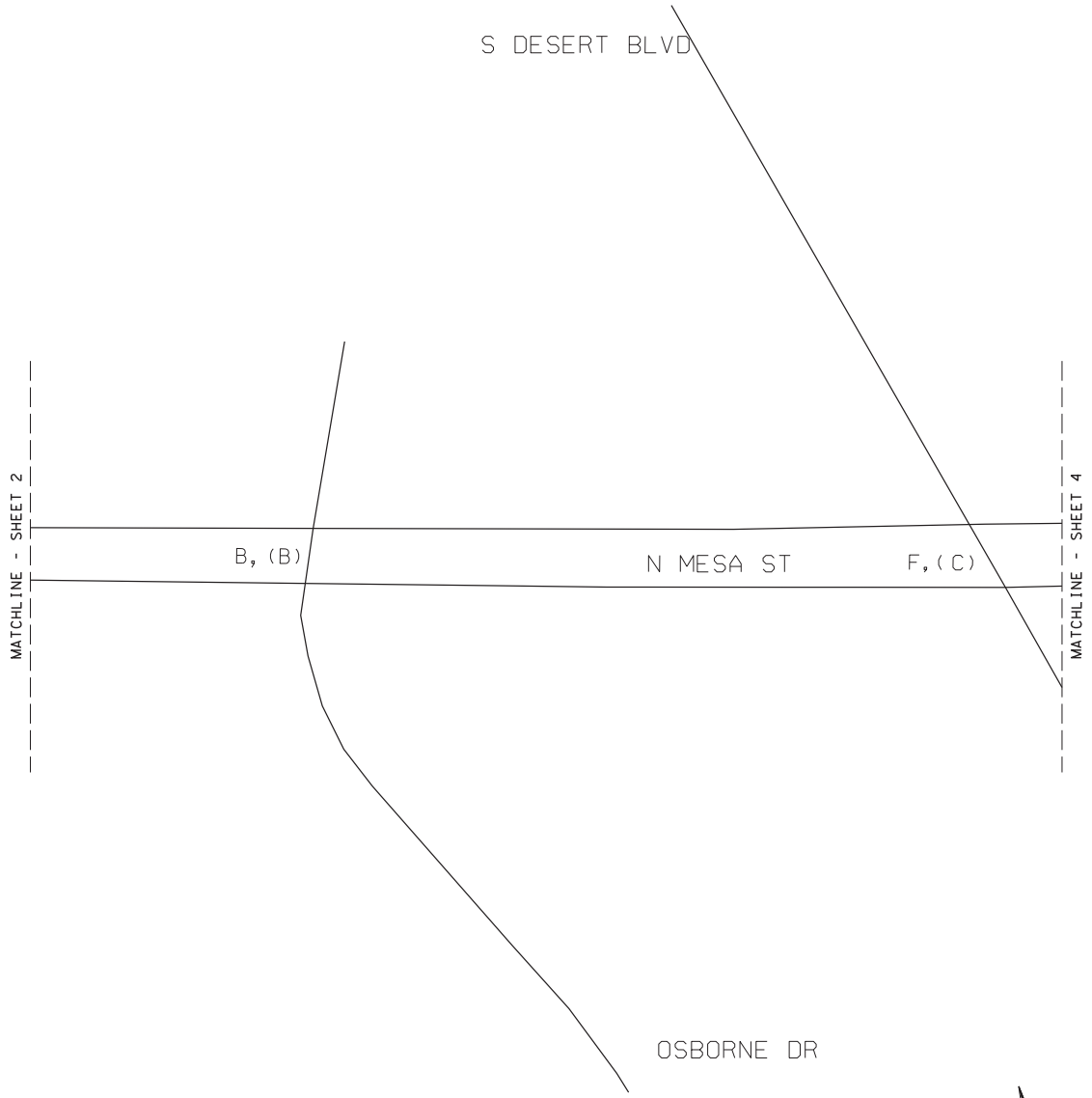

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
OSBORNE DR TO S DESERT BLVD

Kimley»Horn F-928

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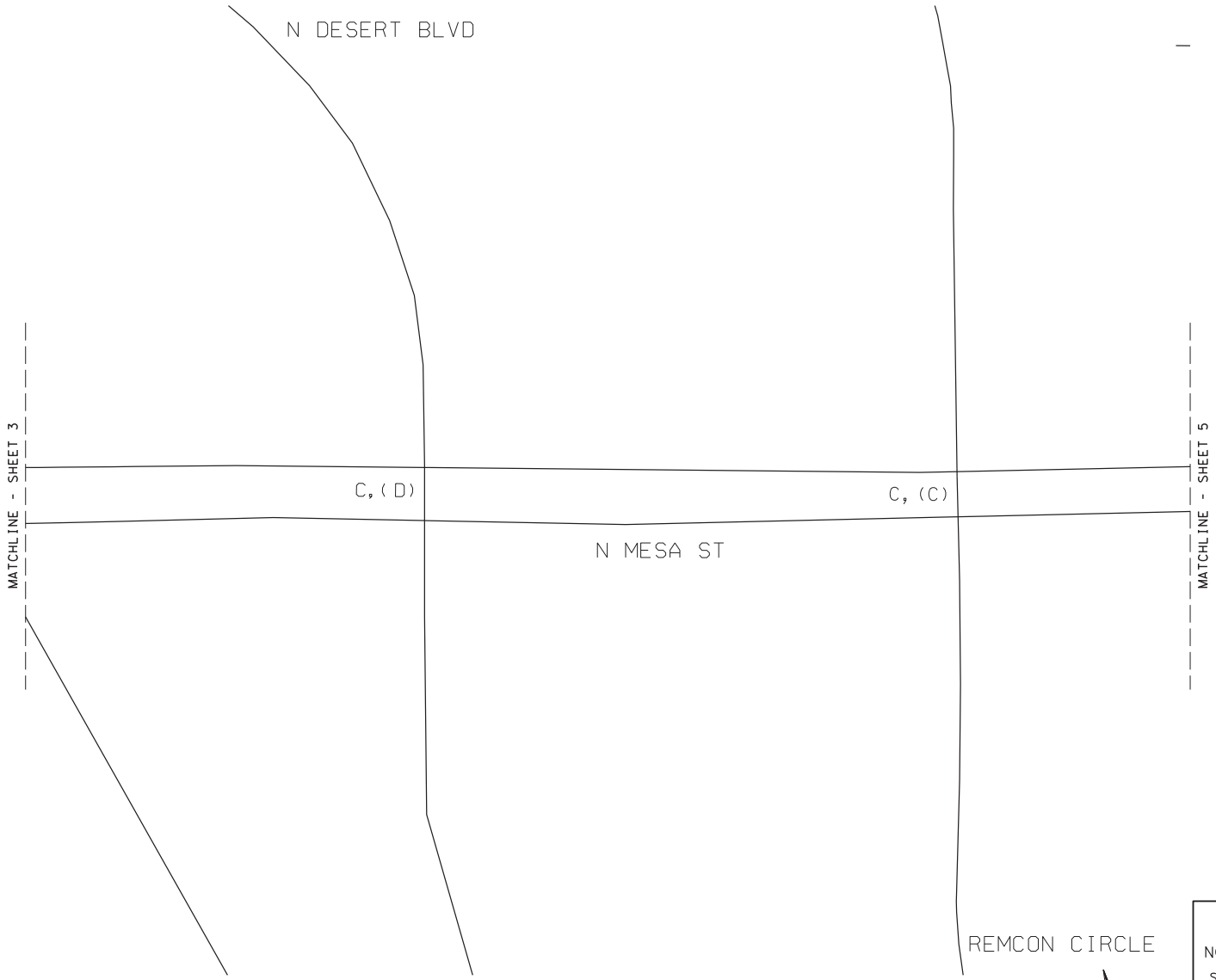

NOT TO SCALE

LEGEND	
AM, (PM)	LOS

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
N DESERT BLVD TO REMCON CIR

Kimley»Horn F-928

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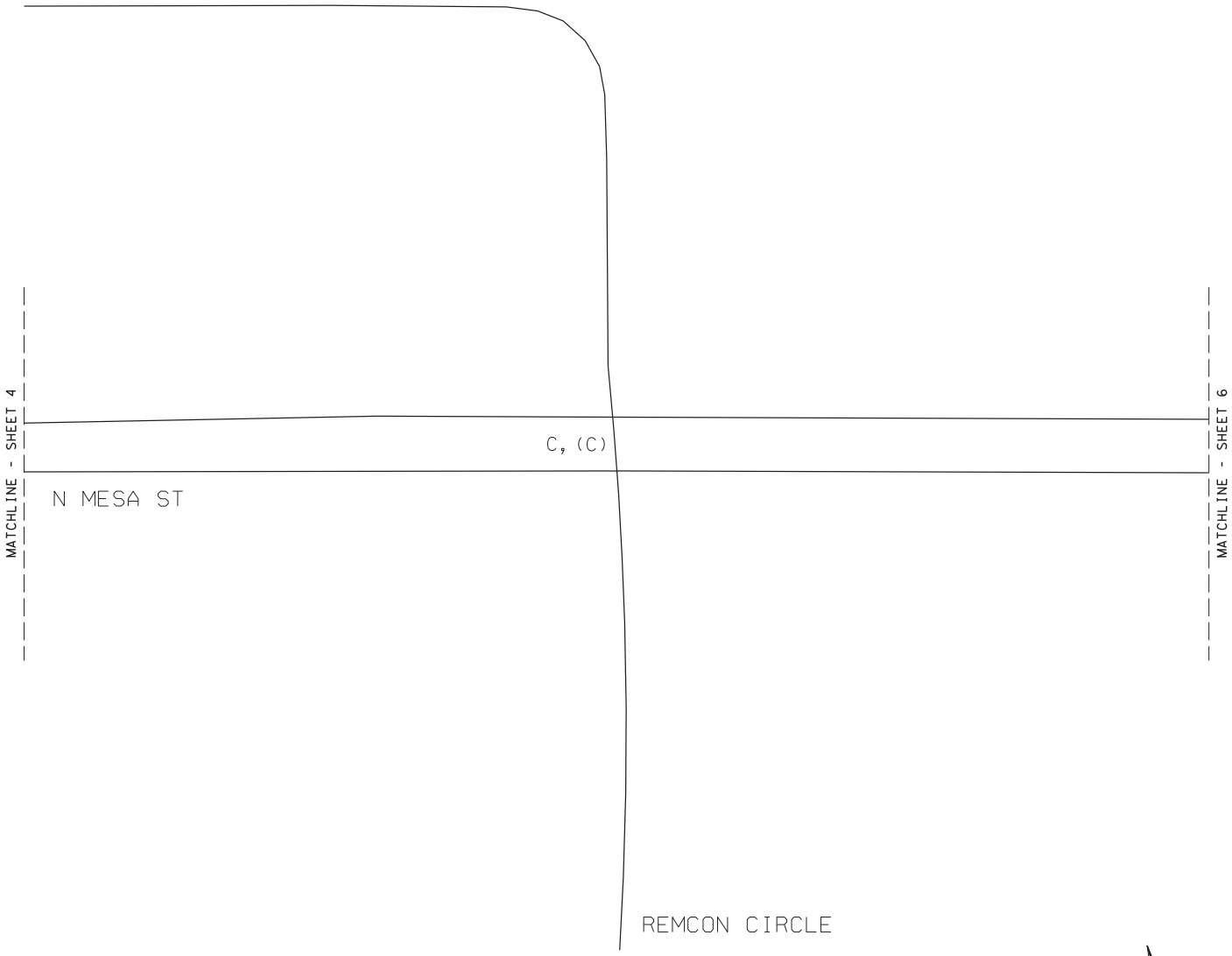

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
REMCON CIR

Kimley»Horn F-928

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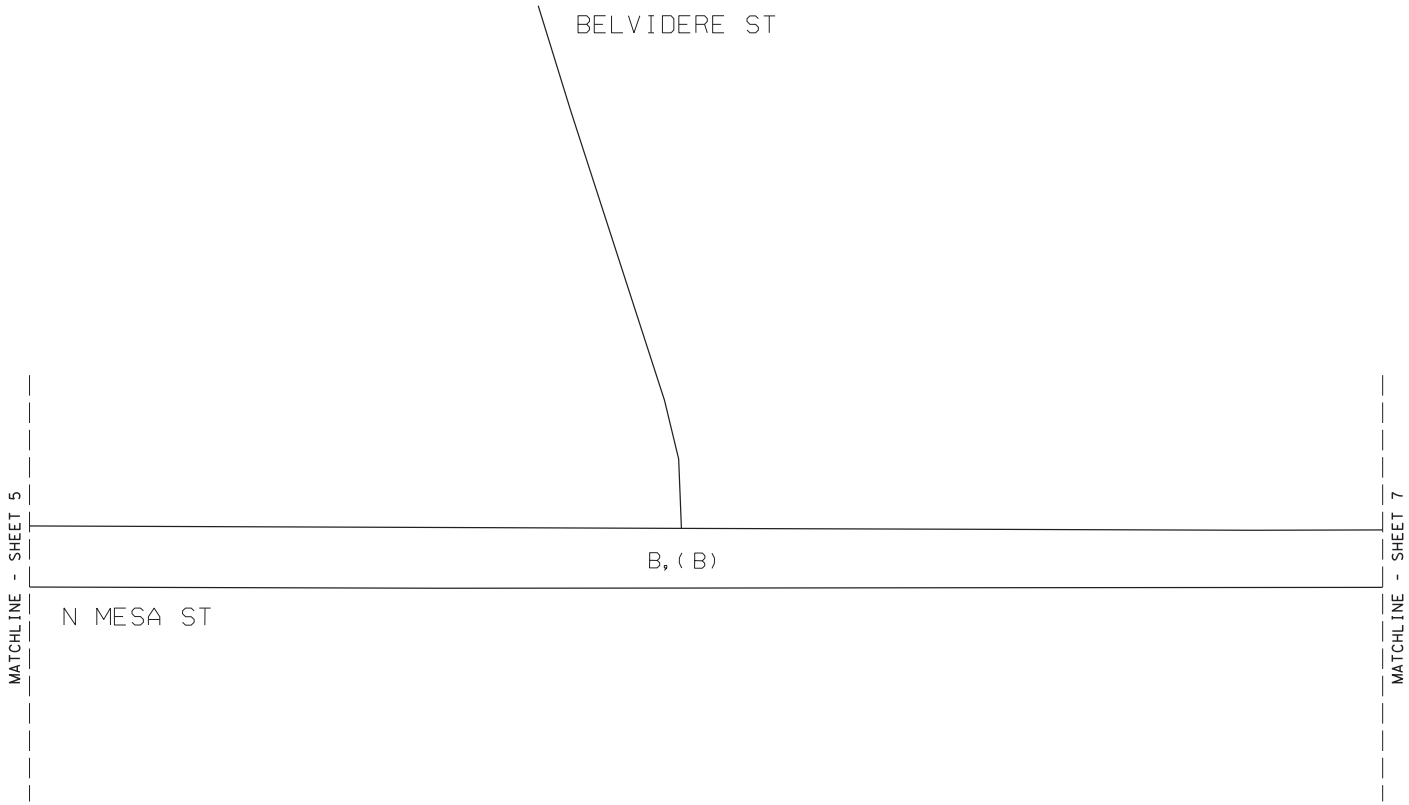

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
BELVIDERE ST

Kimley»Horn F-928

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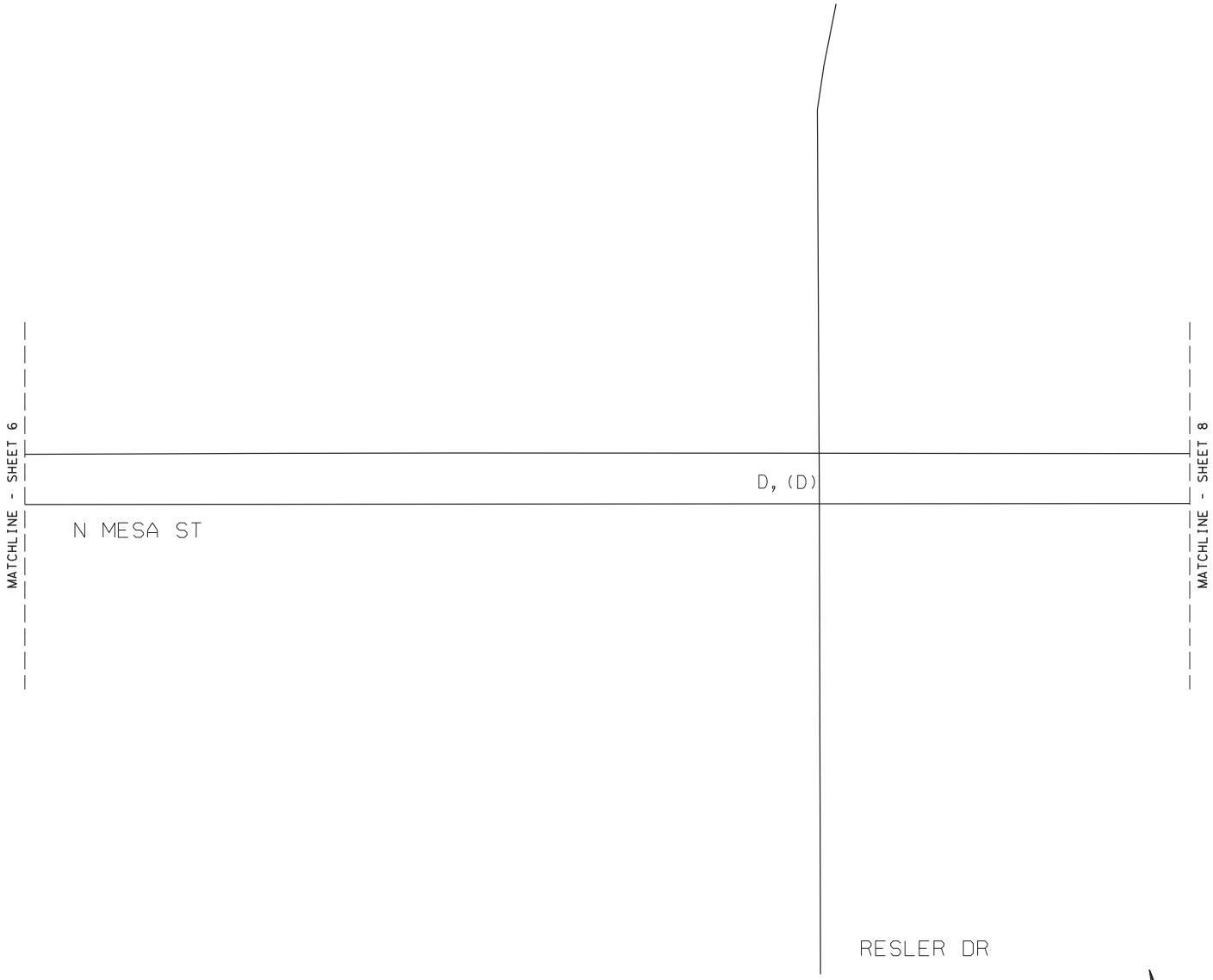

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
RESLER DR

Kimley»Horn F-928

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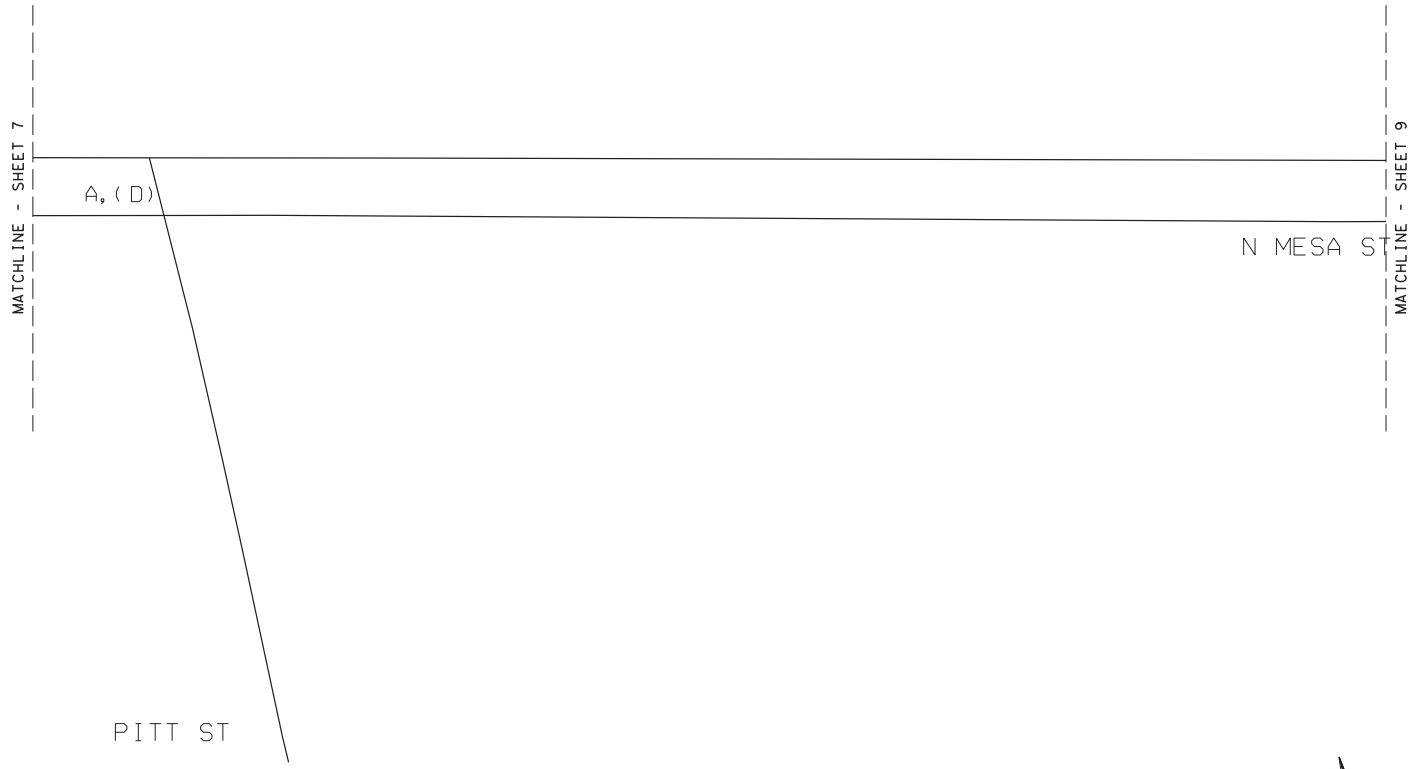

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
PITT ST

Kimley»Horn F-928

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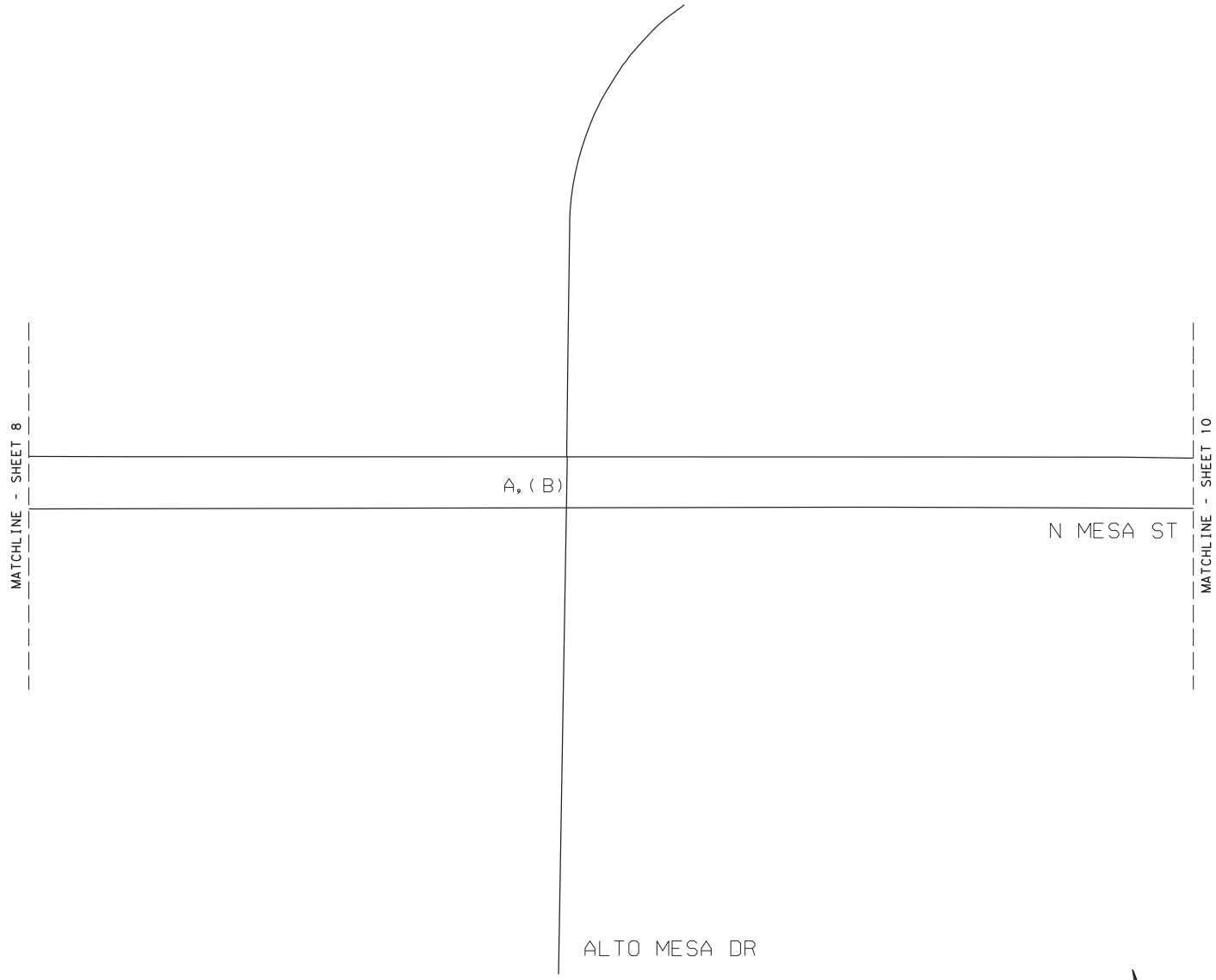

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
ALTO MESA DR

Kimley»Horn F-928

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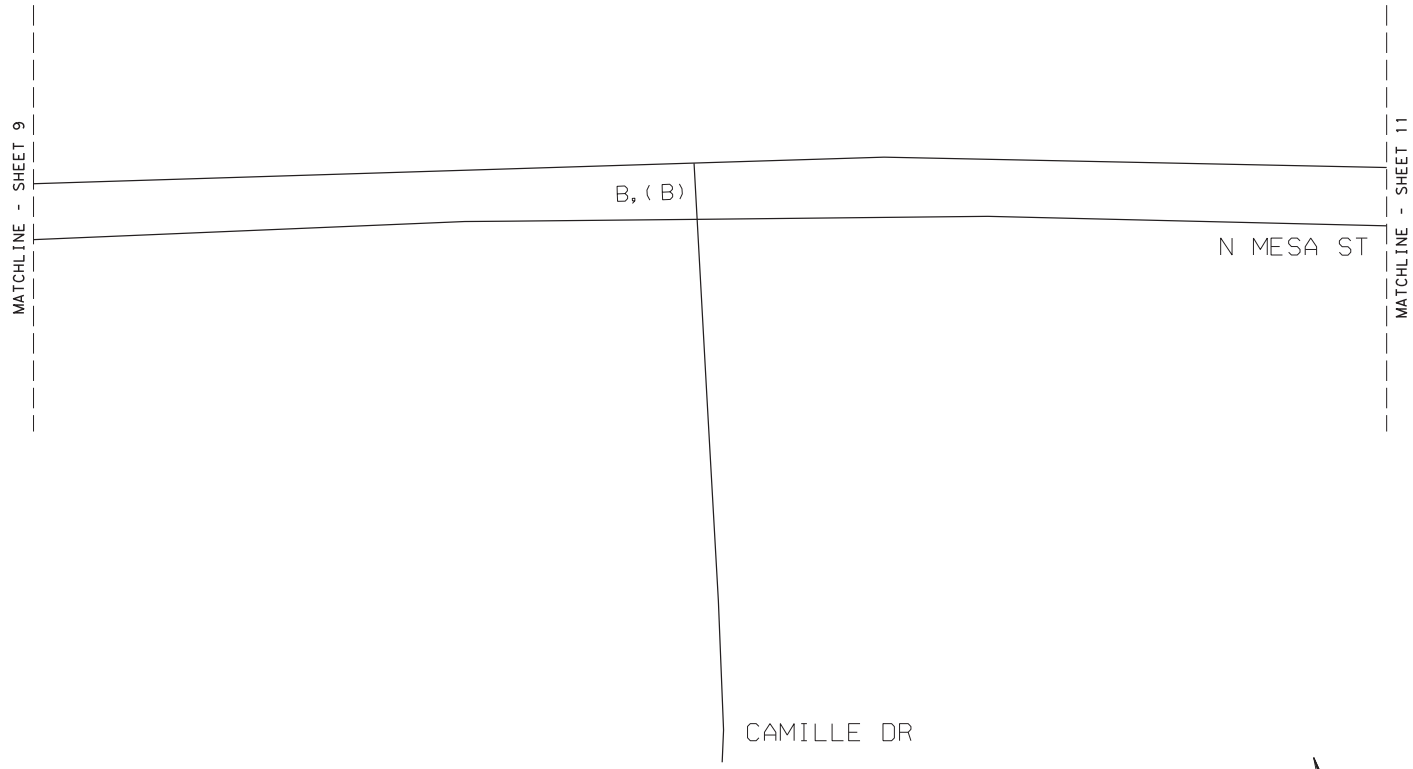

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
CAMILLE DR

Kimley»Horn F-928

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LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
THUNDERBIRD DR TO BALBOA RD

Kimley»Horn F-928

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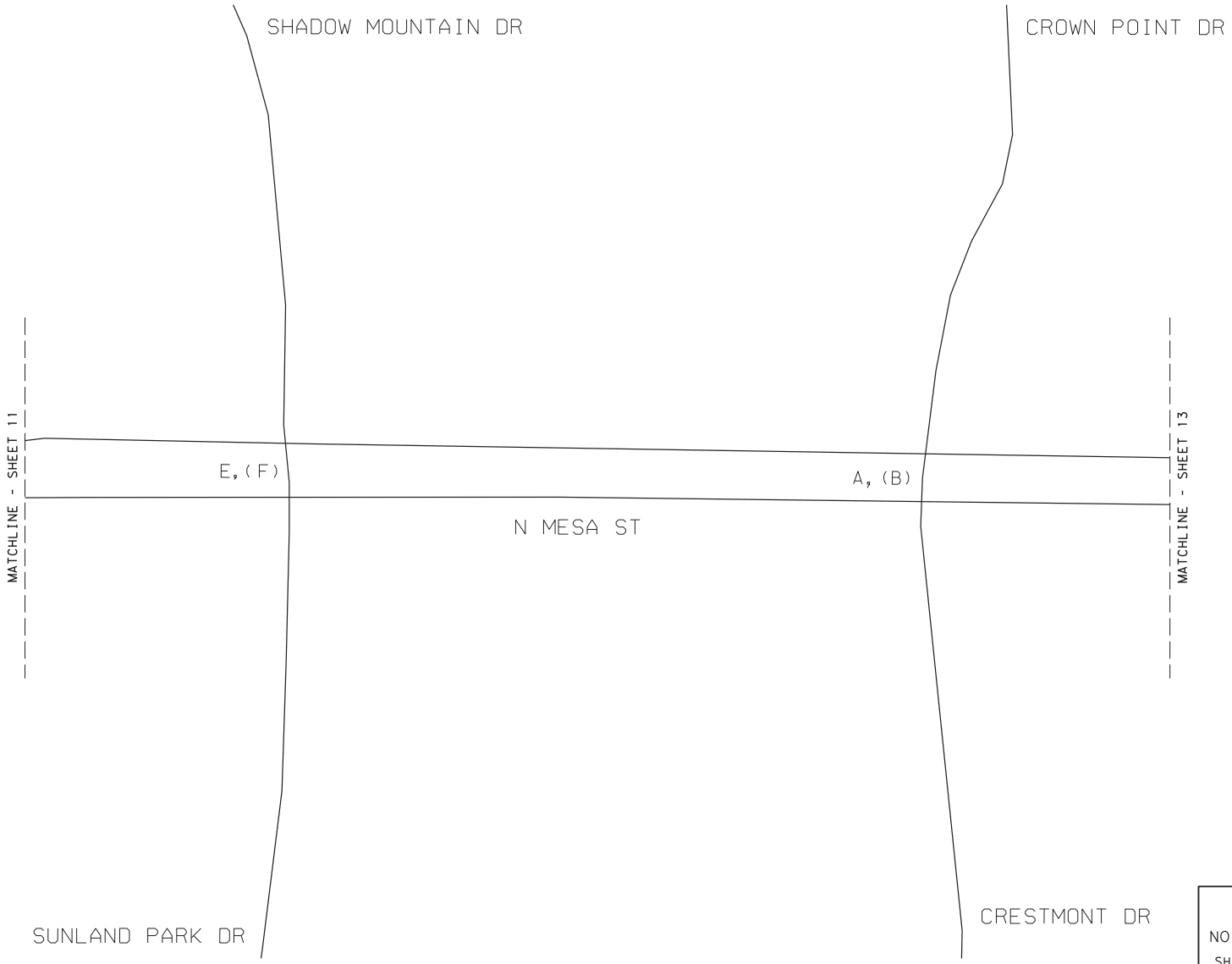

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
SUNLAND PARK DR TO CRESTMONT DR

Kimley»Horn F-928

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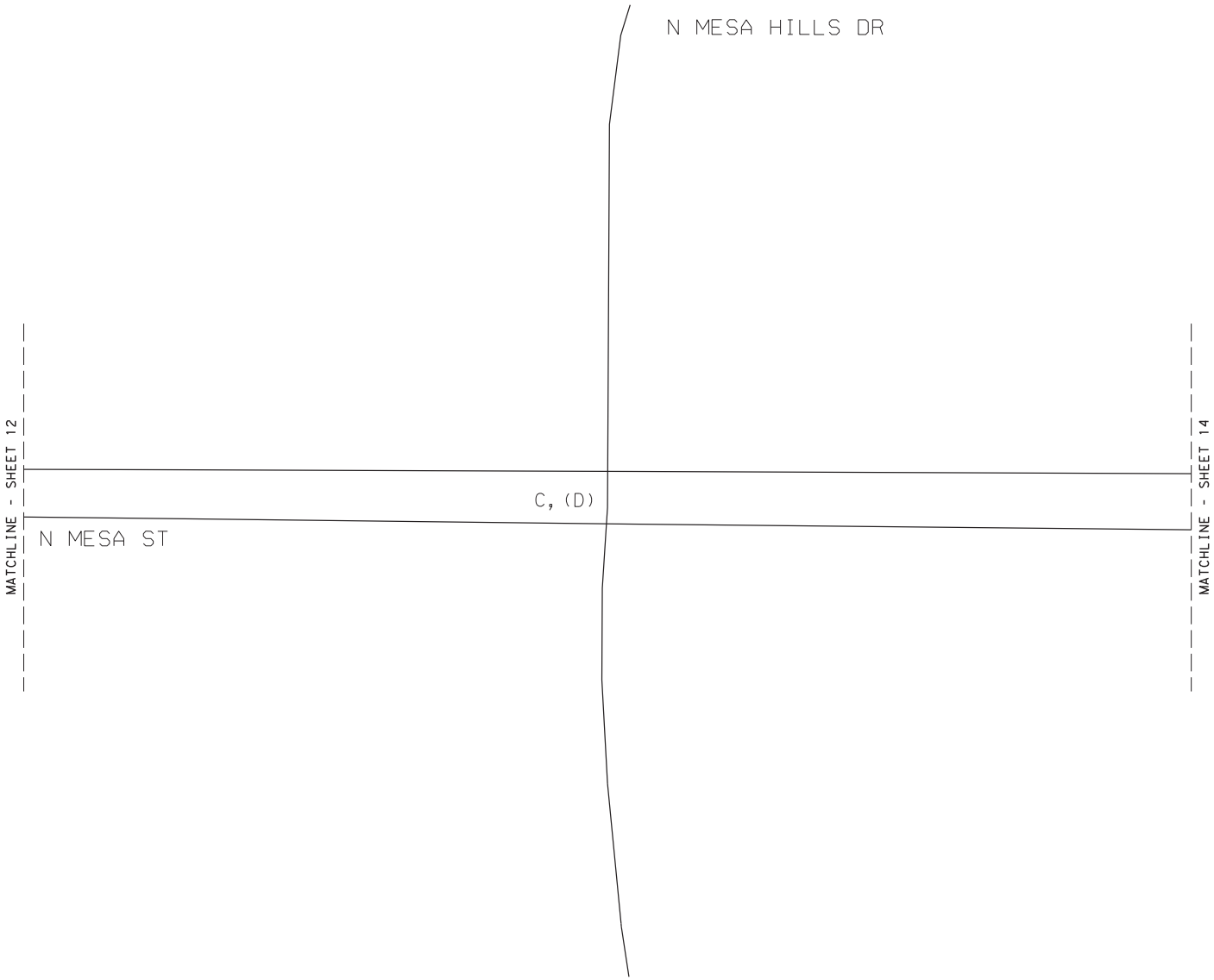

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
N MESA HILLS DR

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LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
FESTIVAL DR

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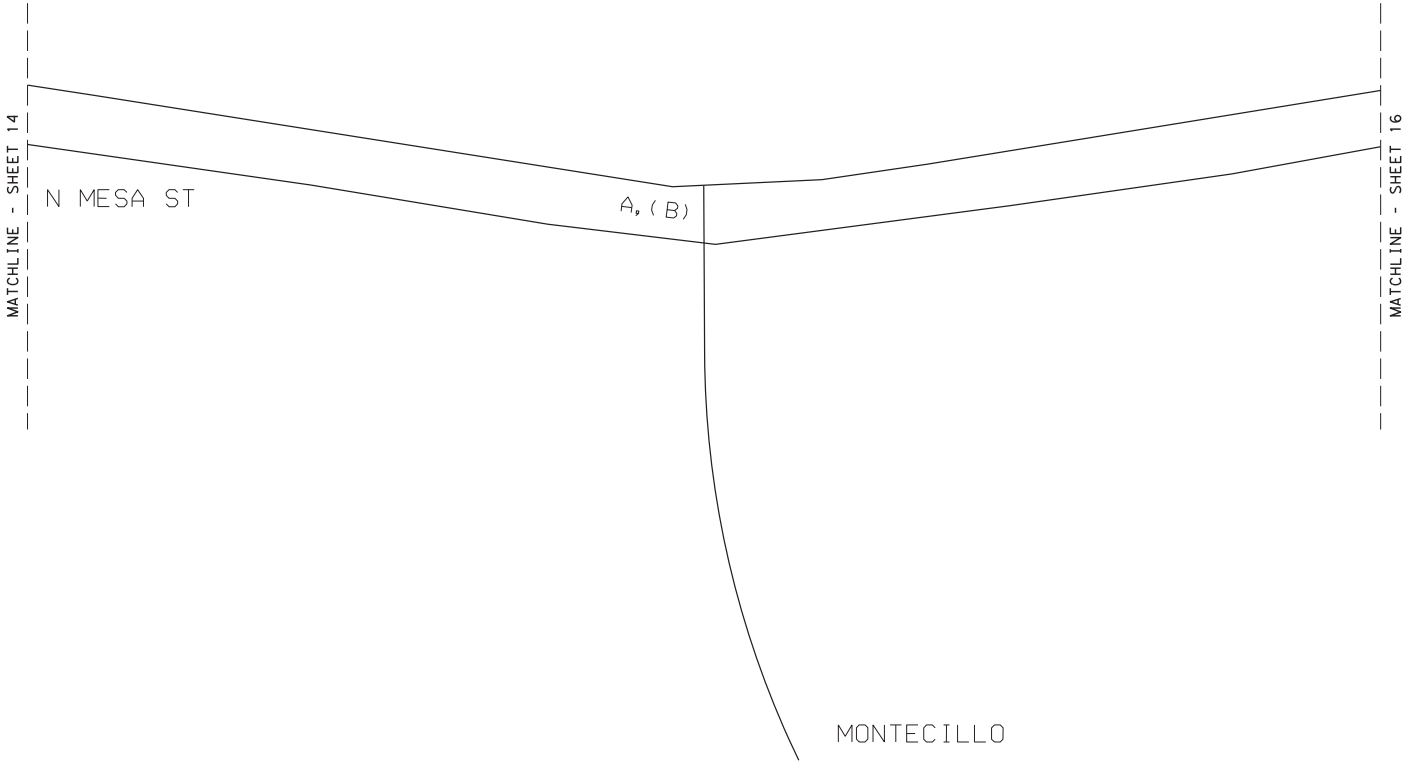

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
MONTECILLO

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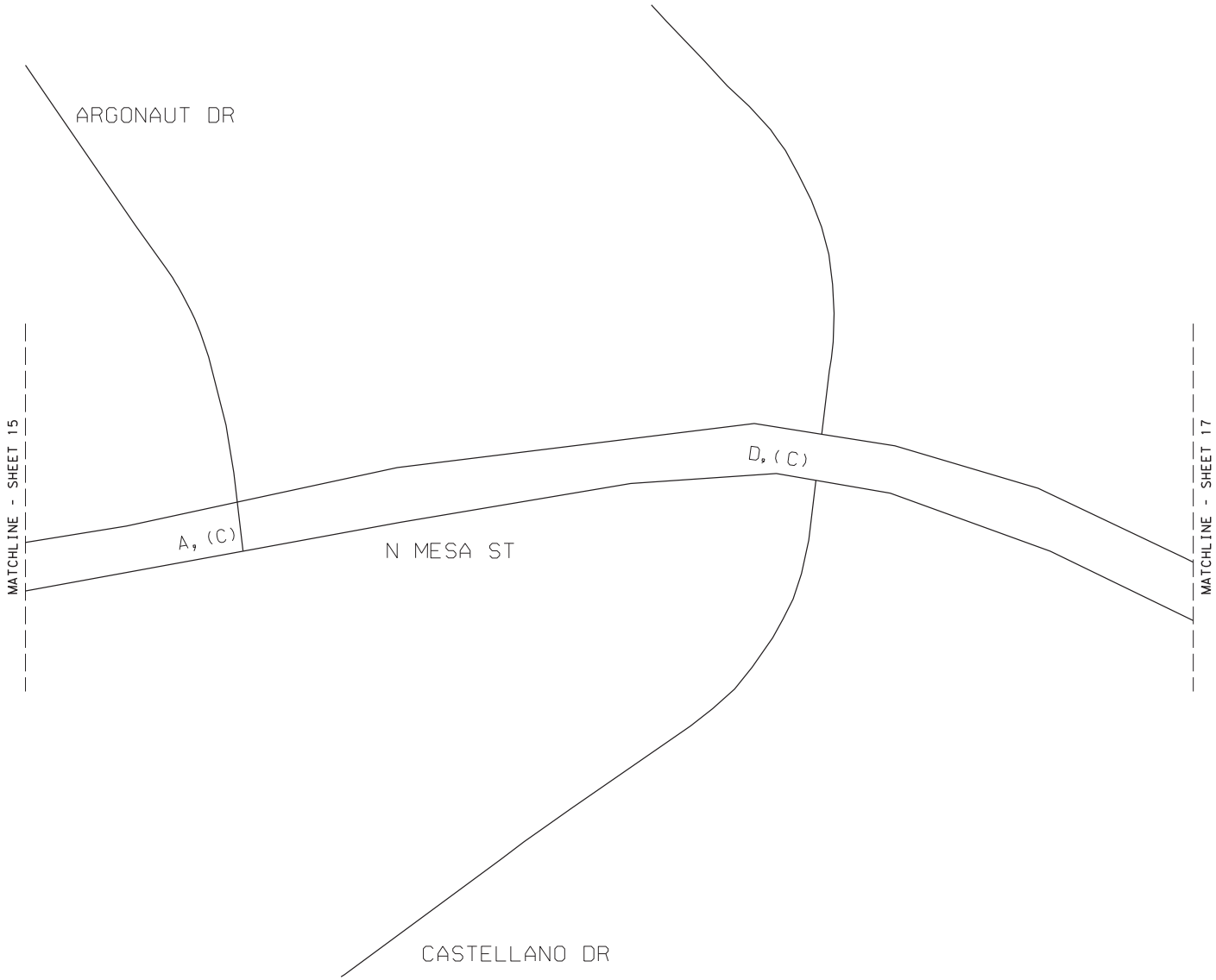

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
ARGONAUT DR TO CASTELLANO DR

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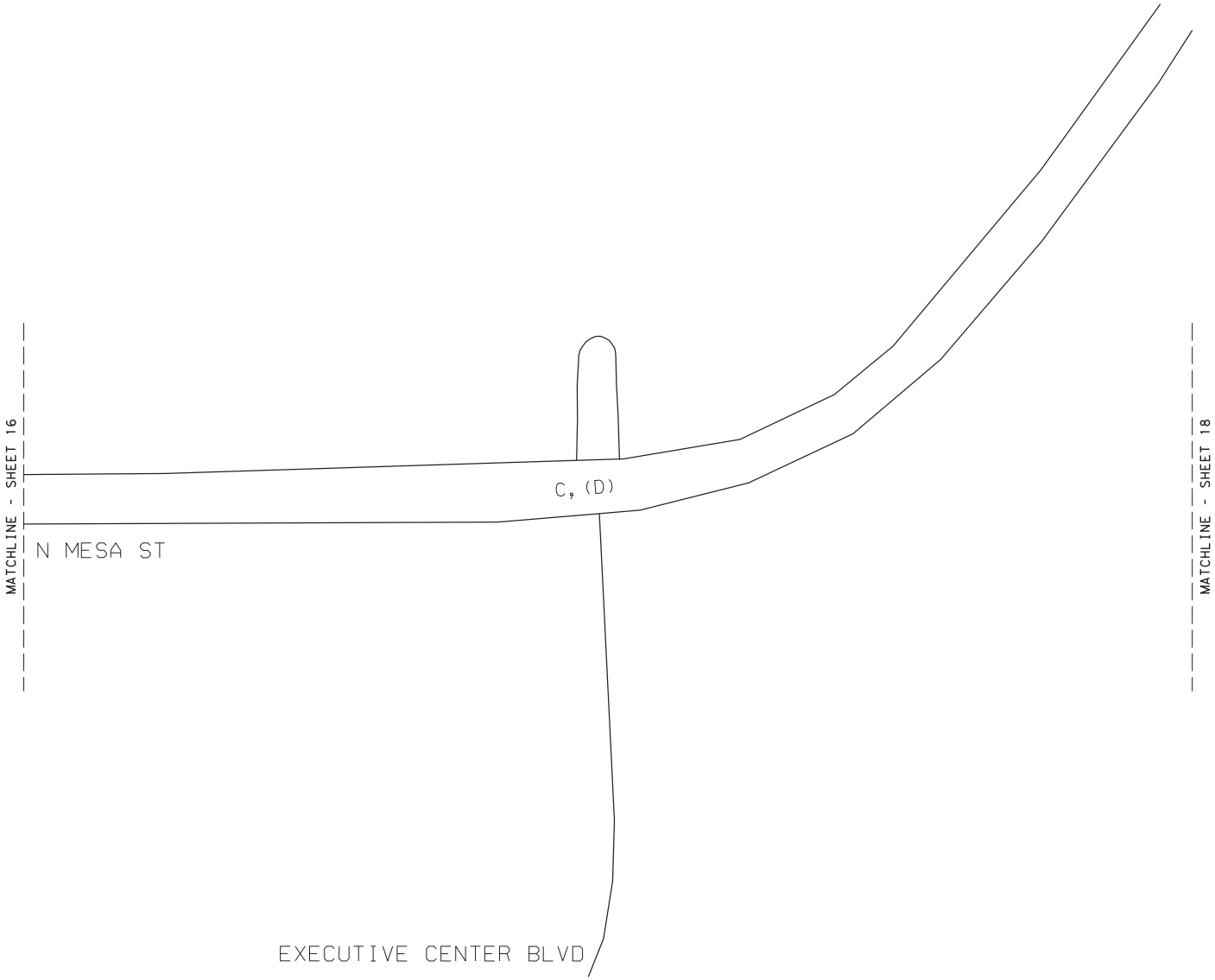

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
EXECUTIVE CENTER BLVD

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LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
BRENTWOOD AVE

Kimley»Horn F-928

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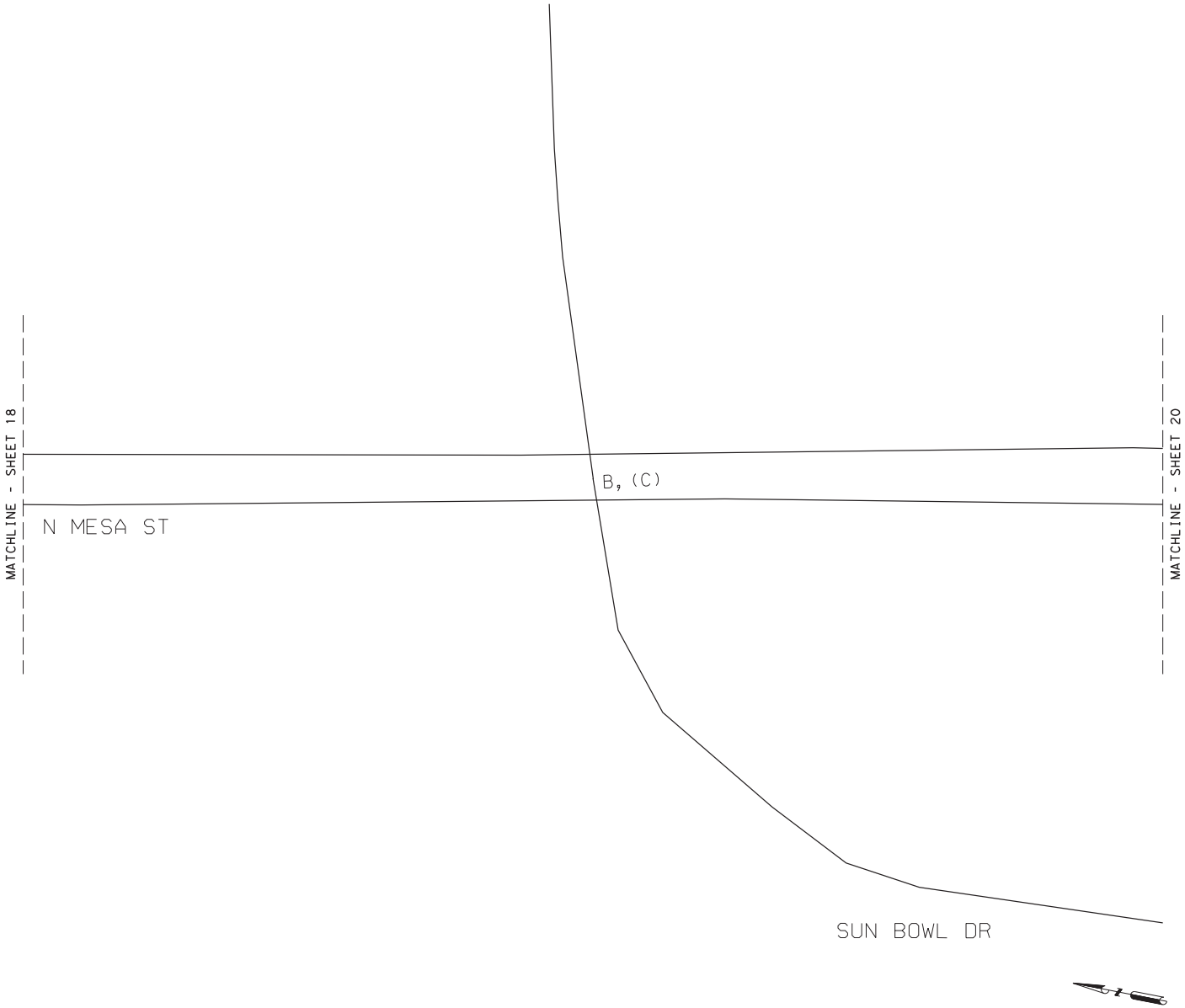

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
SUN BOWL DR

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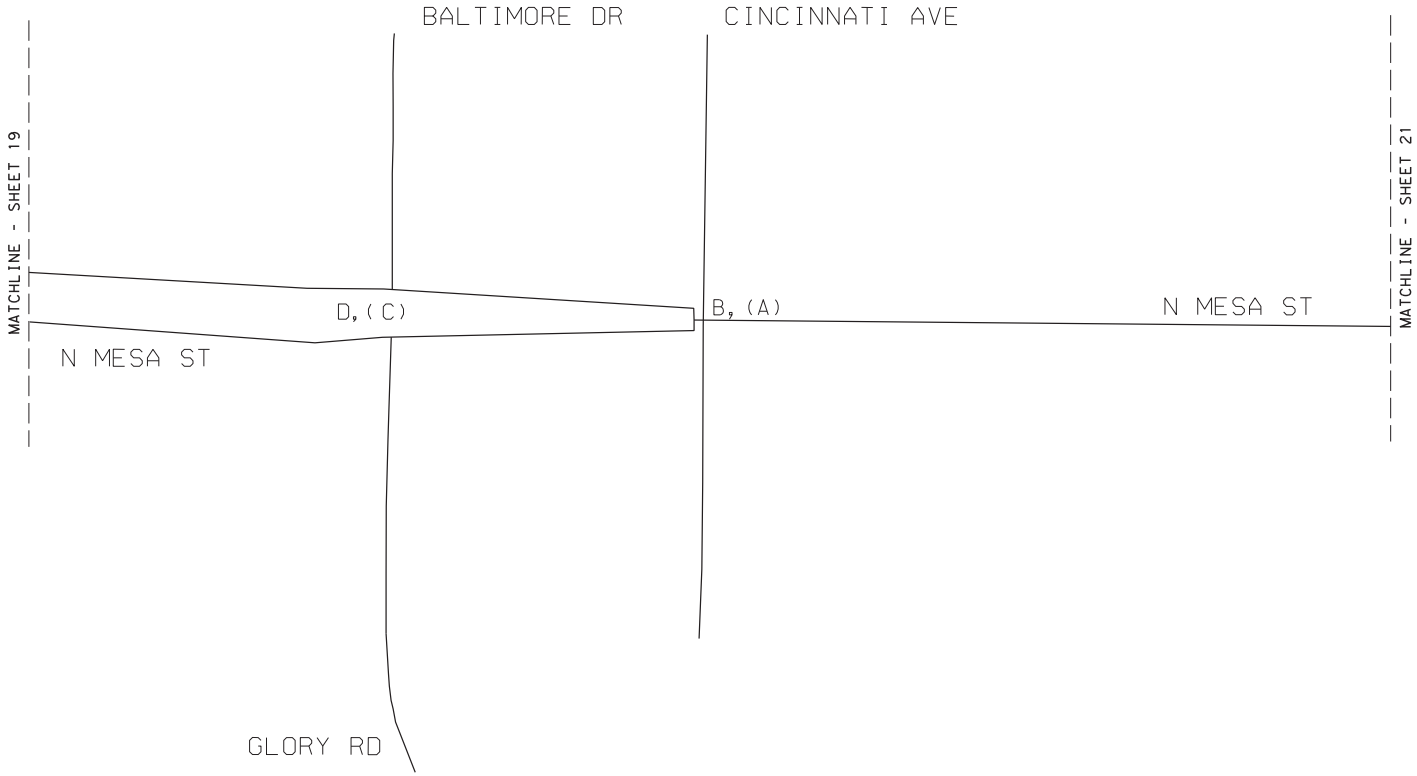

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
GLORY RD TO CINCINNATI AVE

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LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
KERBEY AVE TO UNIVERSITY AVE

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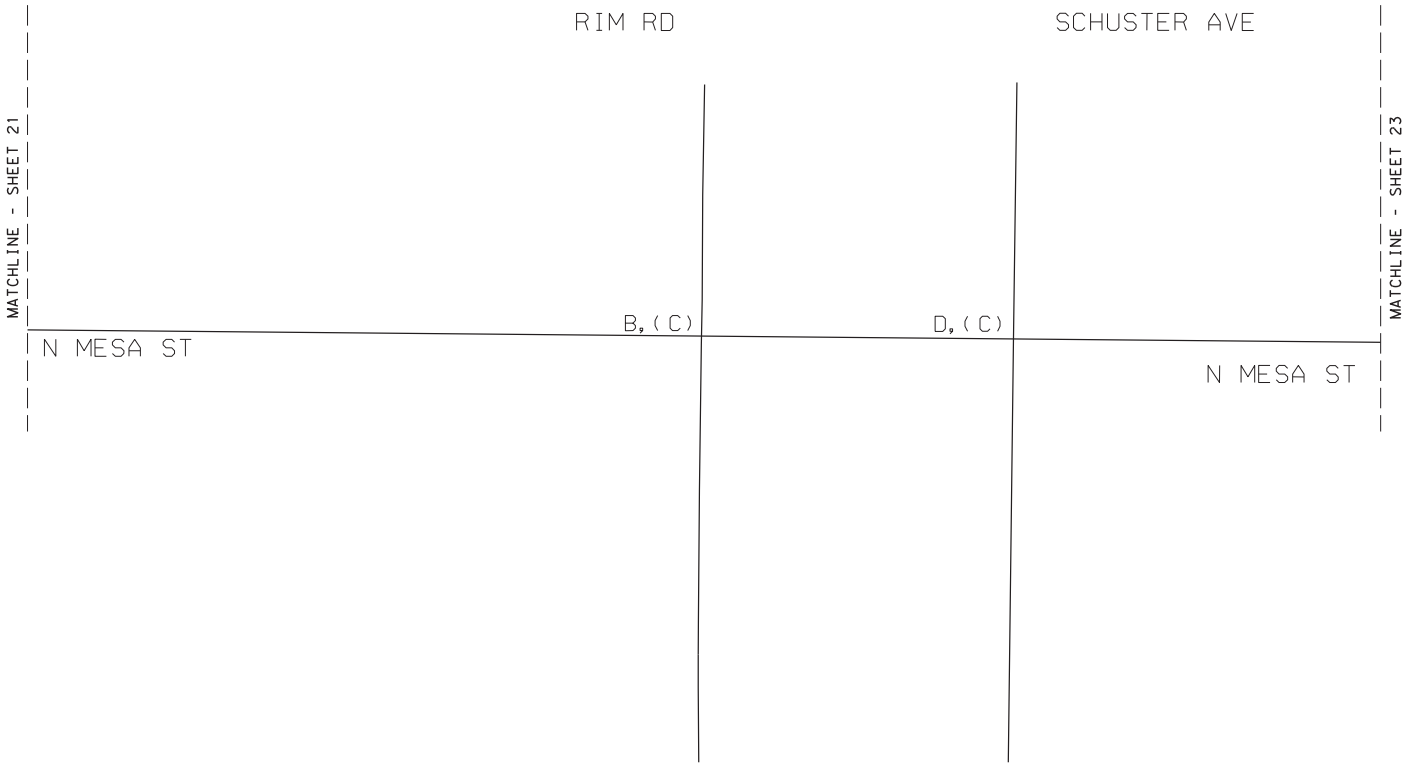

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
RIM RD TO SCHUSTER AVE

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LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
RIVER AVE

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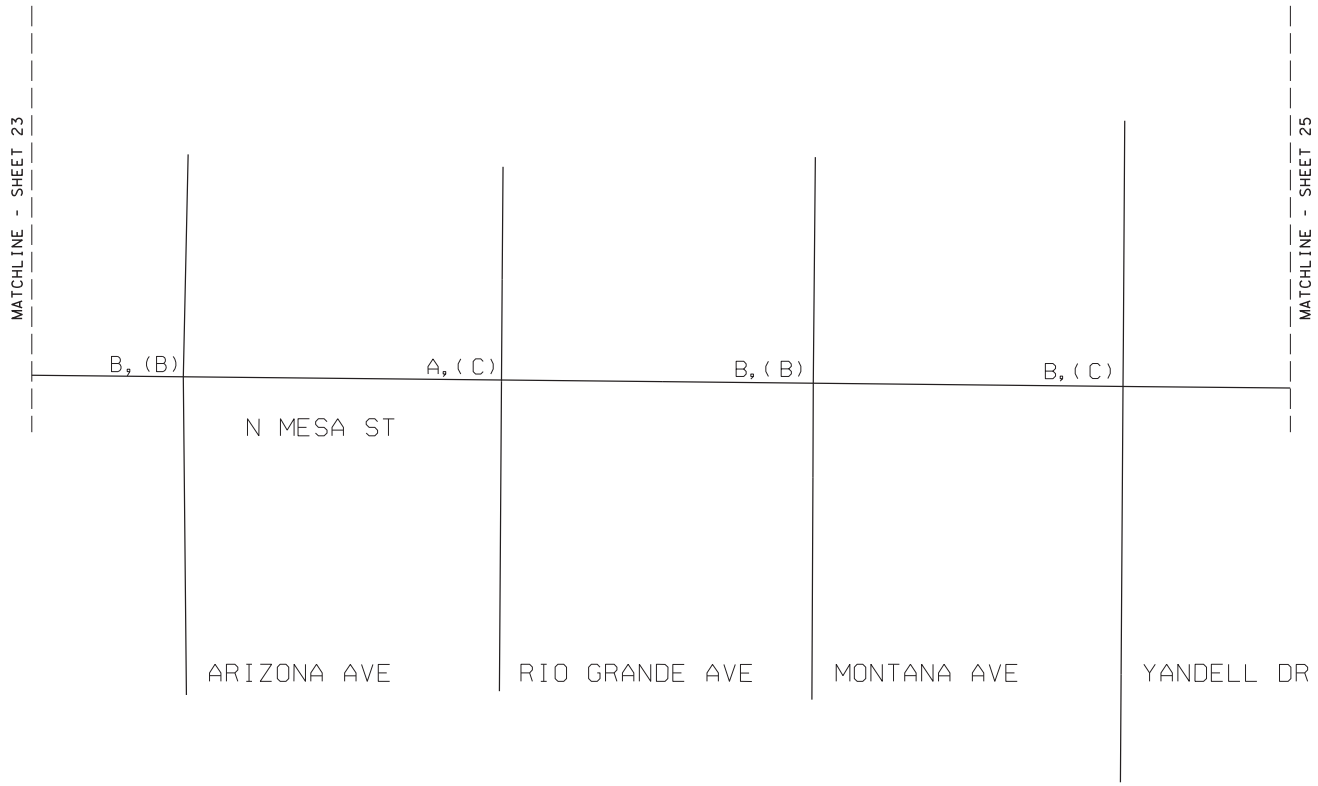

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
ARIZONA AVE TO YANDELL DR

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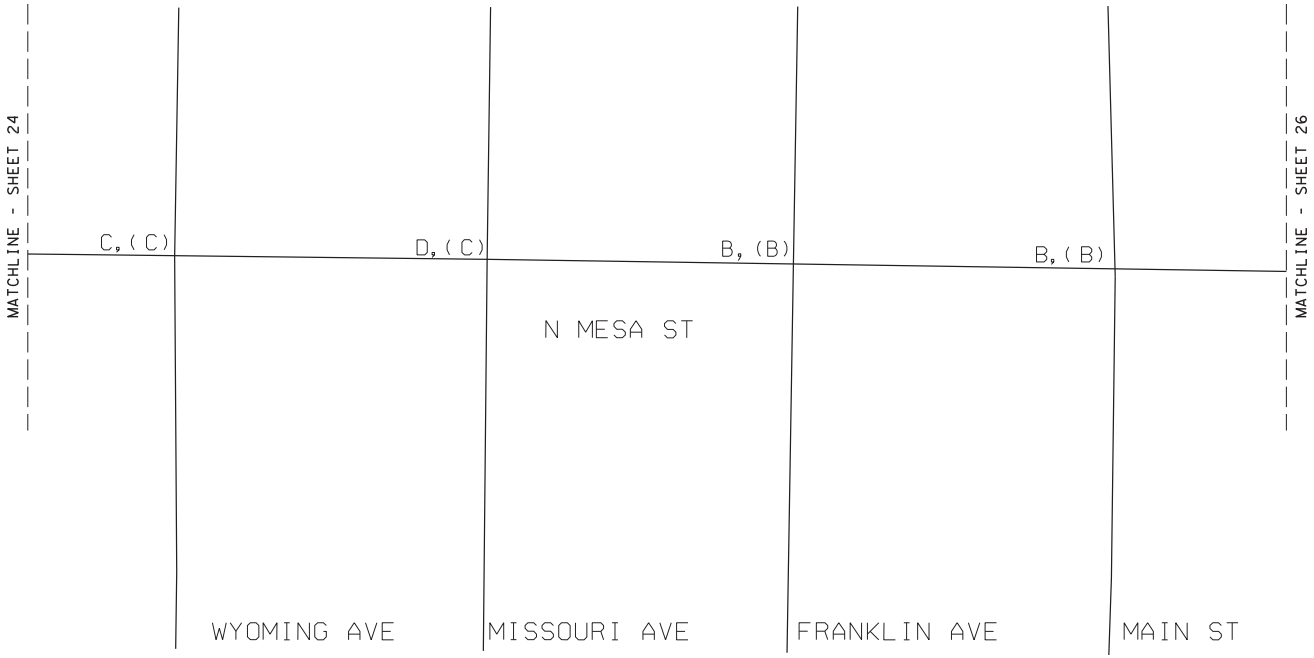

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
WYOMING AVE TO MAIN ST

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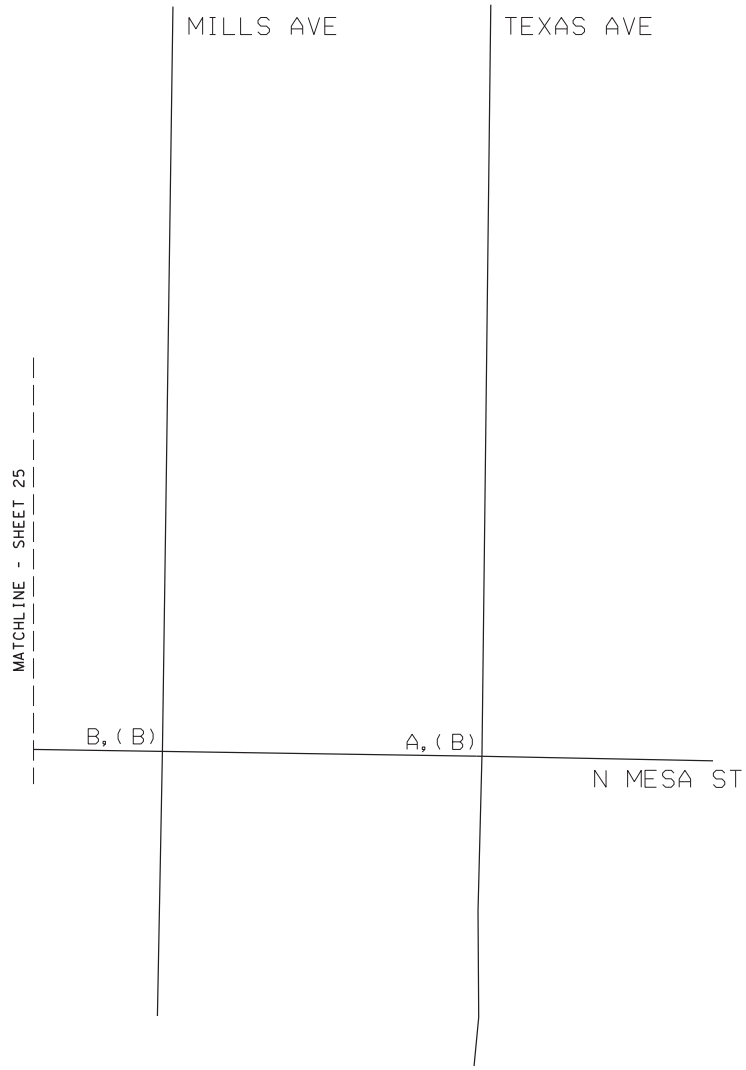

LEGEND
LEGEND
AM, (PM) LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
MILLS AVE TO TEXAS AVE

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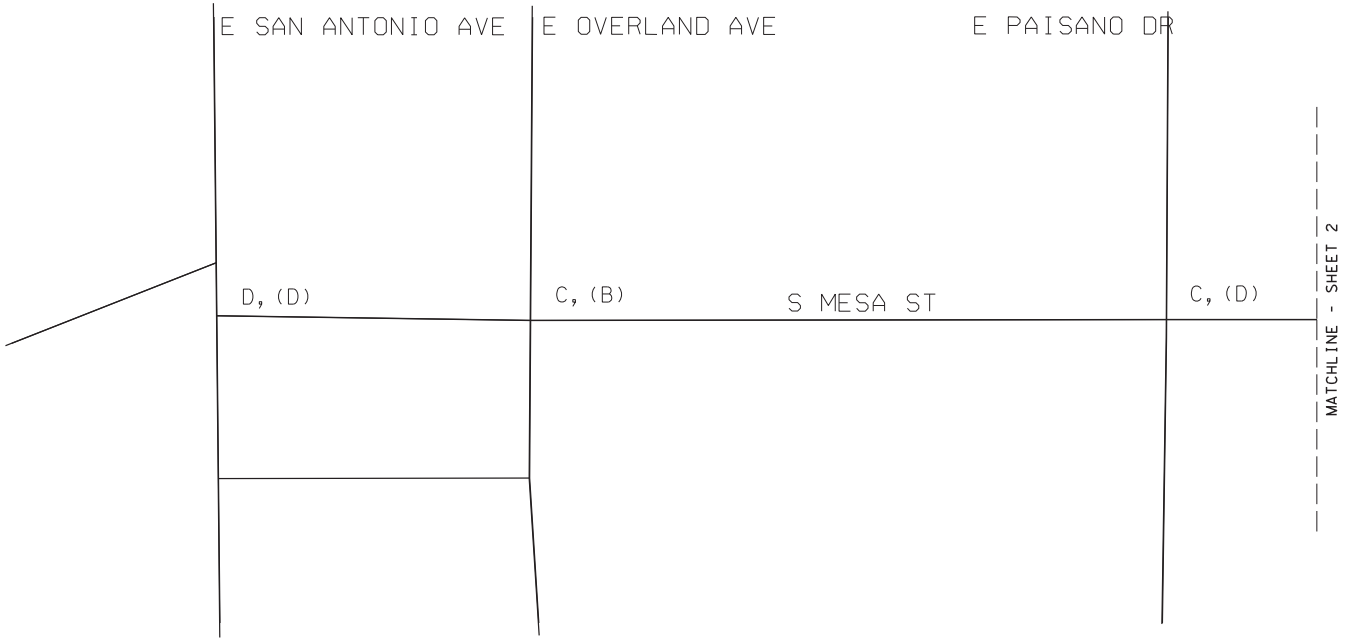
2020 NO-BUILD PEAK HOUR INTERSECTION LOS

(Section 2 – San Antonio Ave to LP 375)



LEGEND
AM, (PM) LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
SAN ANTONIO AVE TO PAISANO DR

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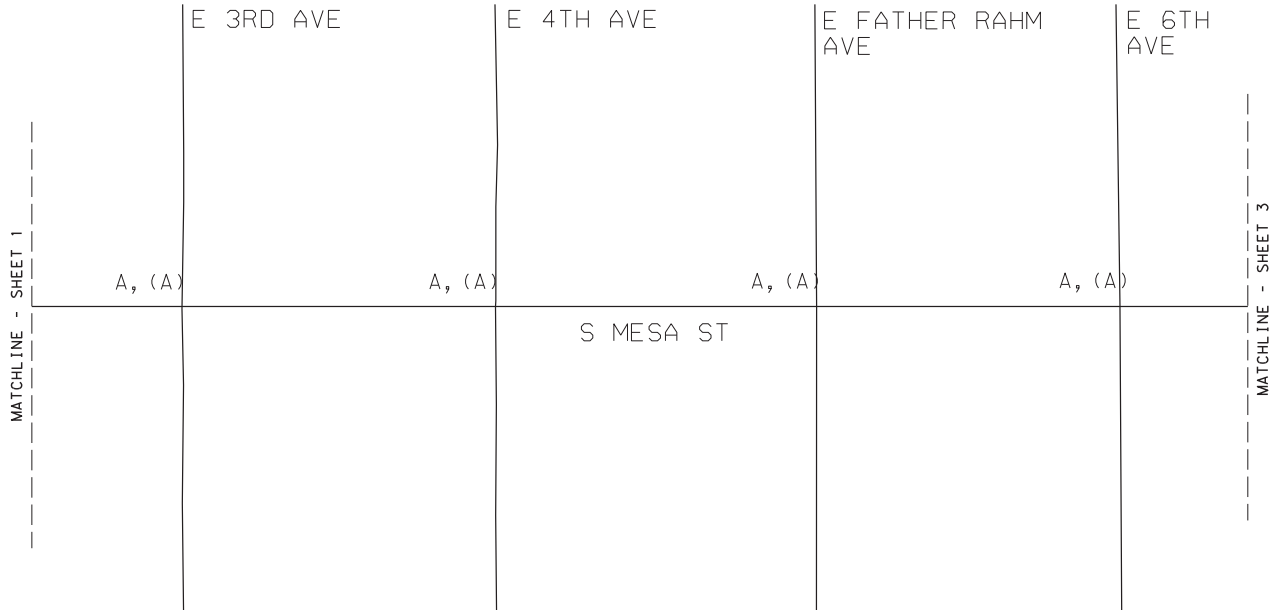

LEGEND
AM, (PM) LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
3RD AVE TO 6TH AVE

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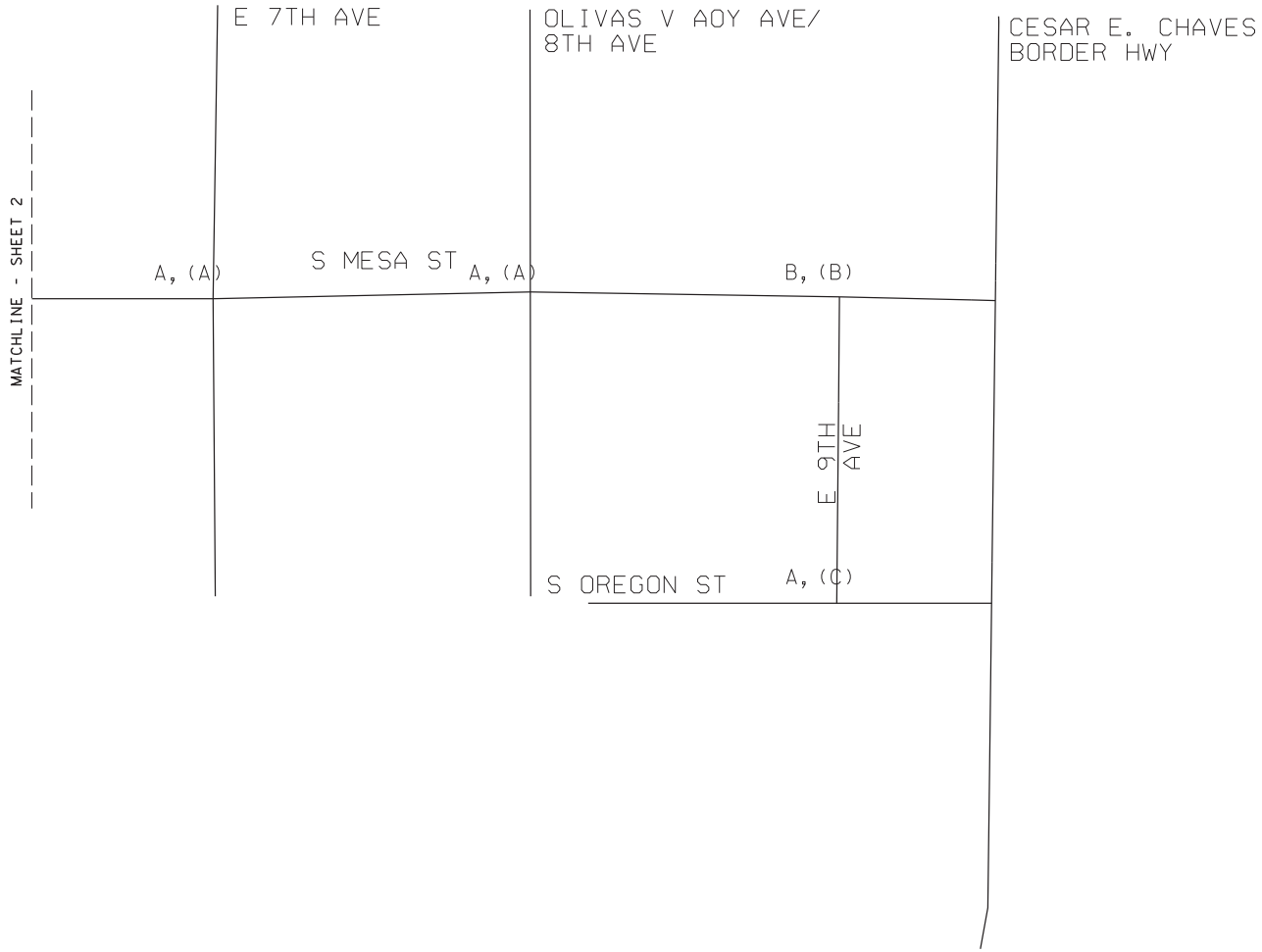

LEGEND
AM, (PM) LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
7TH AVE TO BORDER HWY

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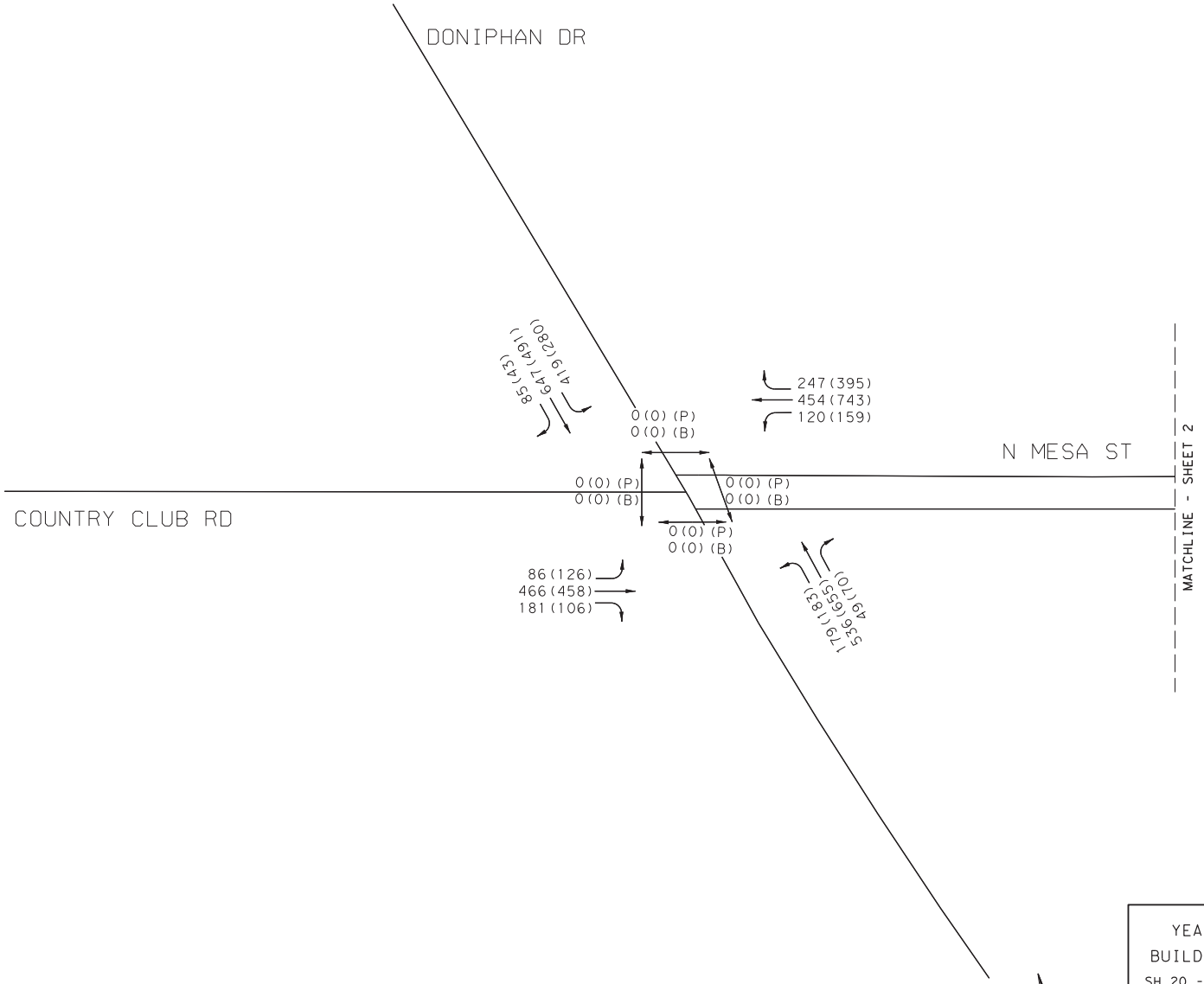
2020 BUILD PEAK HOUR

(Section 1 – Doniphan Dr to Texas Ave)



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
DONIPHAN DR

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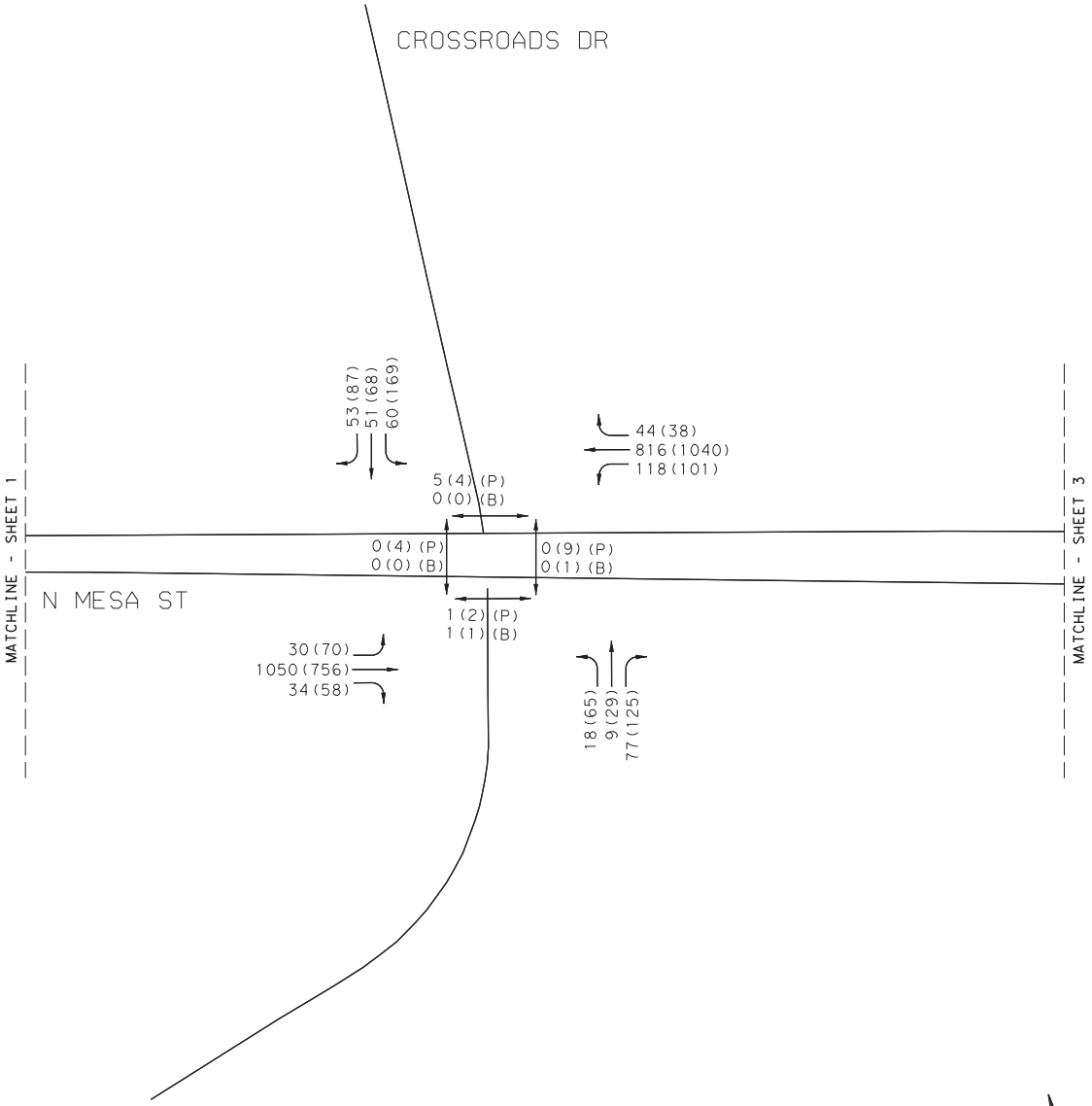

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
CROSSROADS DR

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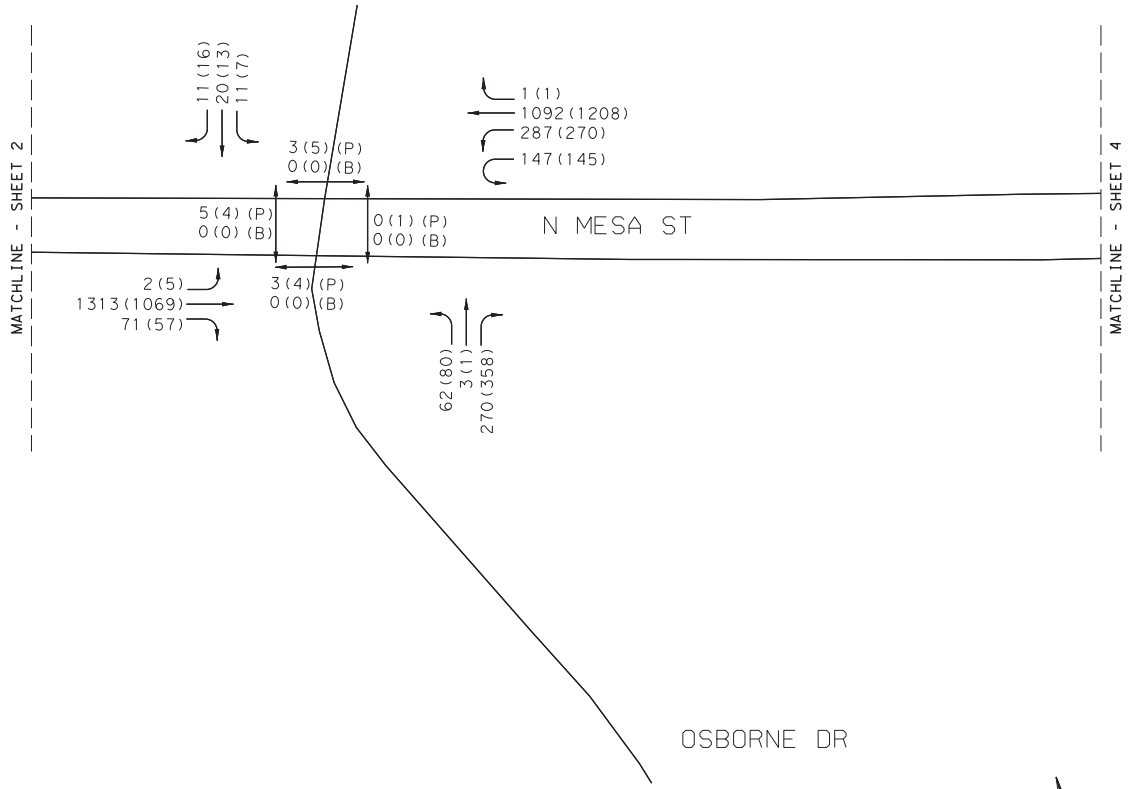

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
OSBORNE DR

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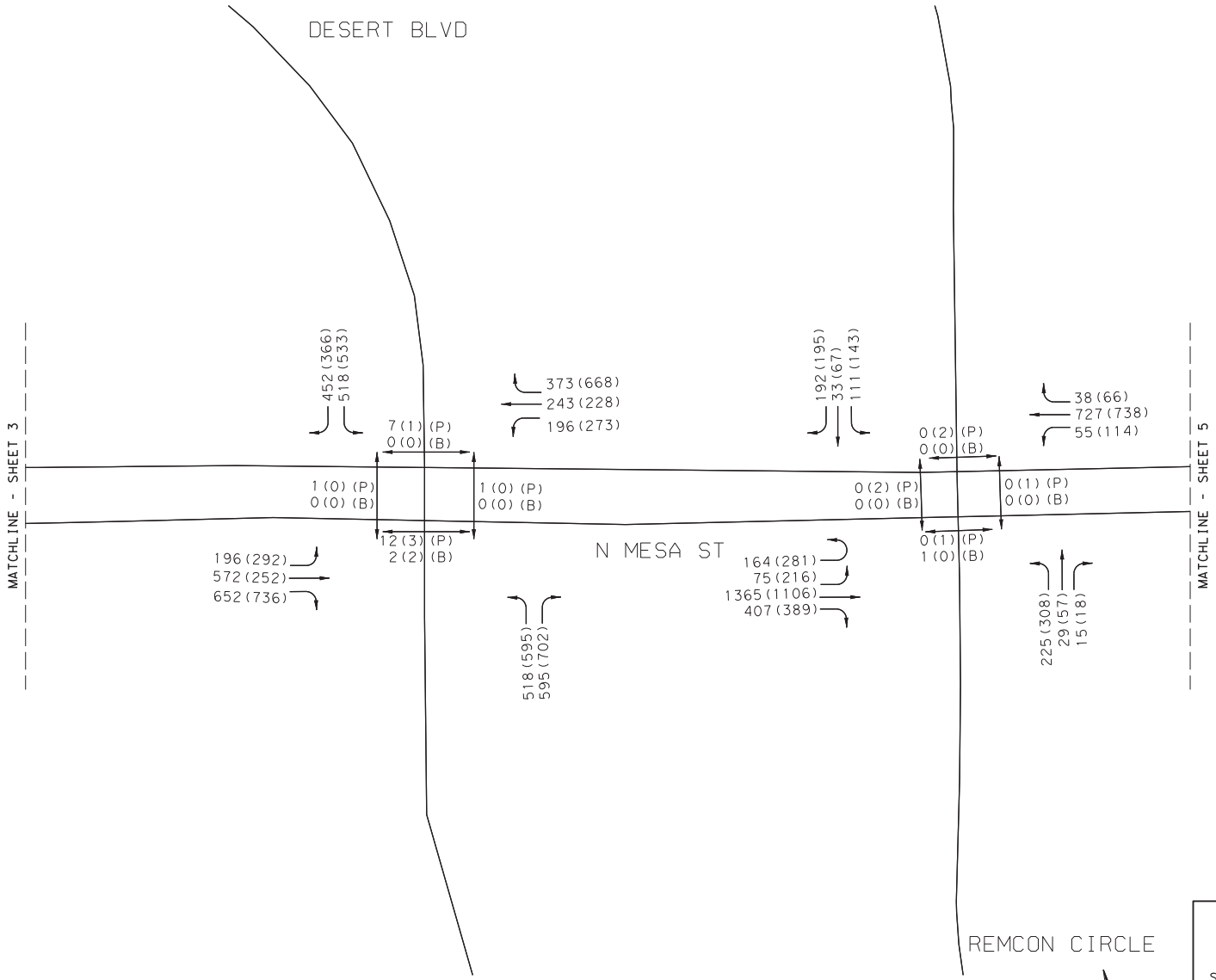

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
DESERT BLVD TO REMCON CIR

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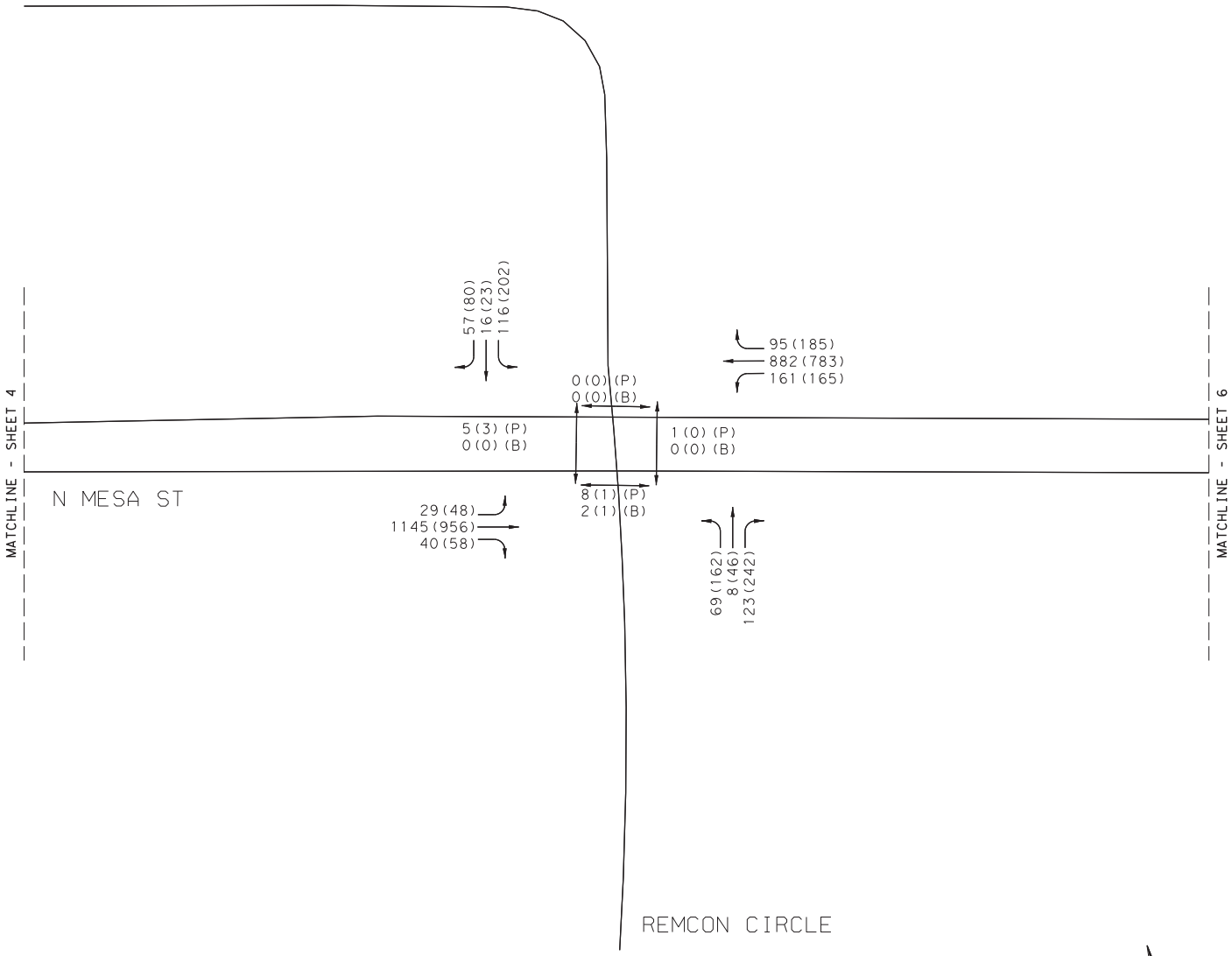

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
REMCON CIR

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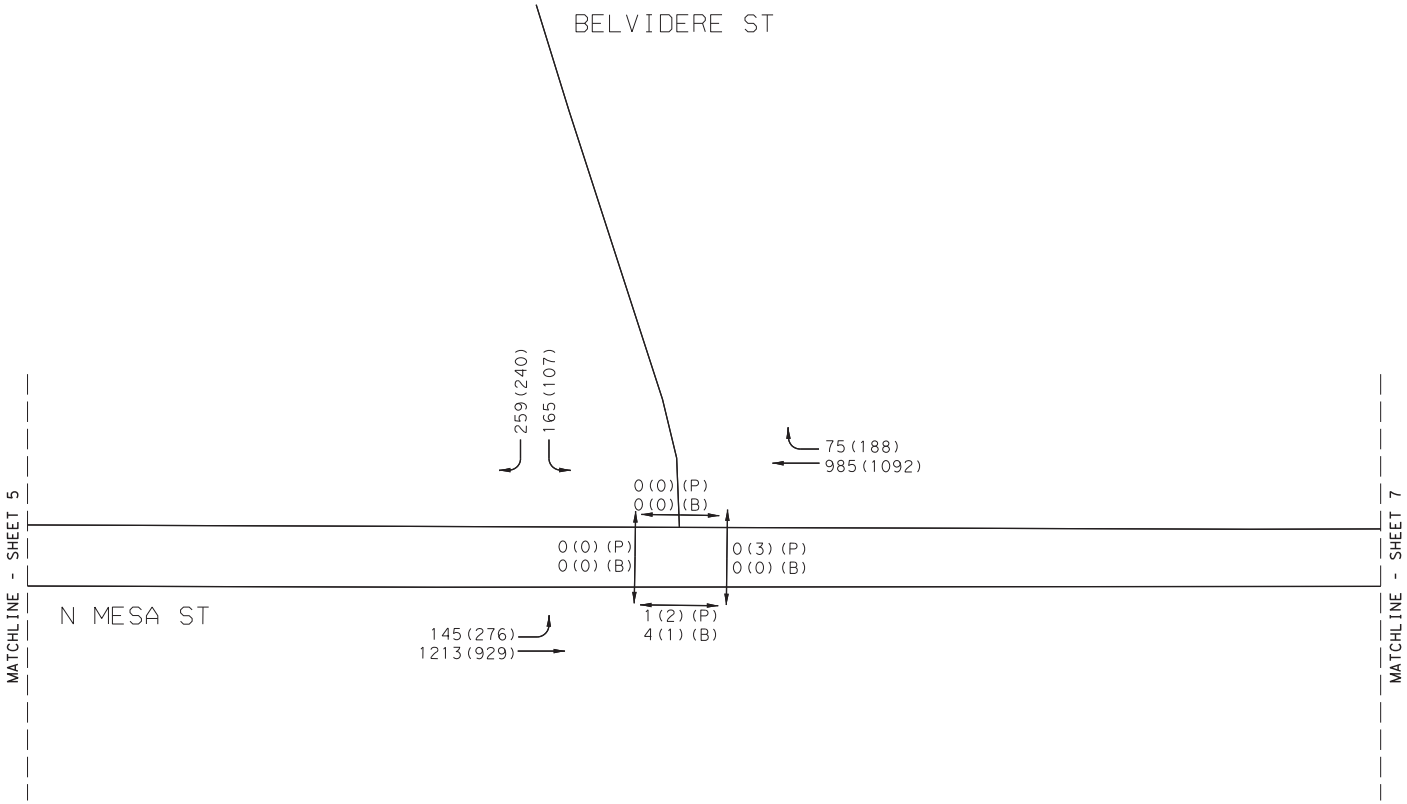

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
BELVIDERE ST

Kimley»Horn F-928

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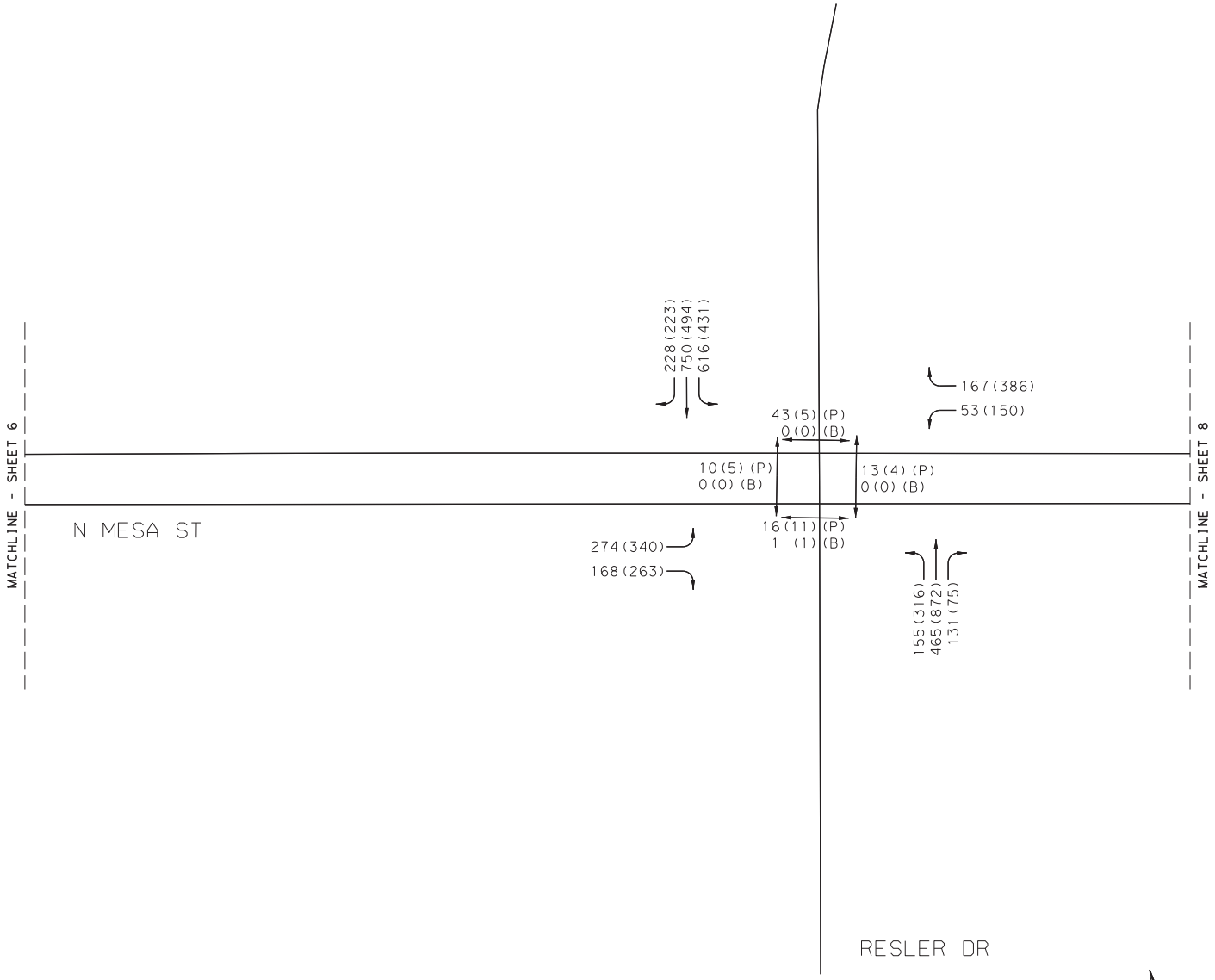

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
RESLER DR

Kimley»Horn F-928

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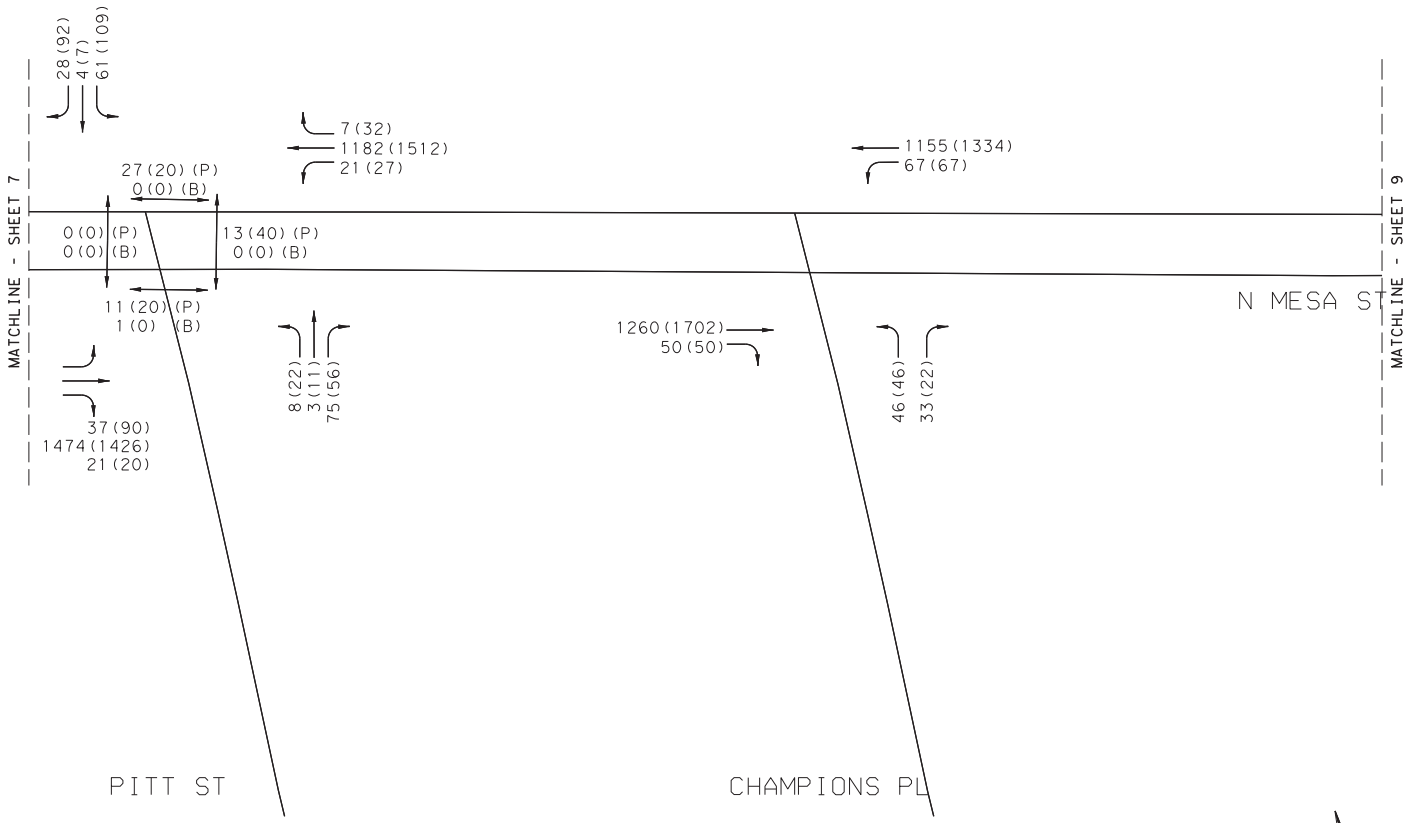

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
PITT ST

Kimley»Horn F-928

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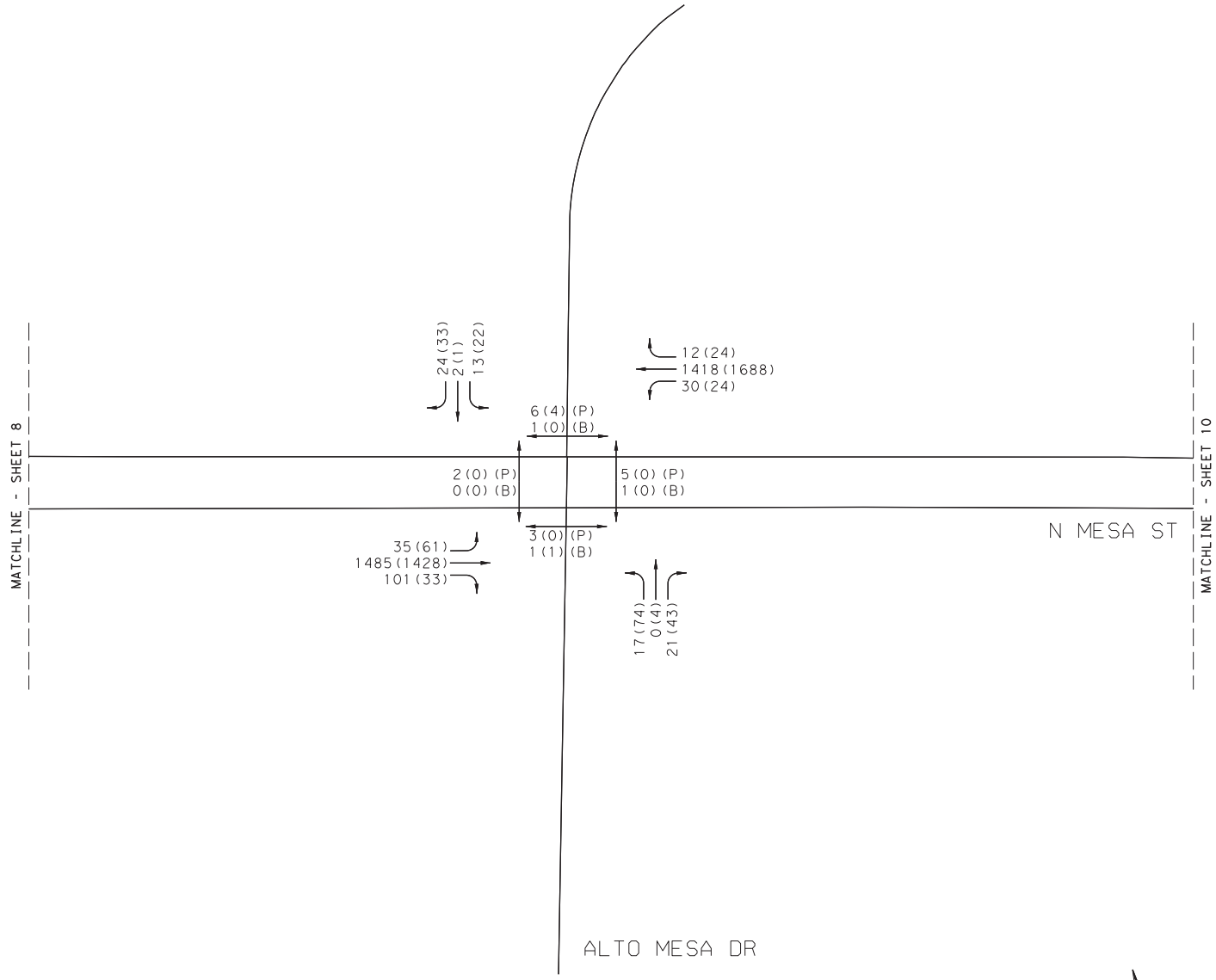

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
ALTO MESA DR

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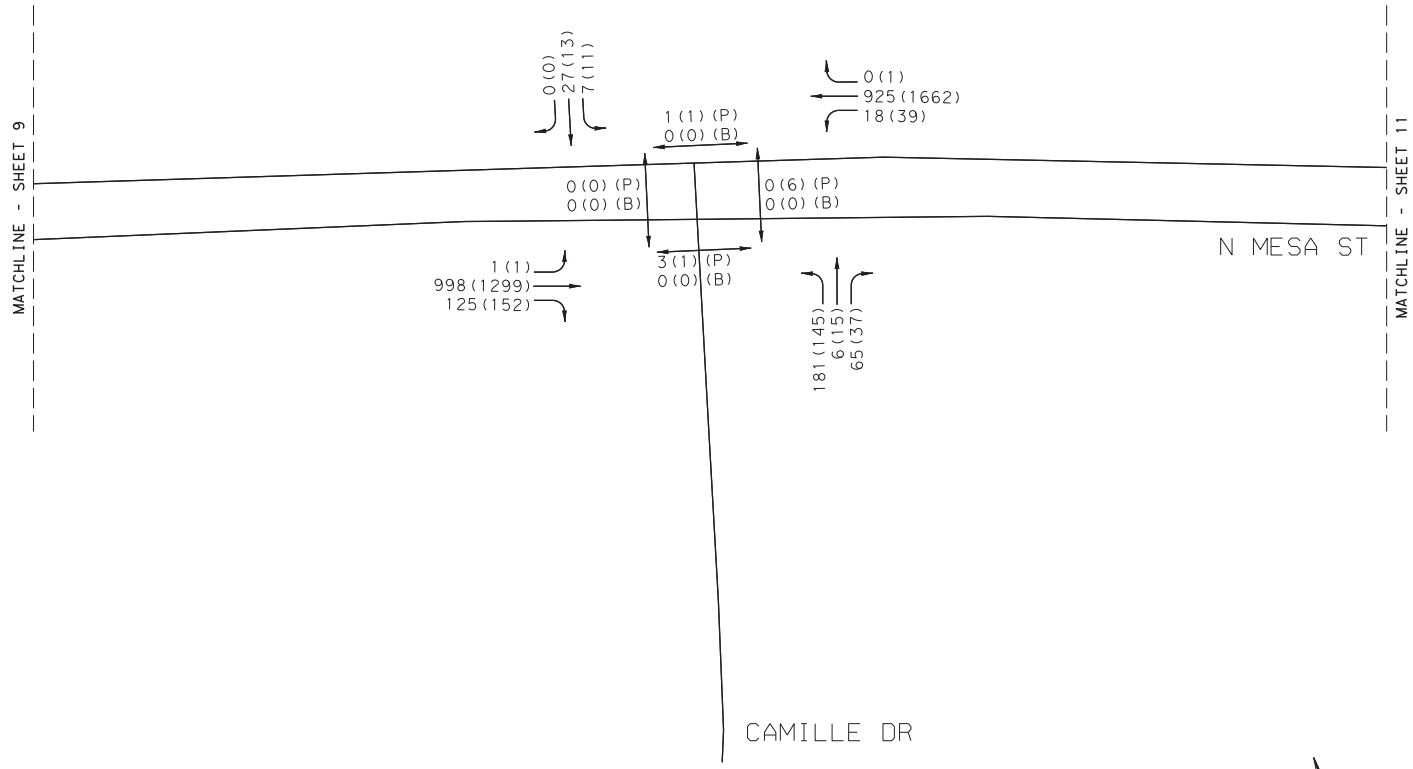

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
CAMILLE DR

Kimley»Horn F-928

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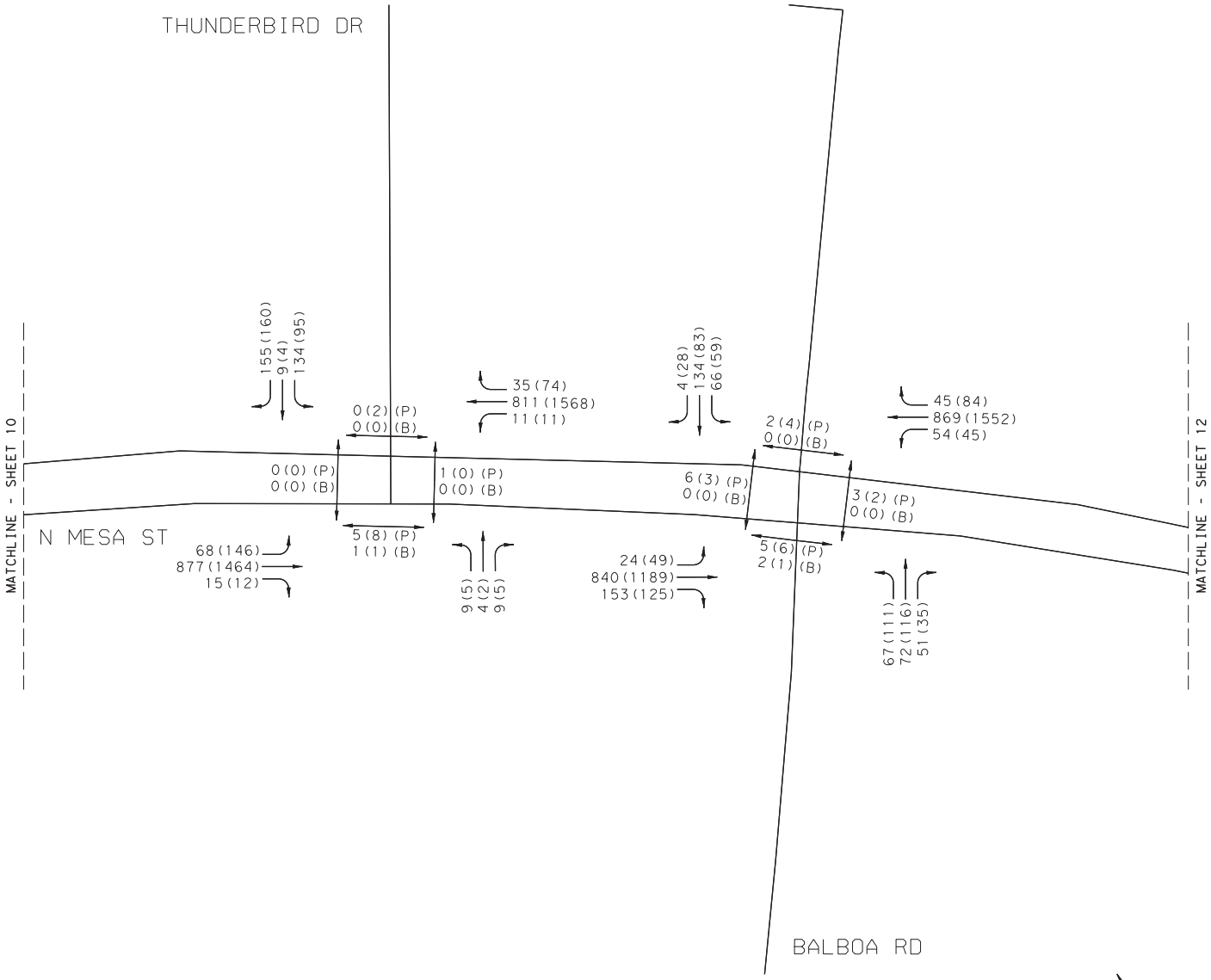

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
THUNDERBIRD DR TO BALBOA RD

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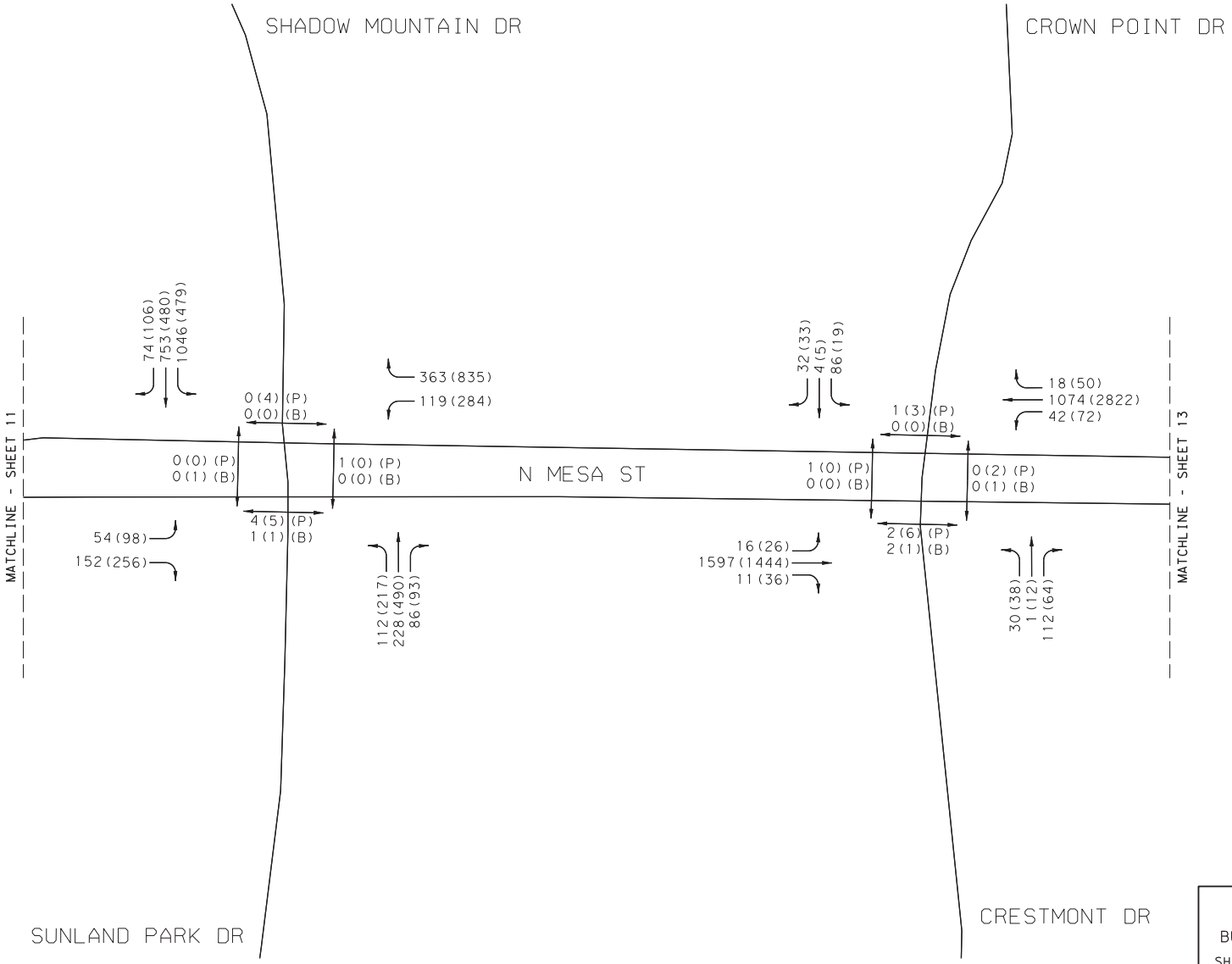

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
SUNLAND PARK DR TO CRESTMONT DR

Kimley»Horn F-928

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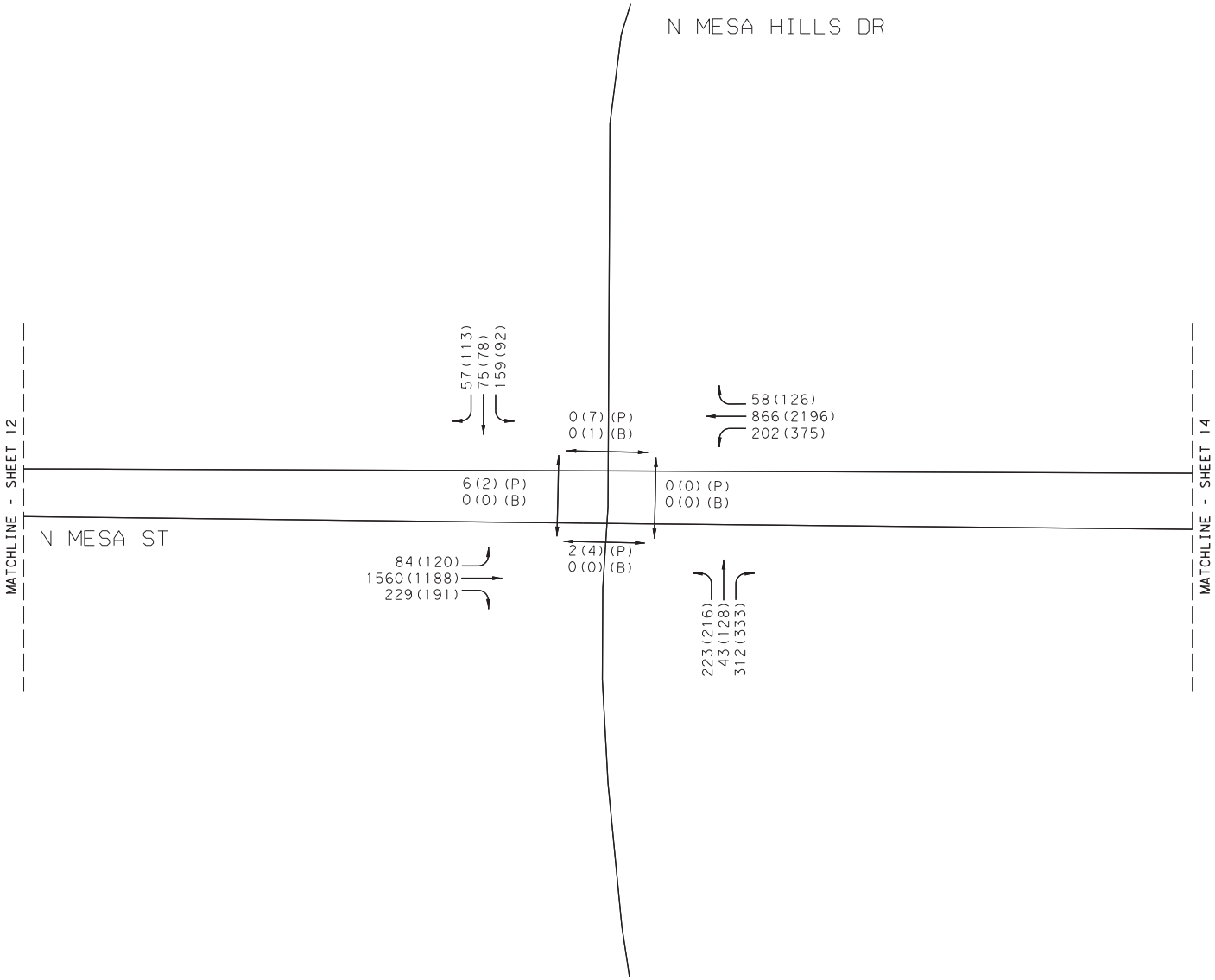

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
N MESA HILLS DR

Kimley»Horn F-928

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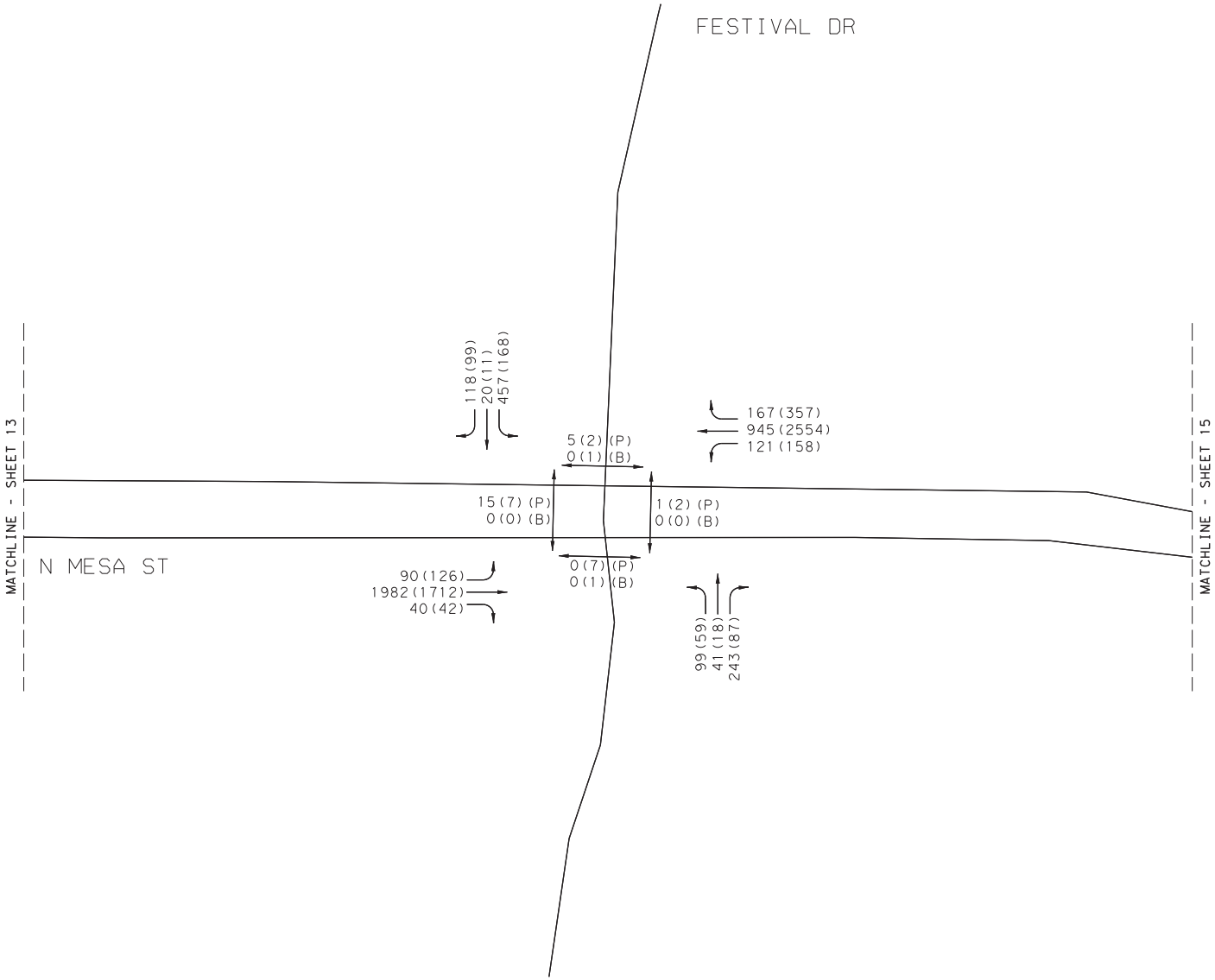


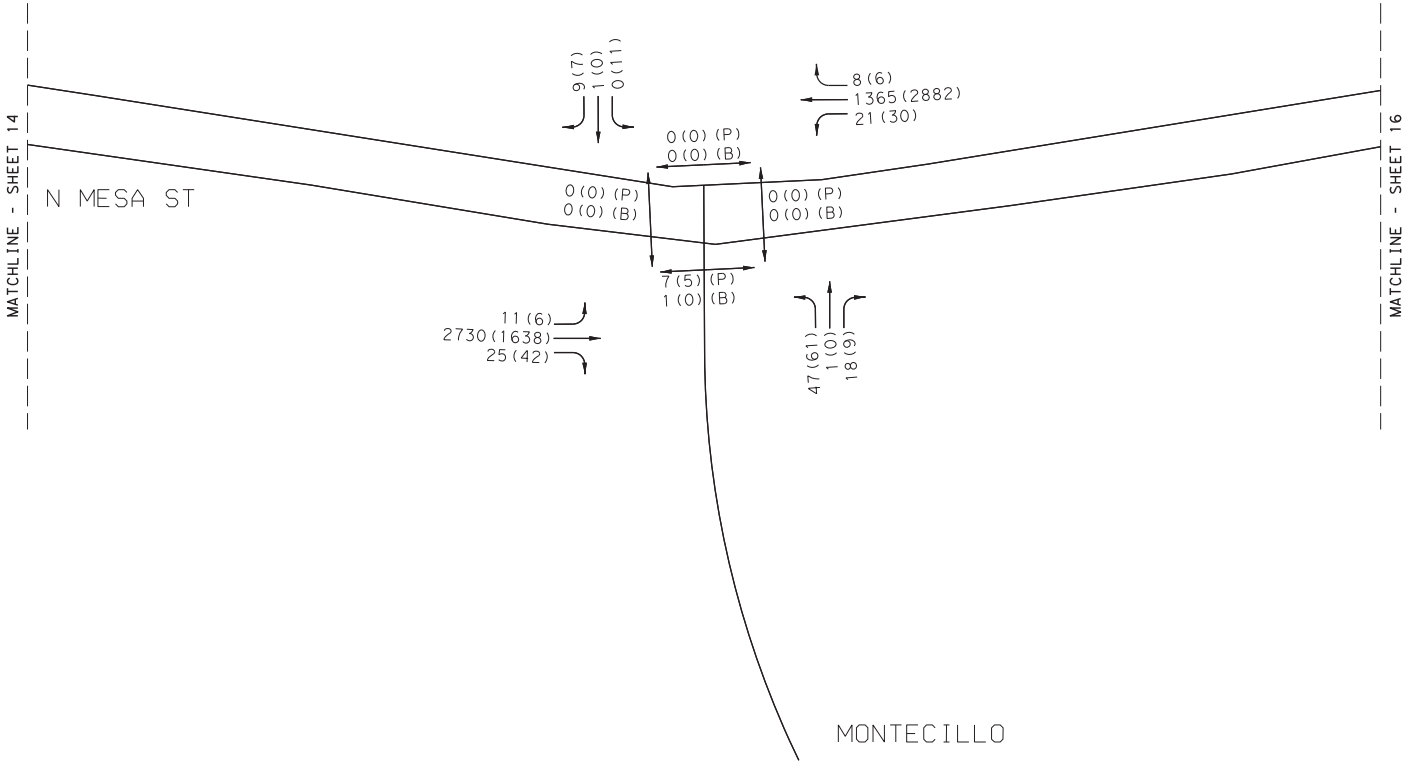
LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
FESTIVAL DR

Kimley»Horn F-928

0001-02-059 SHEET 14 OF 26



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
MONTECILLO

Kimley»Horn F-928

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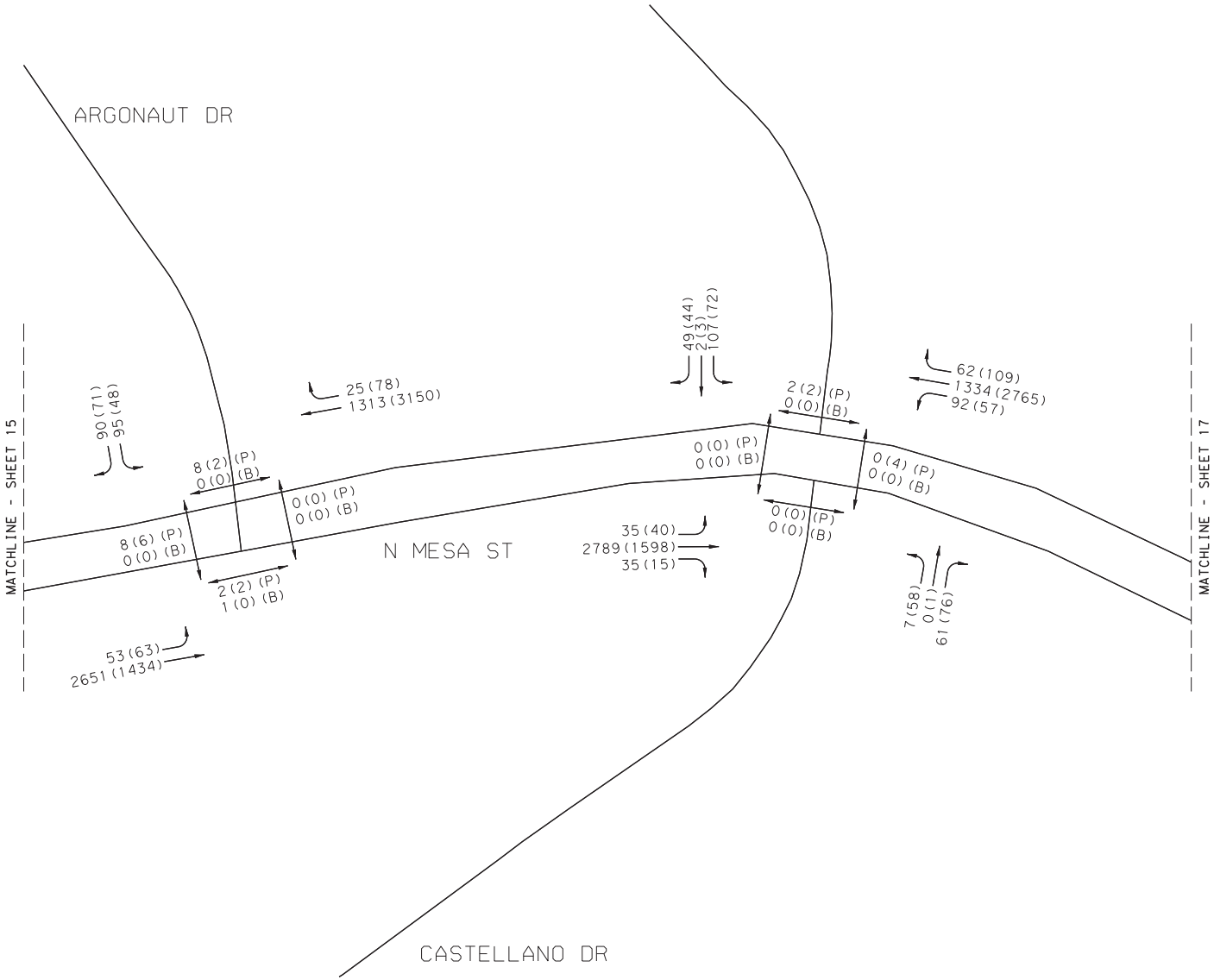

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
ARGONAUT DR TO CASTELLANO DR

Kimley»Horn F-928

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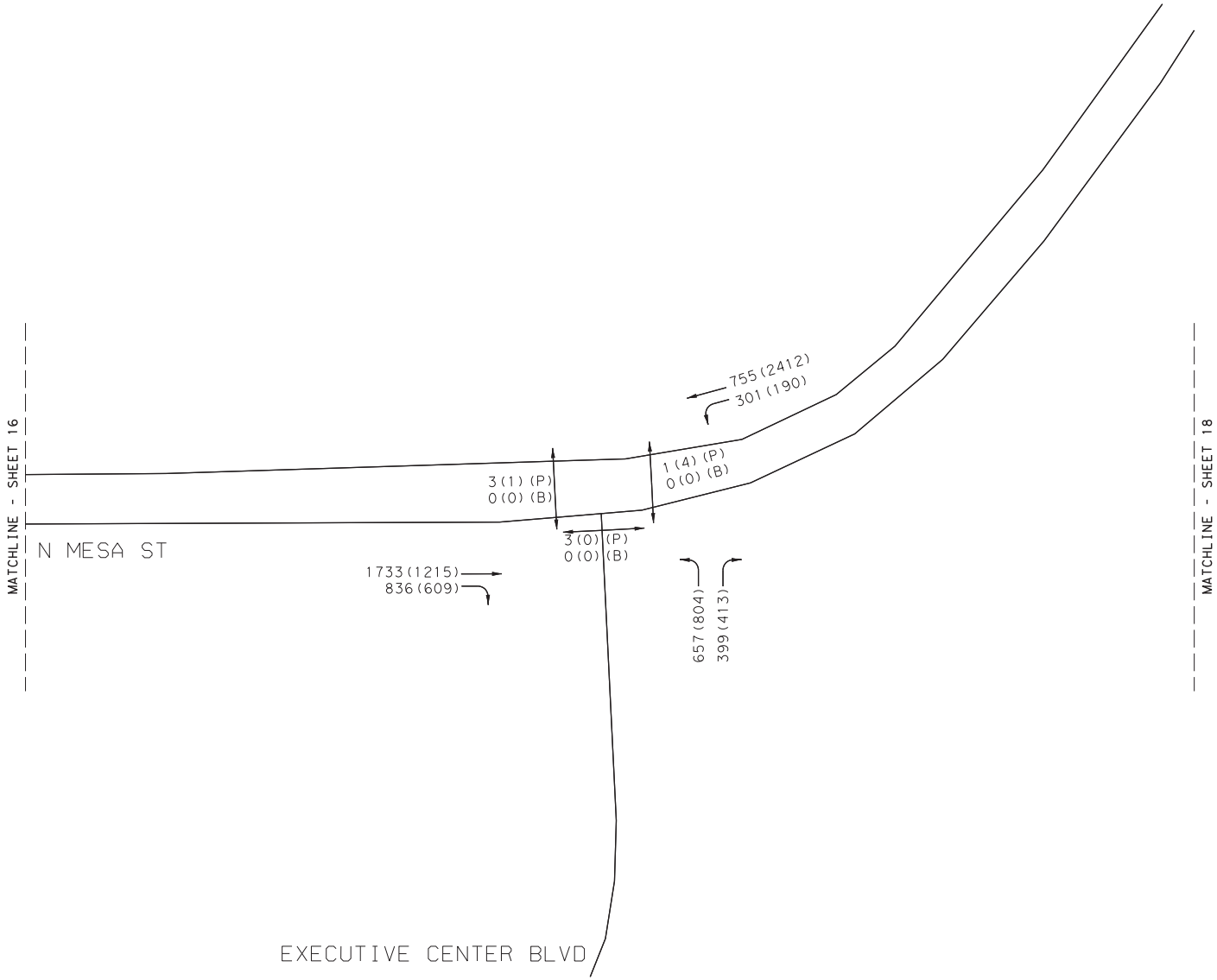

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
EXECUTIVE CENTER BLVD

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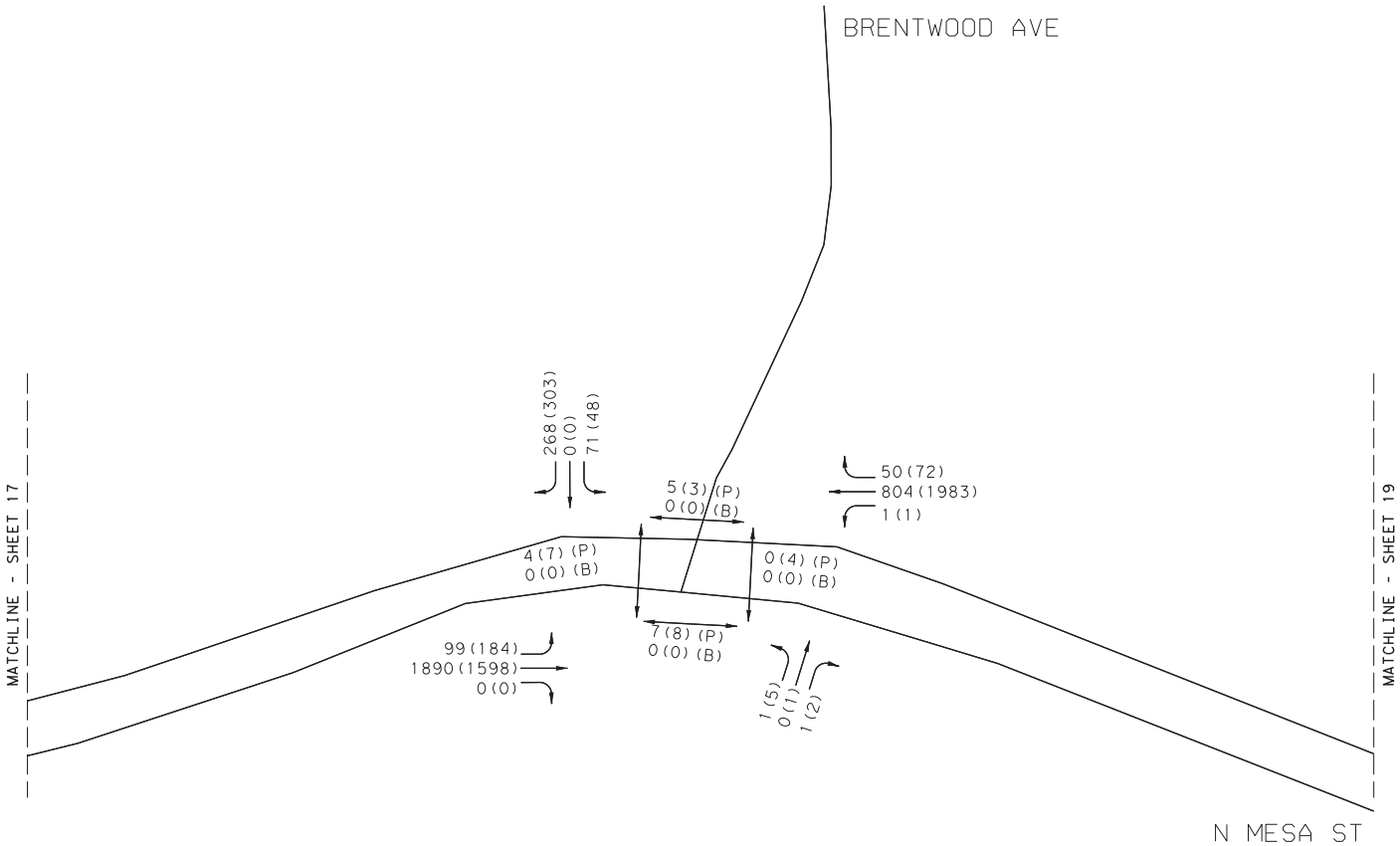

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
BRENTWOOD AVE

Kimley»Horn F-928

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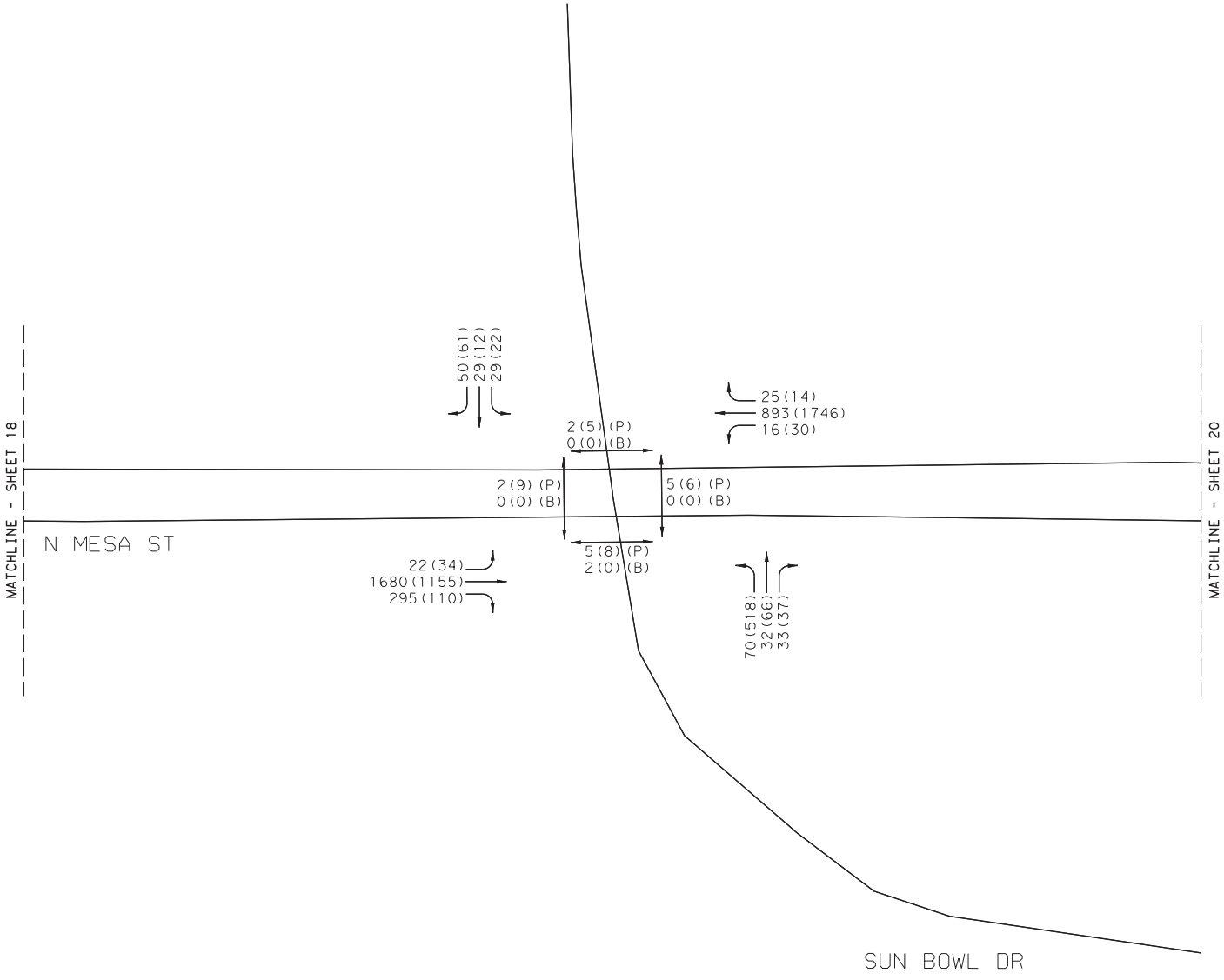

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
SUN BOWL DR

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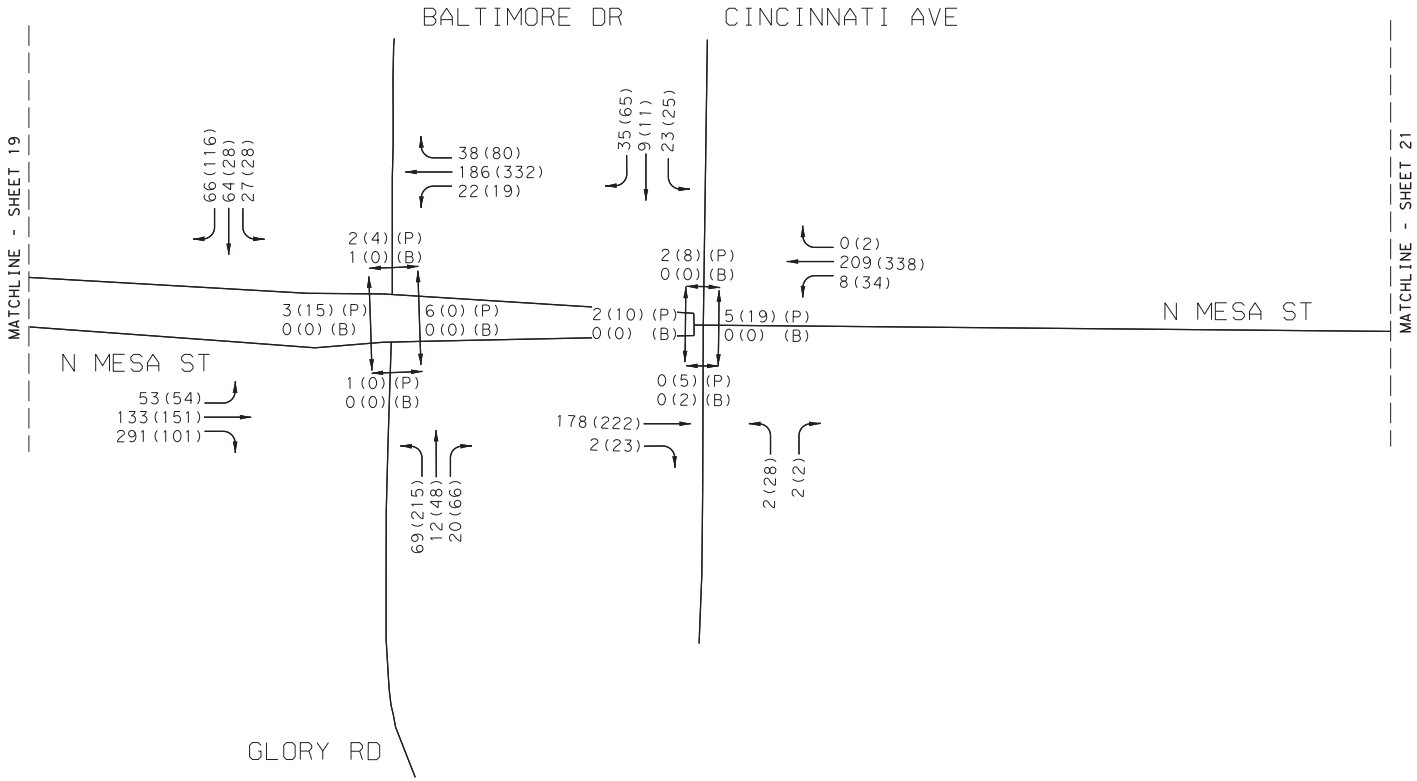

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
GLORY RD TO CINCINNATI AVE

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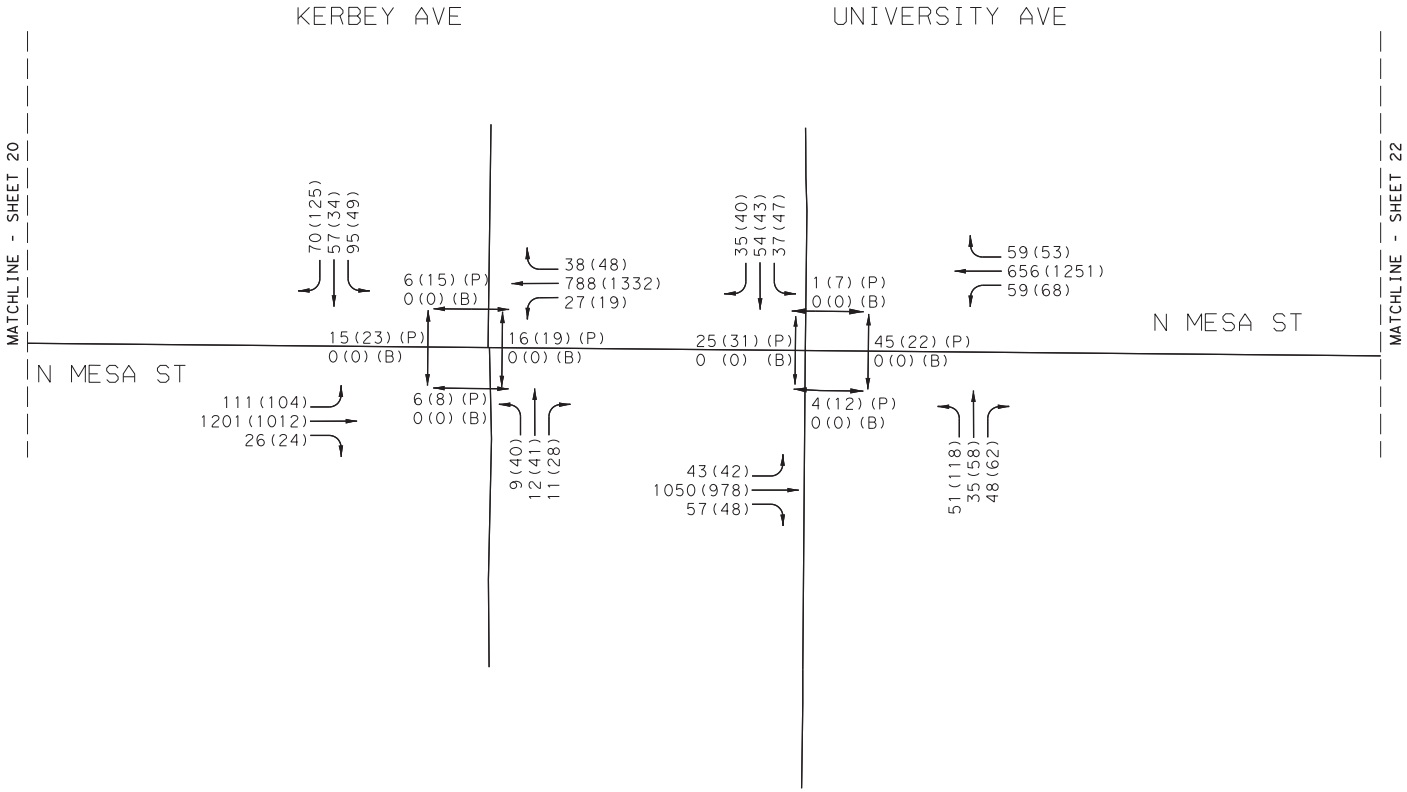

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
KERBEY AVE TO UNIVERSITY AVE

Kimley»Horn F-928

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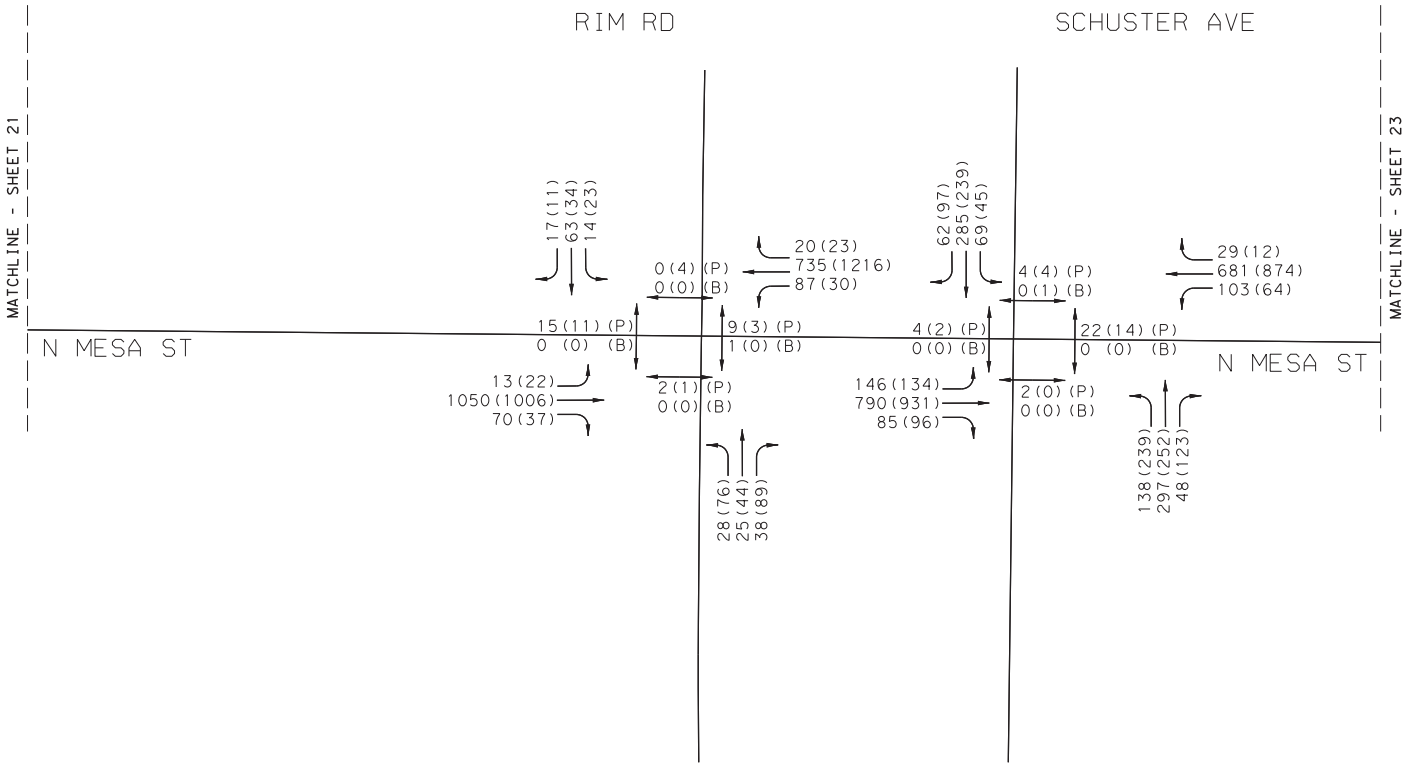

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
RIM RD TO SCHUSTER AVE

Kimley»Horn F-928

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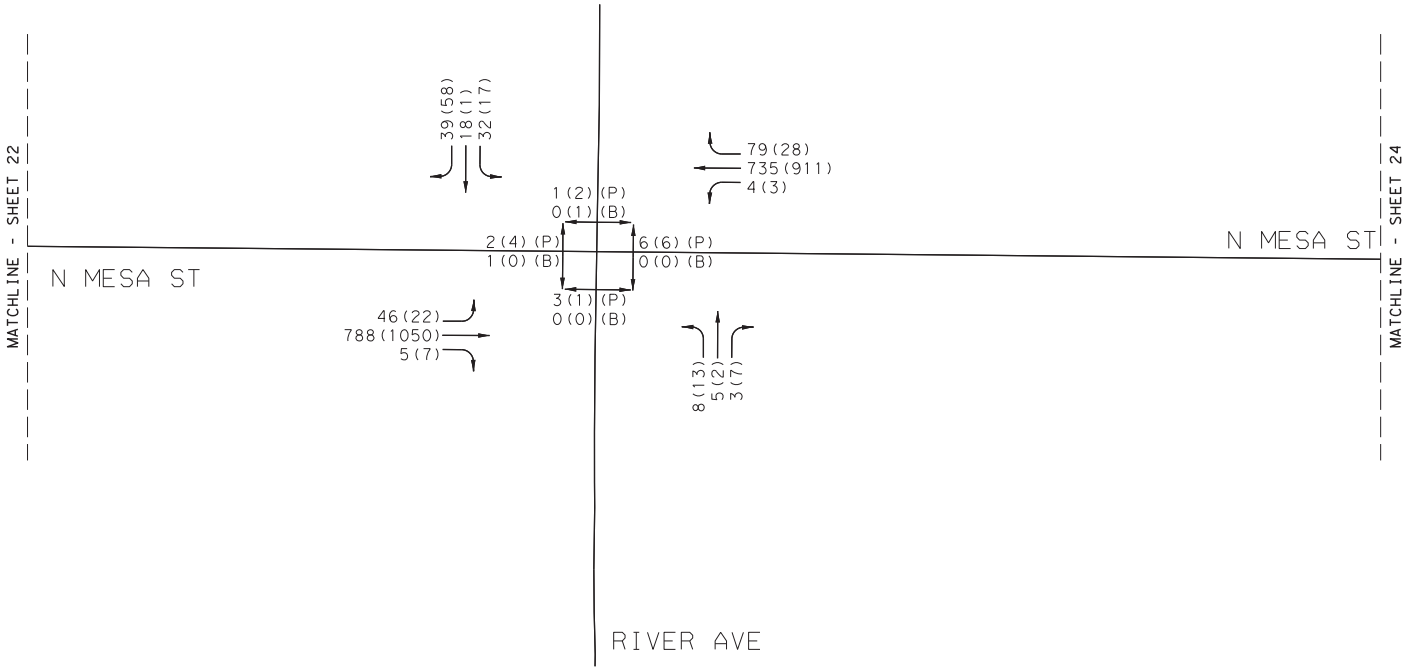

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
RIVER AVE

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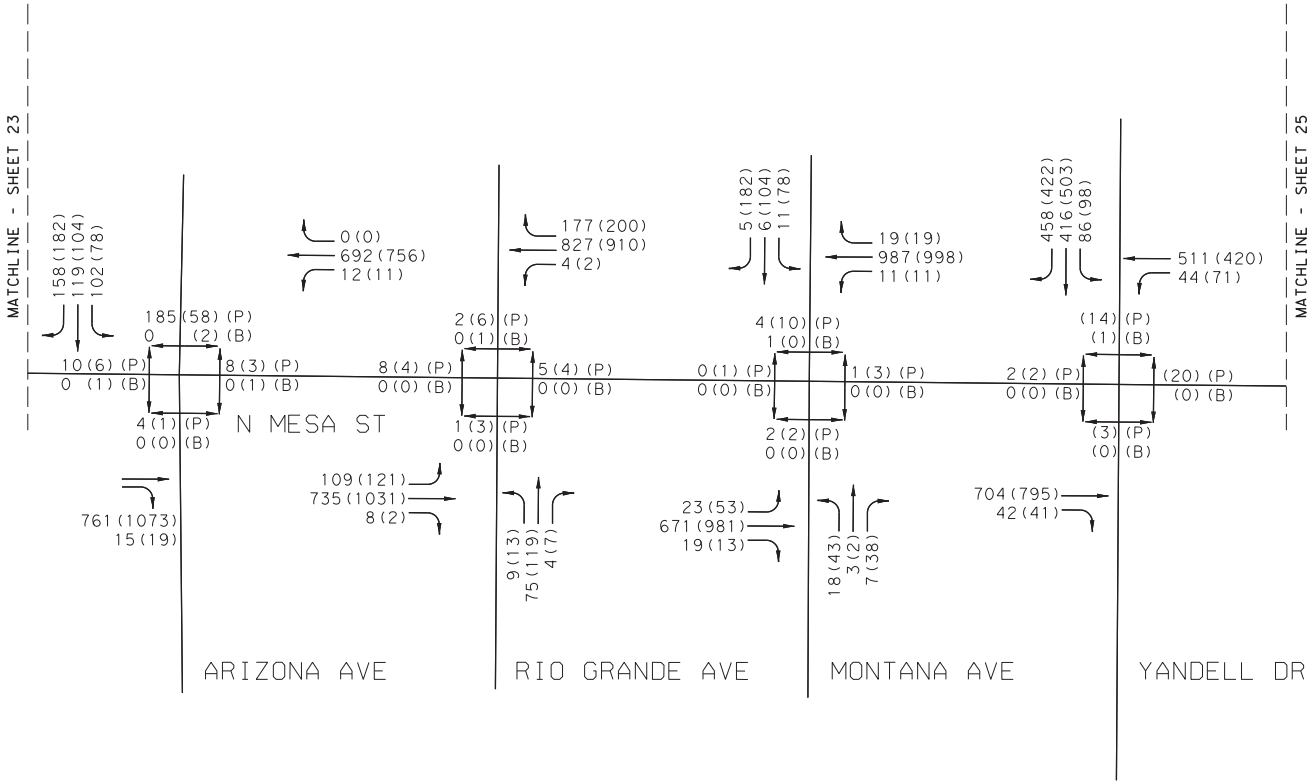

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
ARIZONA AVE TO YANDELL DR

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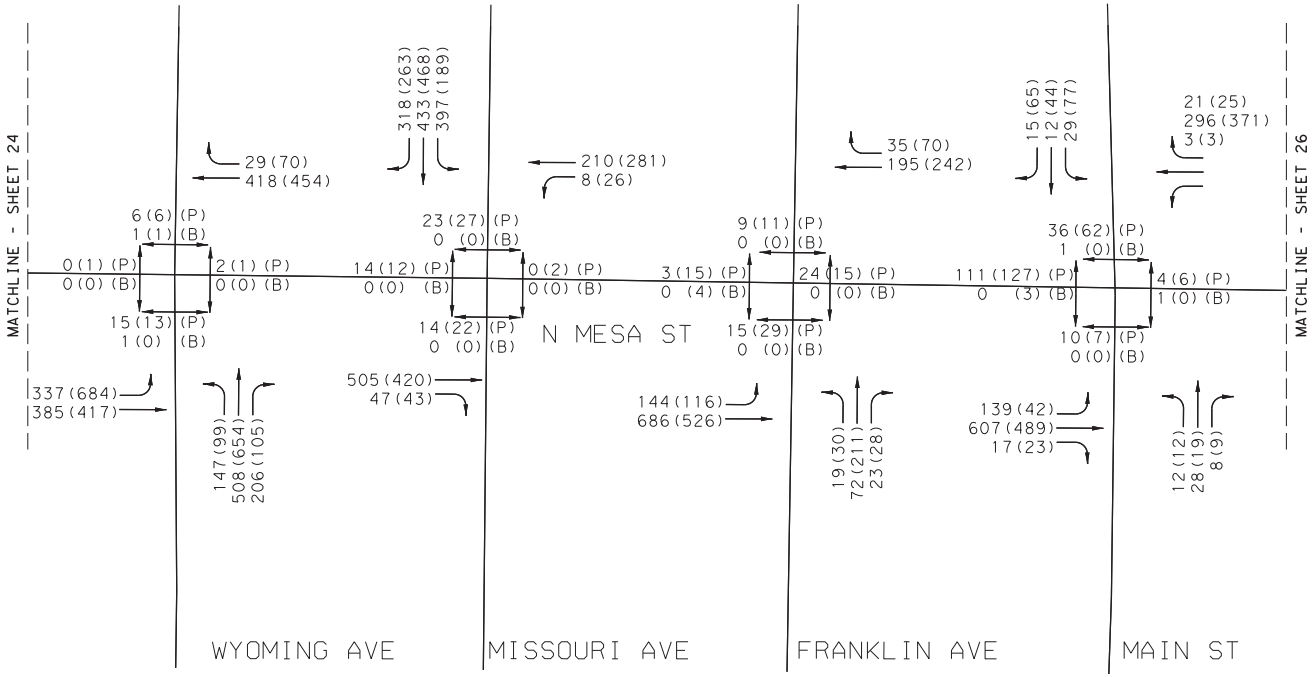

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
WYOMING AVE TO MAIN ST

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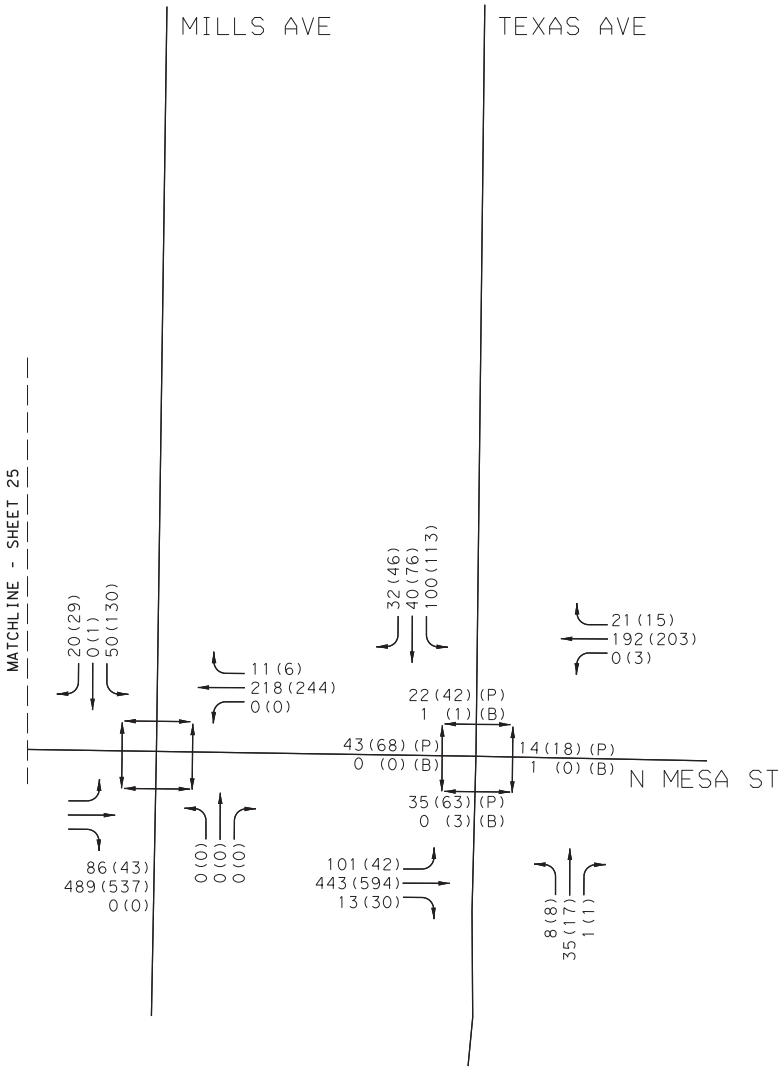

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
MILLS AVE TO TEXAS AVE

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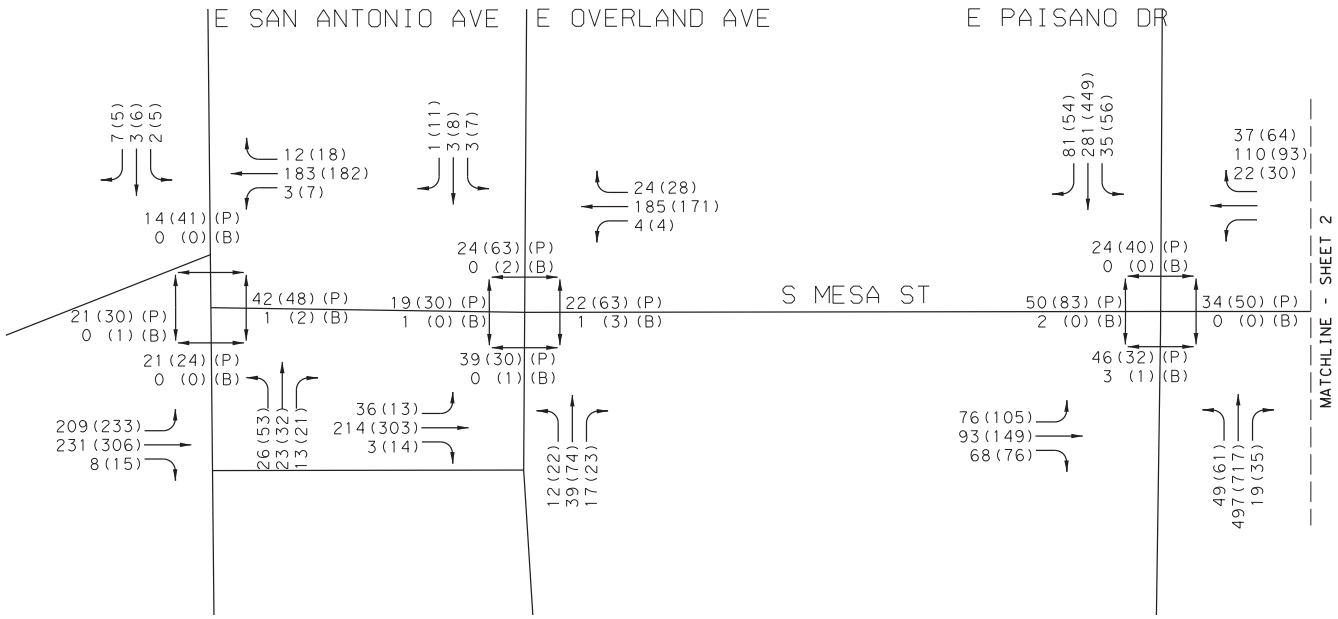
2020 BUILD PEAK HOUR

(Section 2 – San Antonio Ave to LP 375)



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD -TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
SAN ANTONIO AVE TO PAISANO DR

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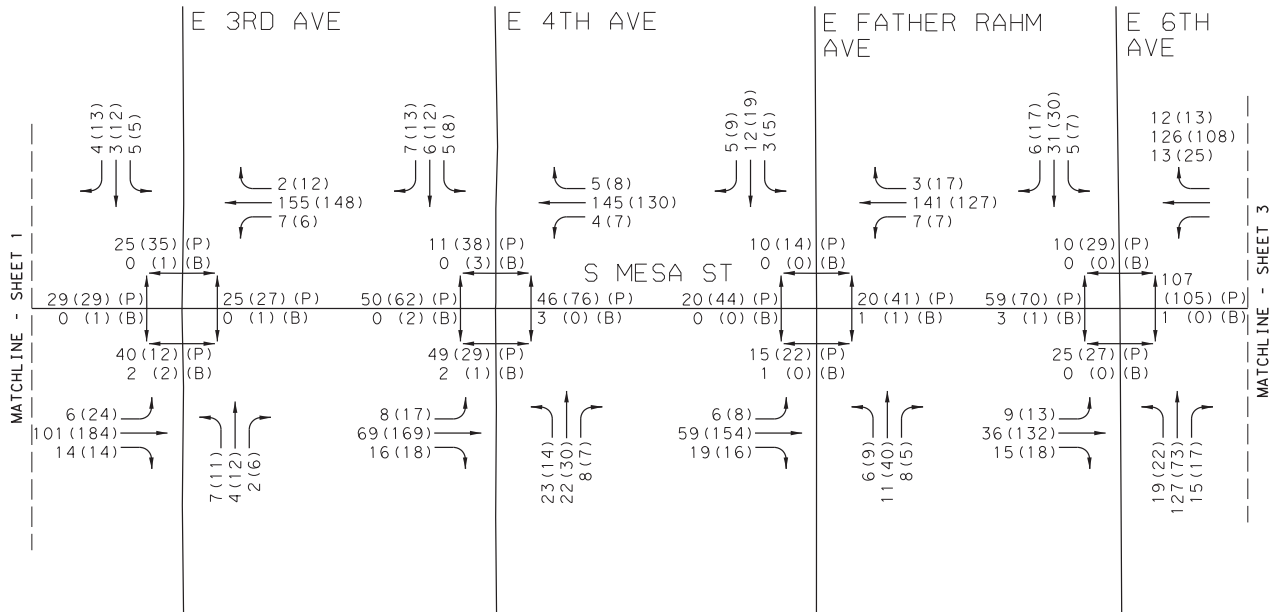

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD -TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
3RD AVE TO 6TH AVE

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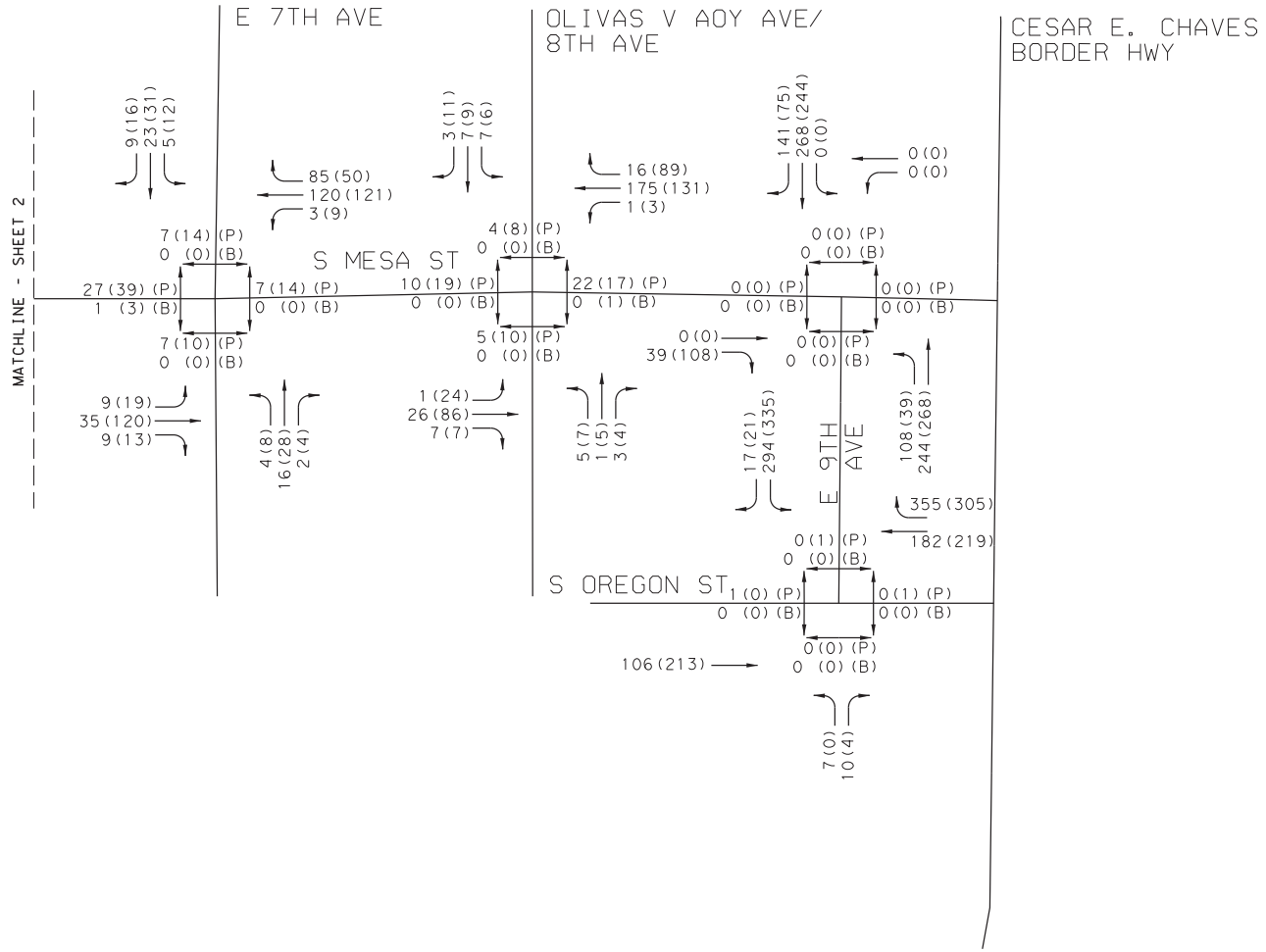

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD -TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
7TH AVE TO BORDER HWY

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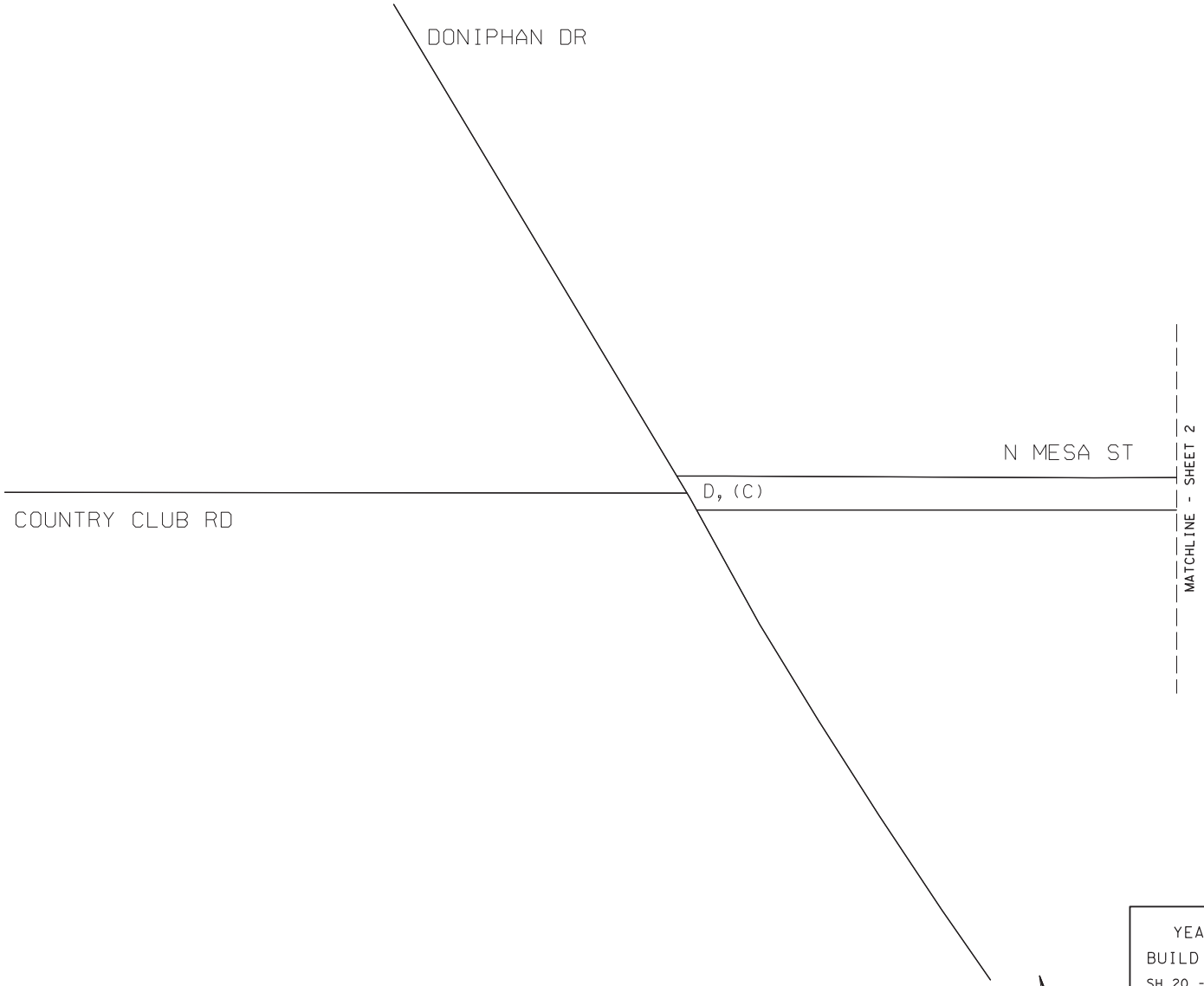
2020 BUILD PEAK HOUR INTERSECTION LOS

(Section 1 – Doniphan Dr to Texas Ave)



LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
DONIPHAN DR

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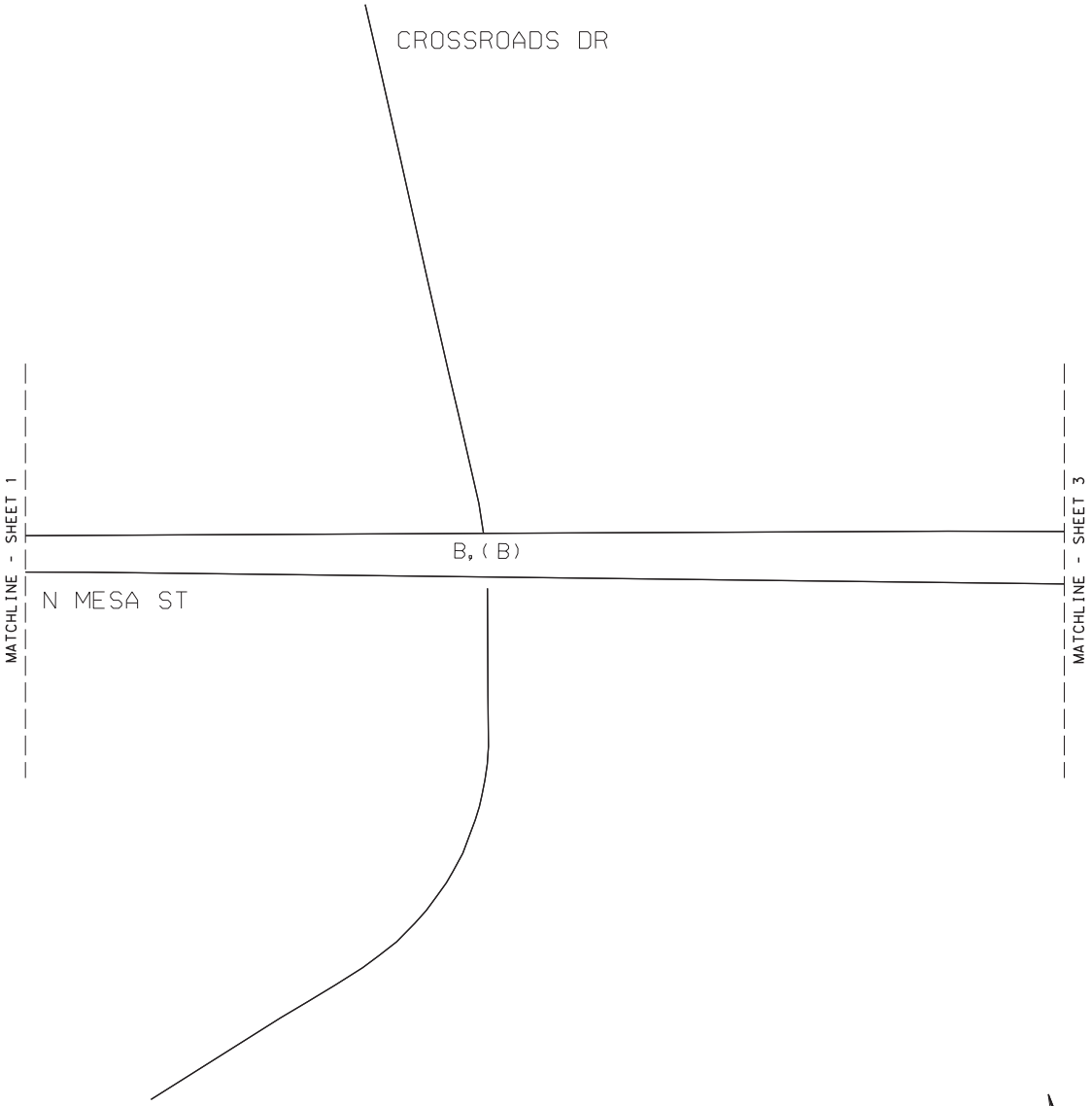

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
CROSSROADS DR

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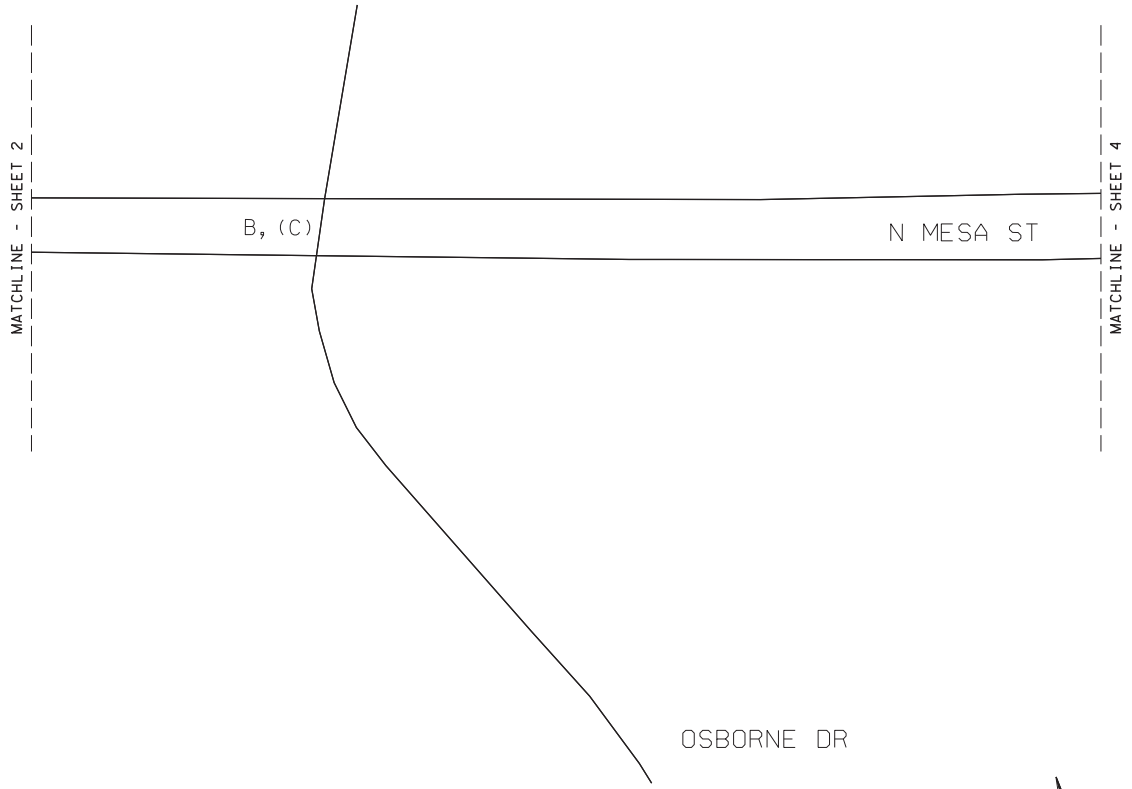

NOT TO SCALE

LEGEND	
AM, (PM)	LOS

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
OSBORNE DR

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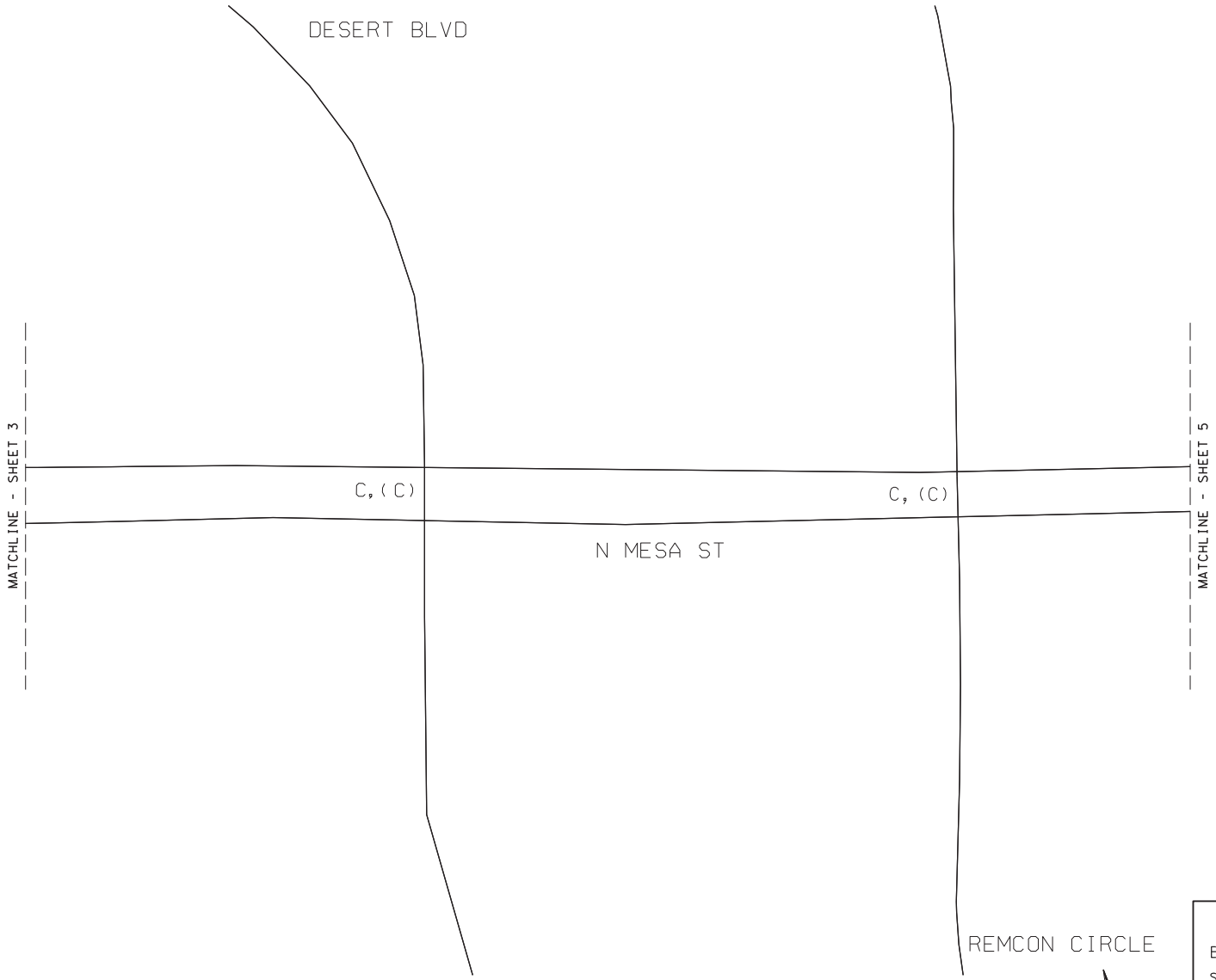

NOT TO SCALE

LEGEND	
AM, (PM)	LOS

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
DESERT BLVD TO REMCON CIR

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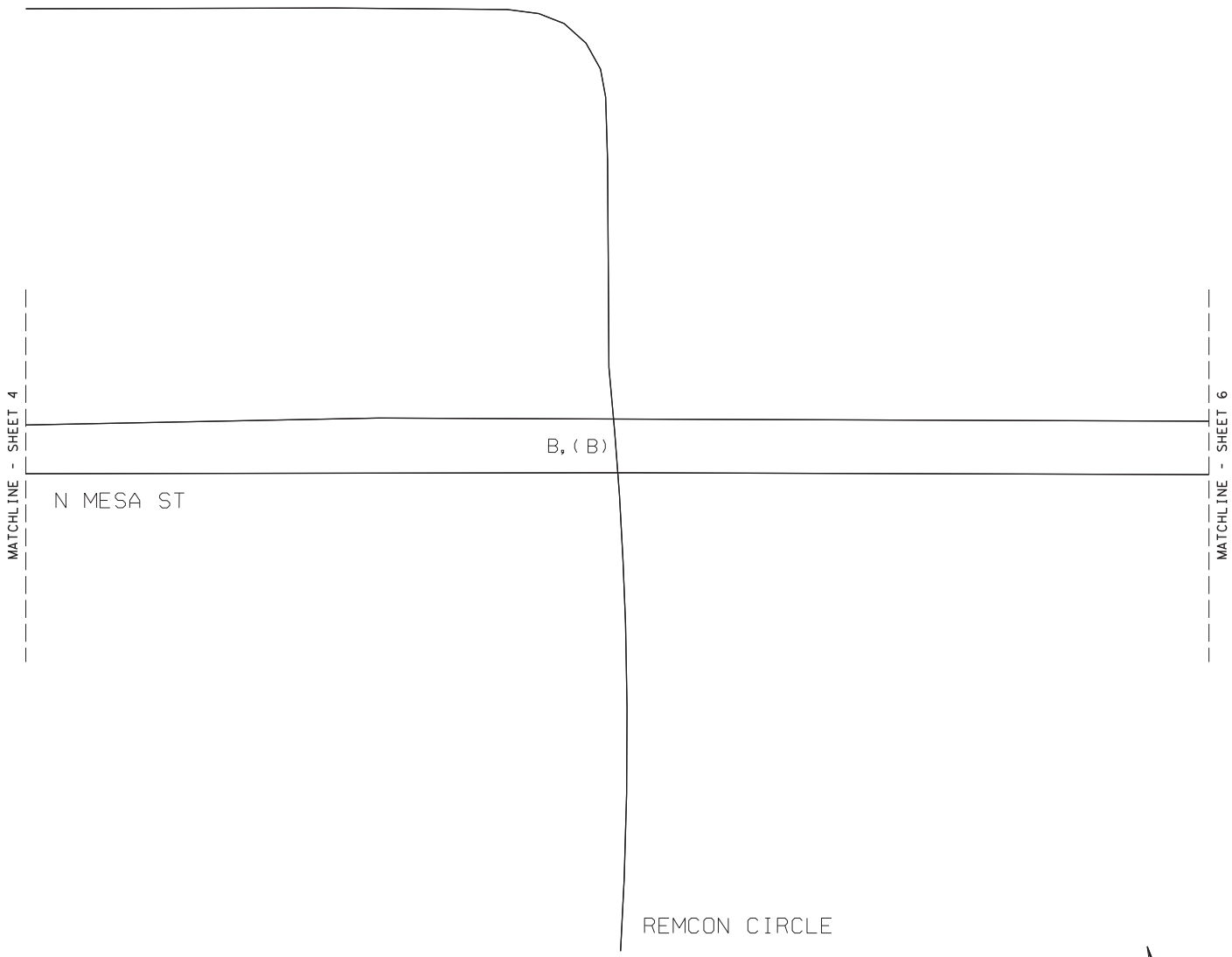

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
REMCON CIR

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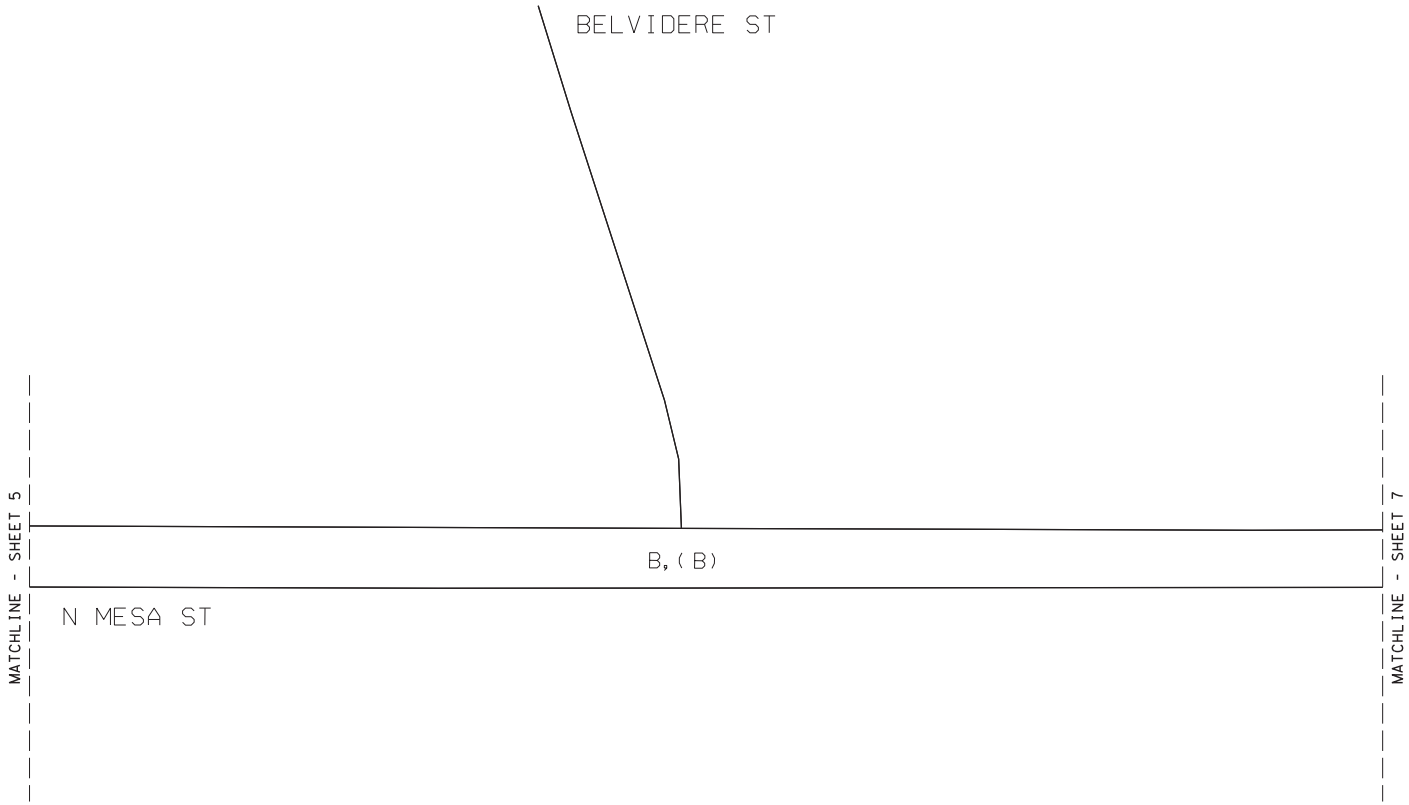

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
BELVIDERE ST

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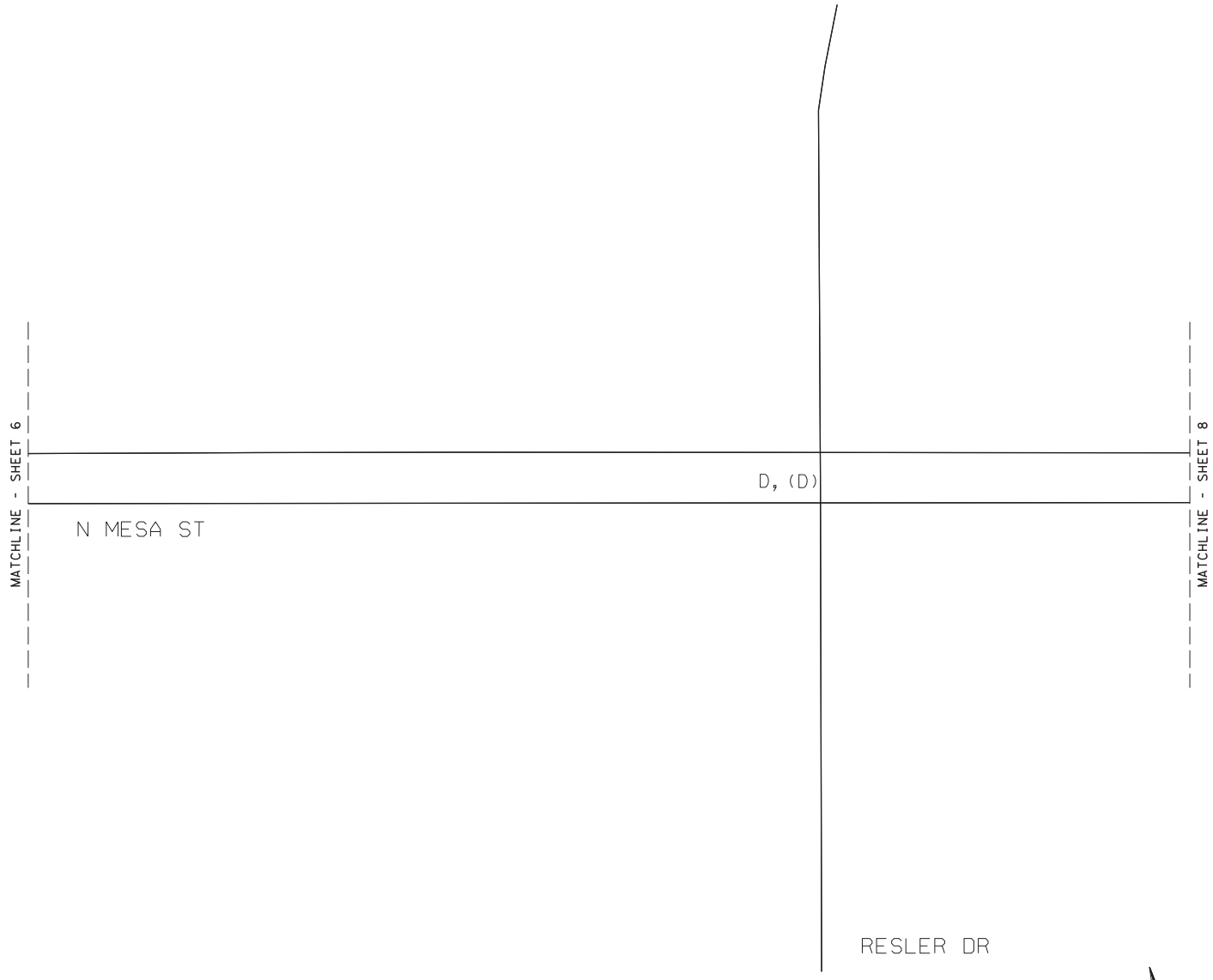

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
RESLER DR

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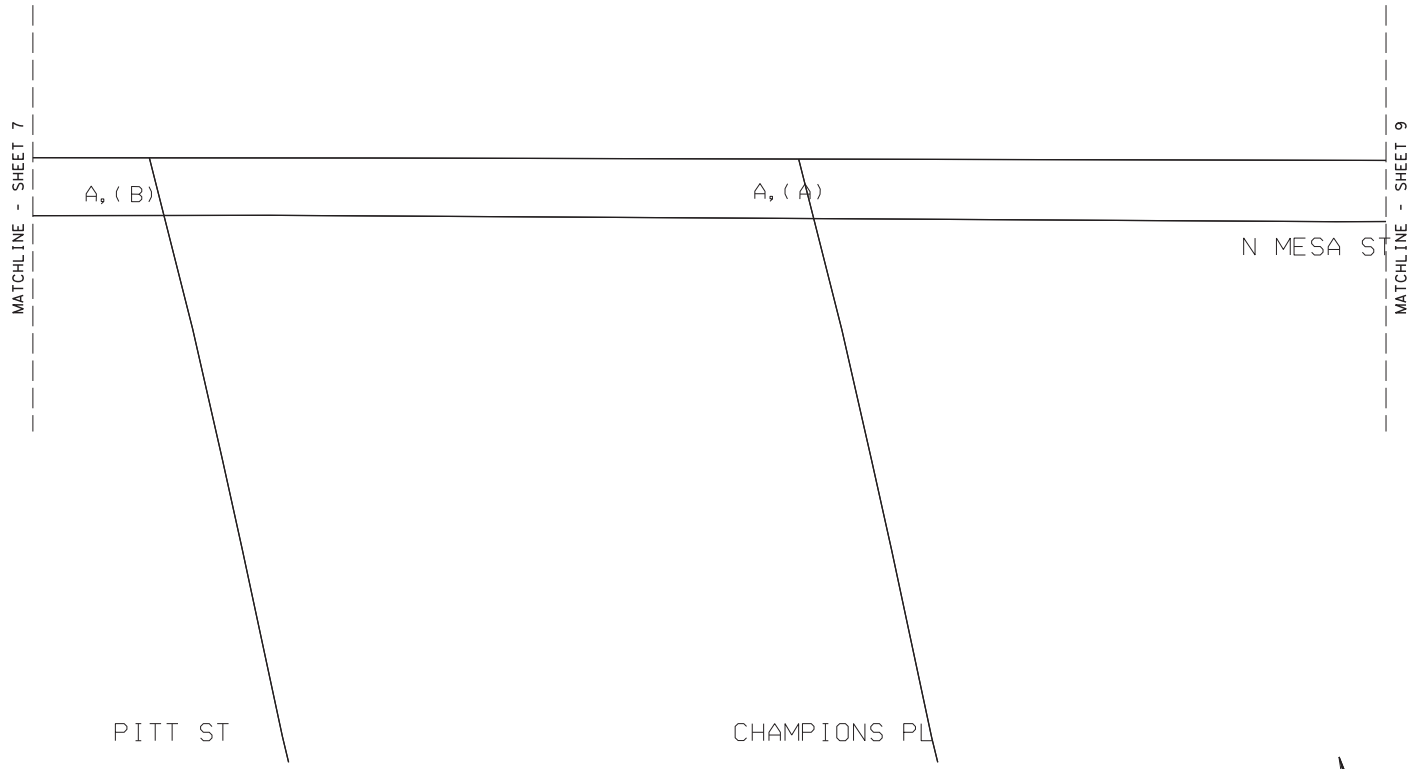

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
PITT ST

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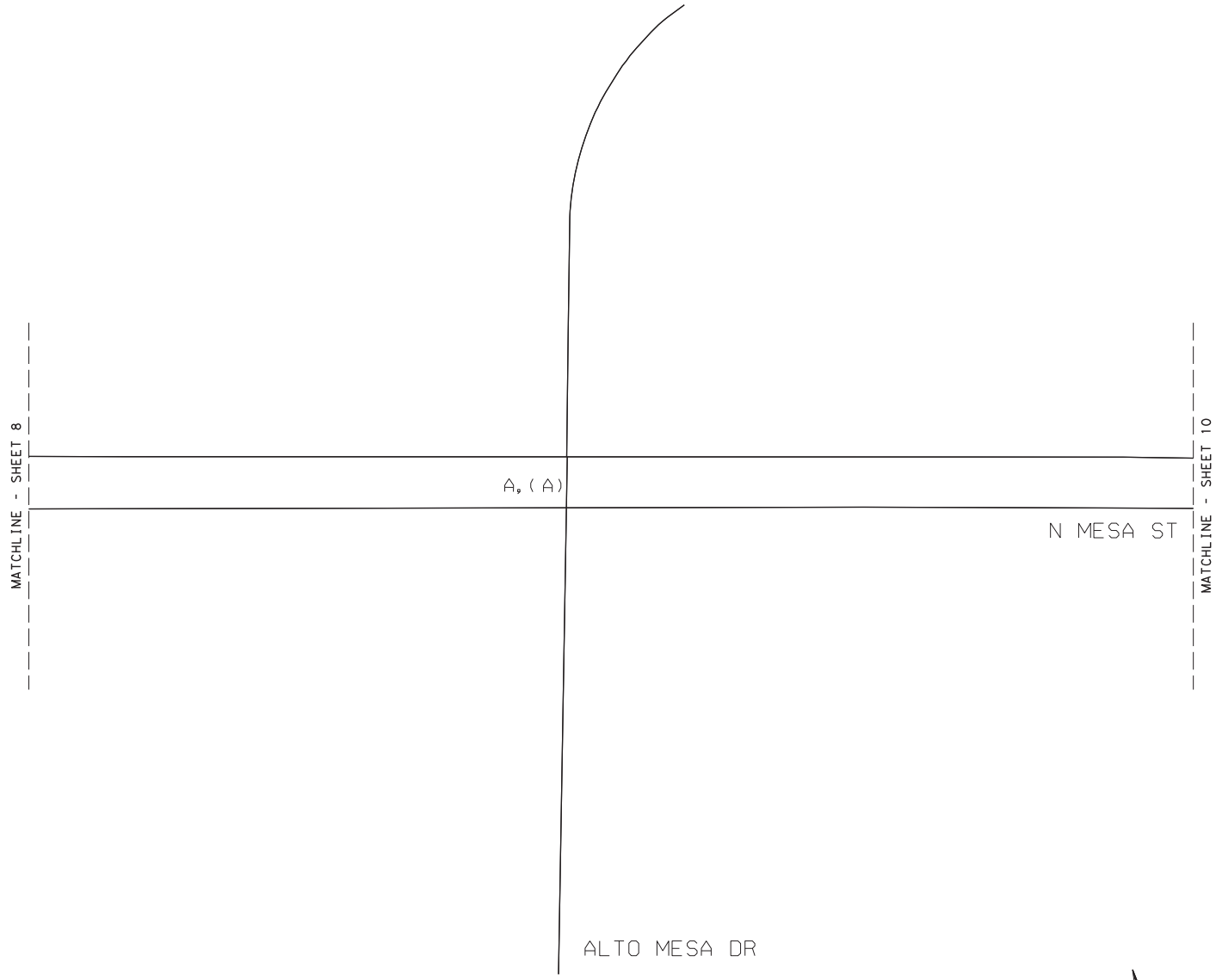

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
ALTO MESA DR

Kimley»Horn F-928

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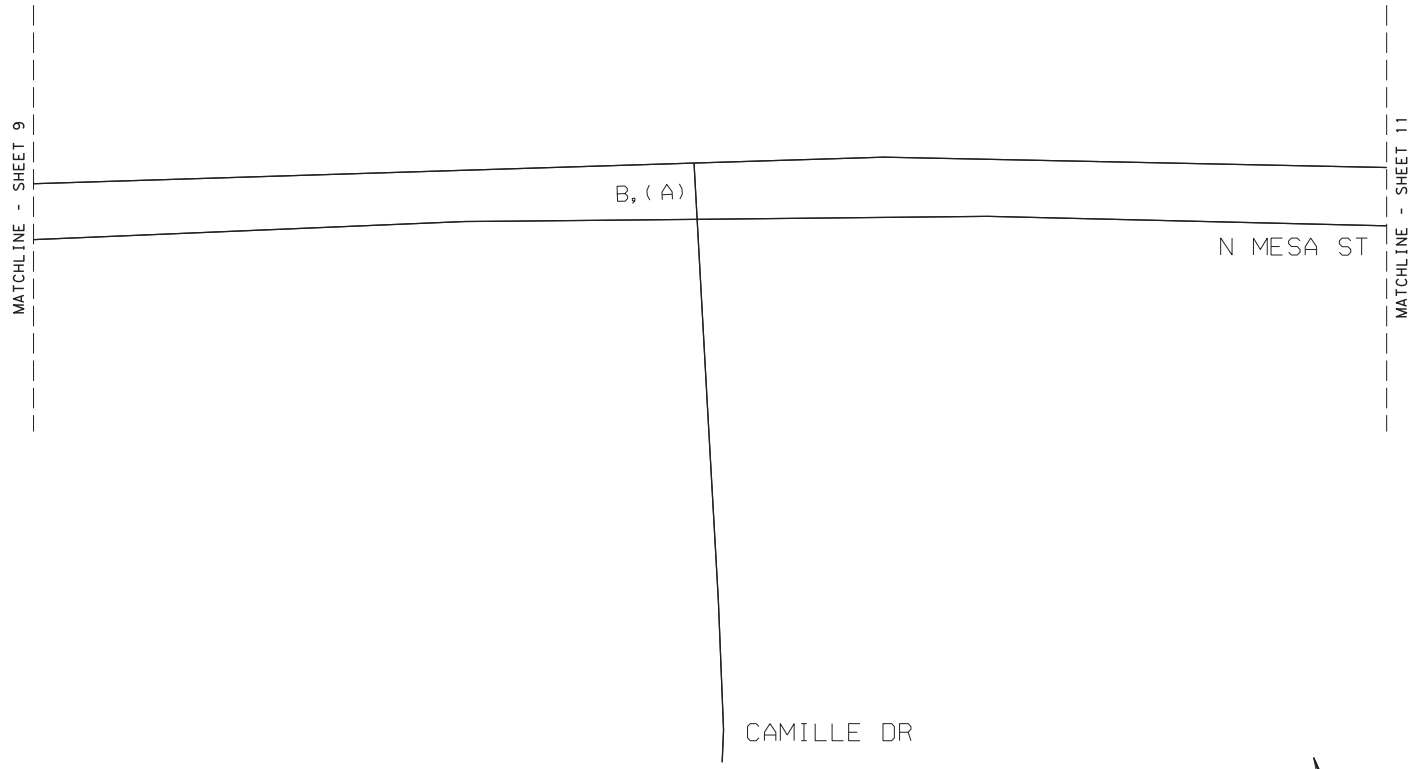

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
CAMILLE DR

Kimley»Horn F-928

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LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
THUNDERBIRD DR TO BALBOA RD

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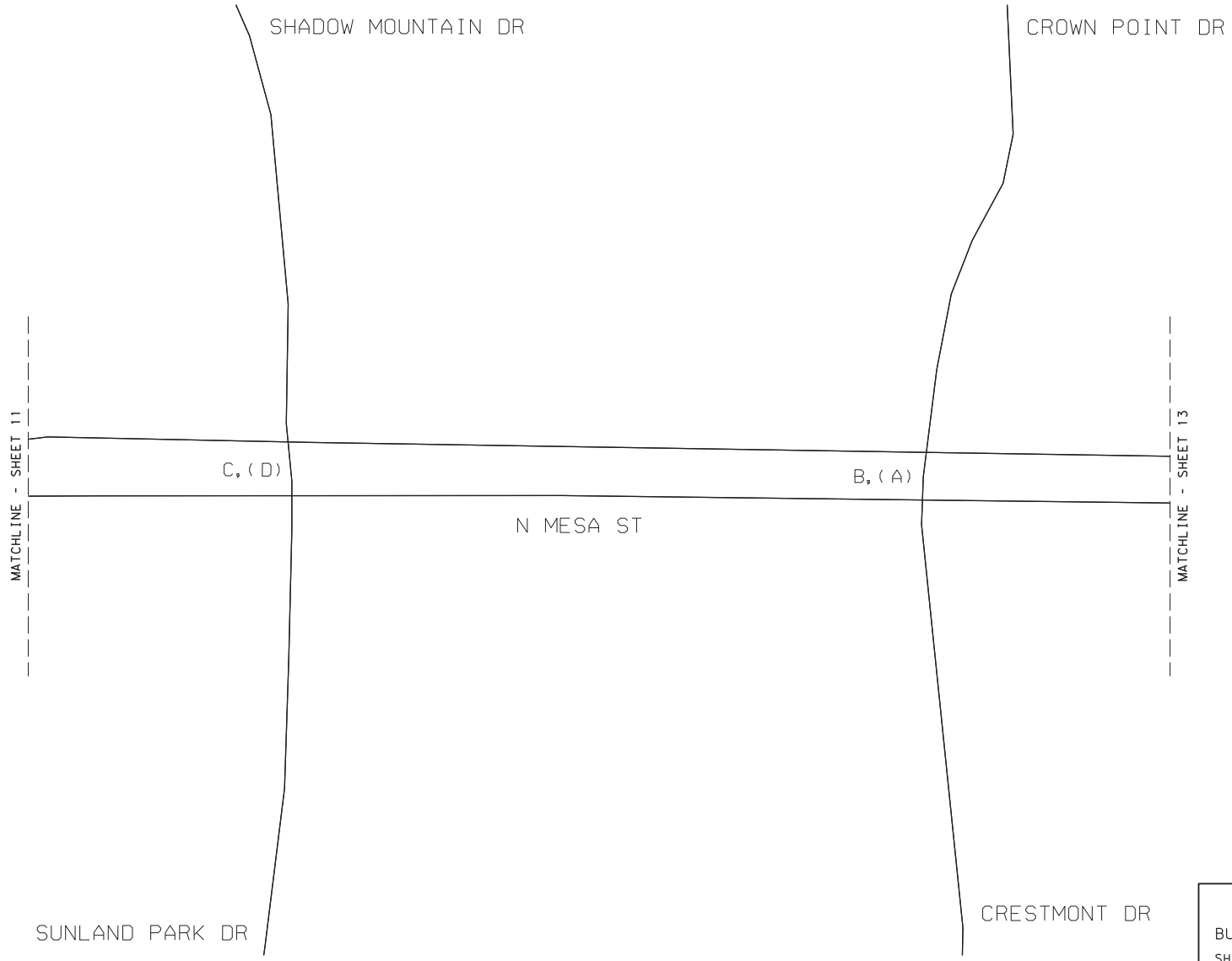

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
SUNLAND PARK DR TO CRESTMONT DR

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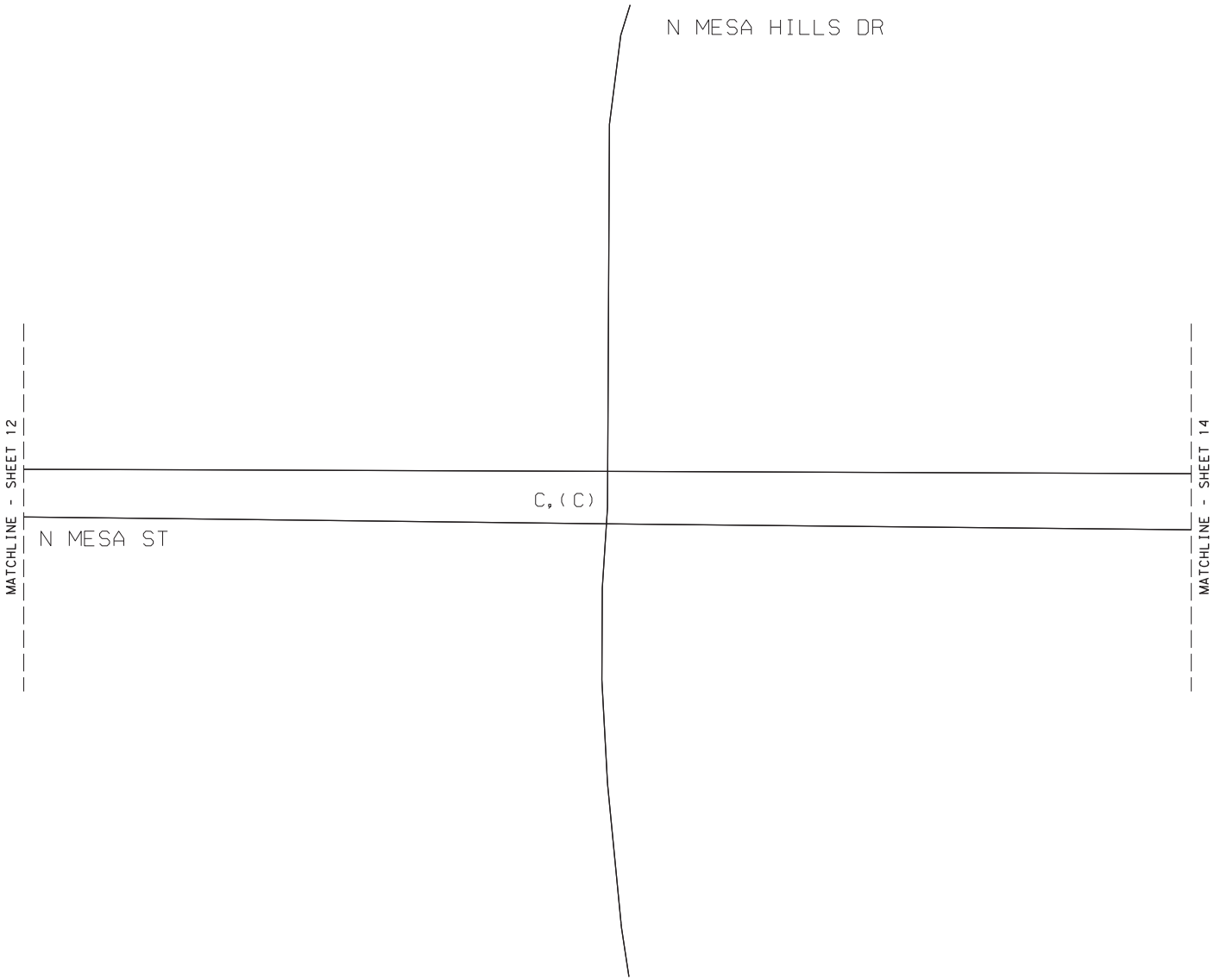

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
N MESA HILLS DR

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LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
FESTIVAL DR

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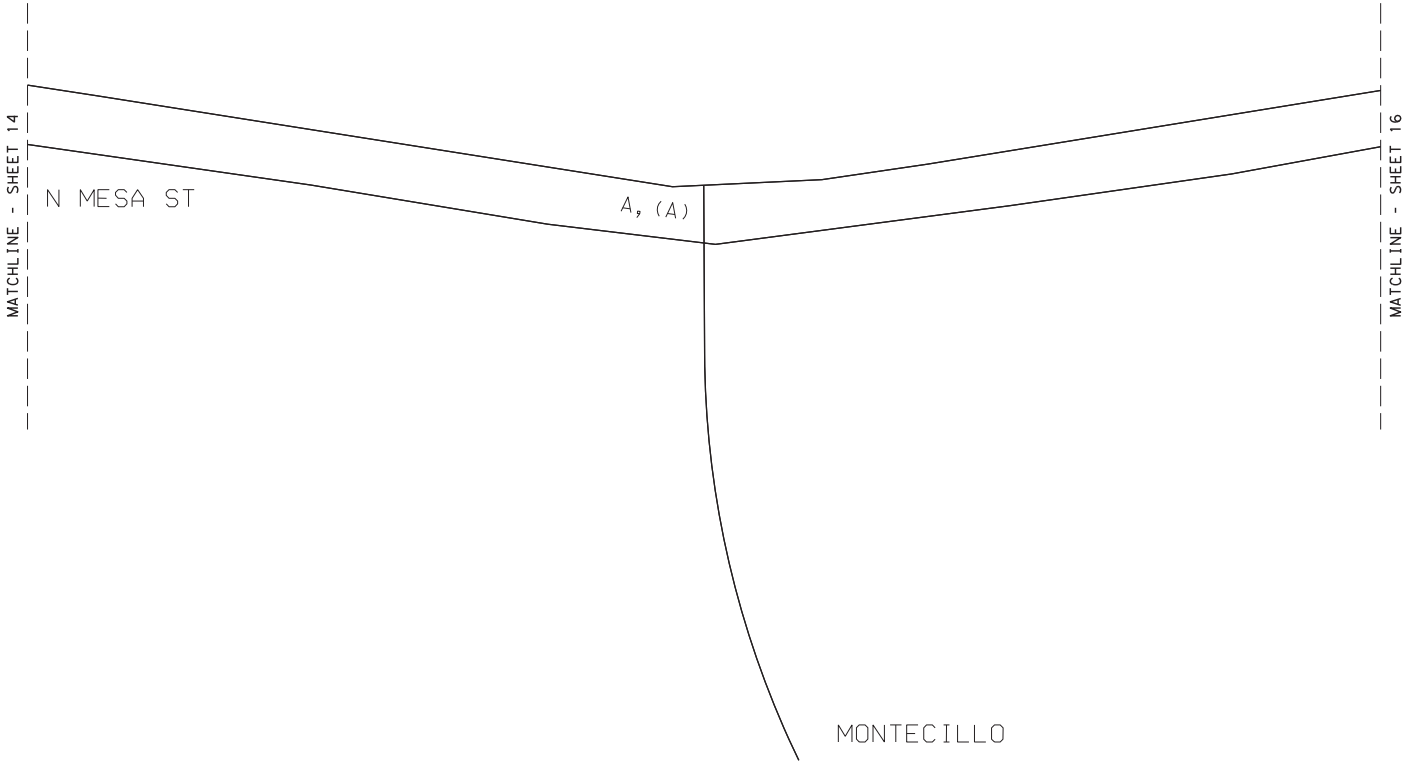

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
MONTECILLO

Kimley»Horn F-928

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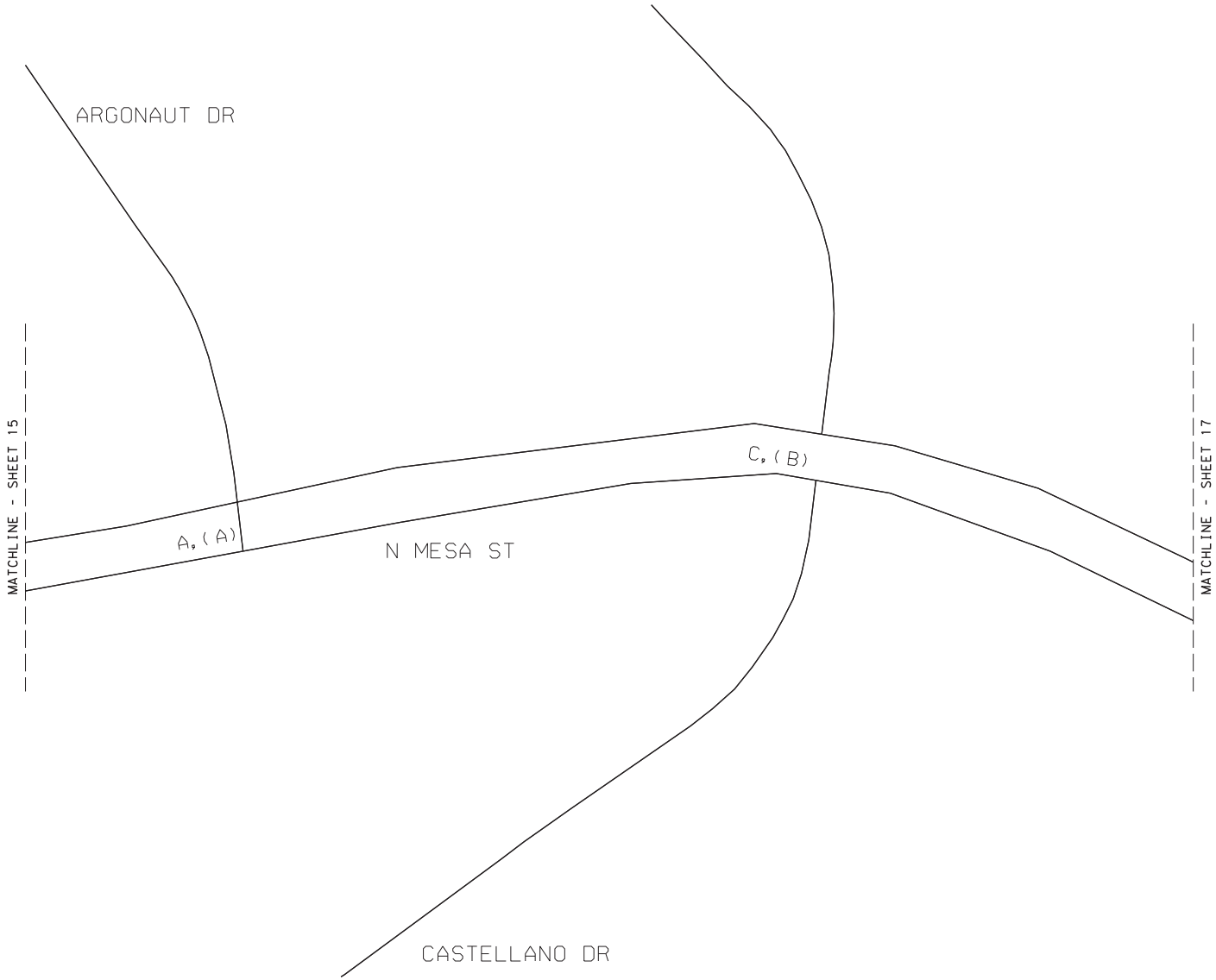

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
ARGONAUT DR TO CASTELLANO DR

Kimley»Horn F-928

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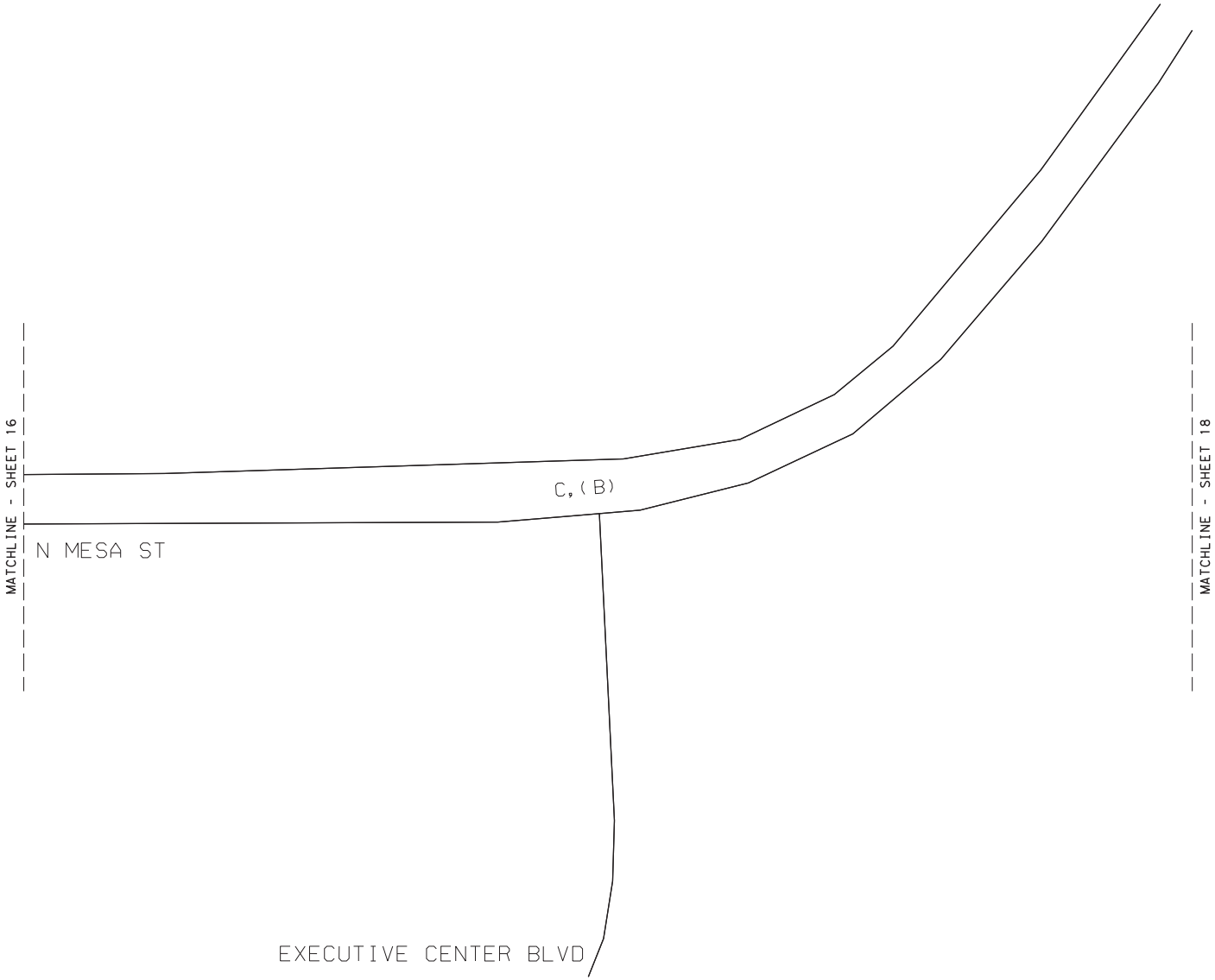

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
EXECUTIVE CENTER BLVD

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LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
BRENTWOOD AVE

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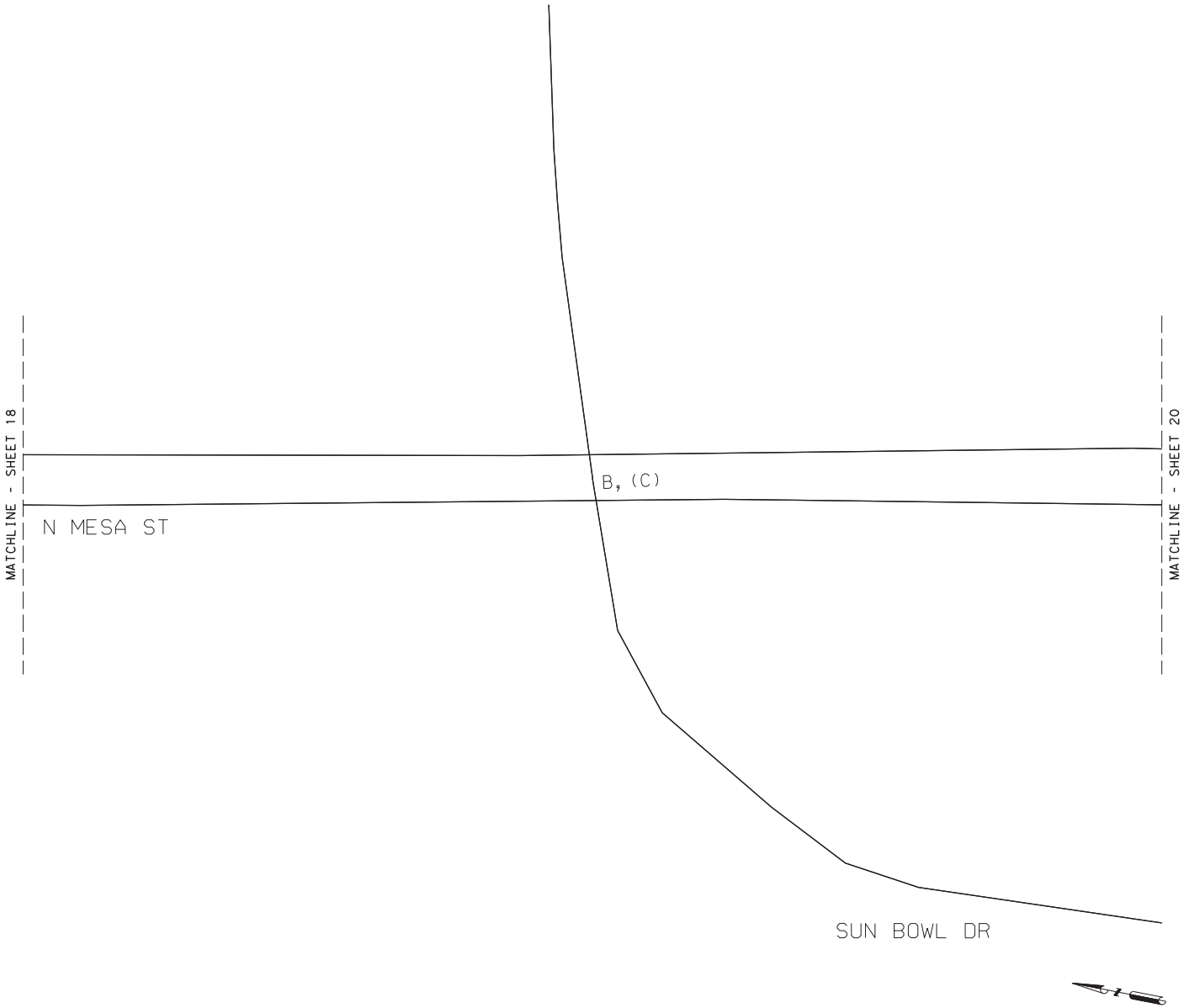

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
SUN BOWL DR

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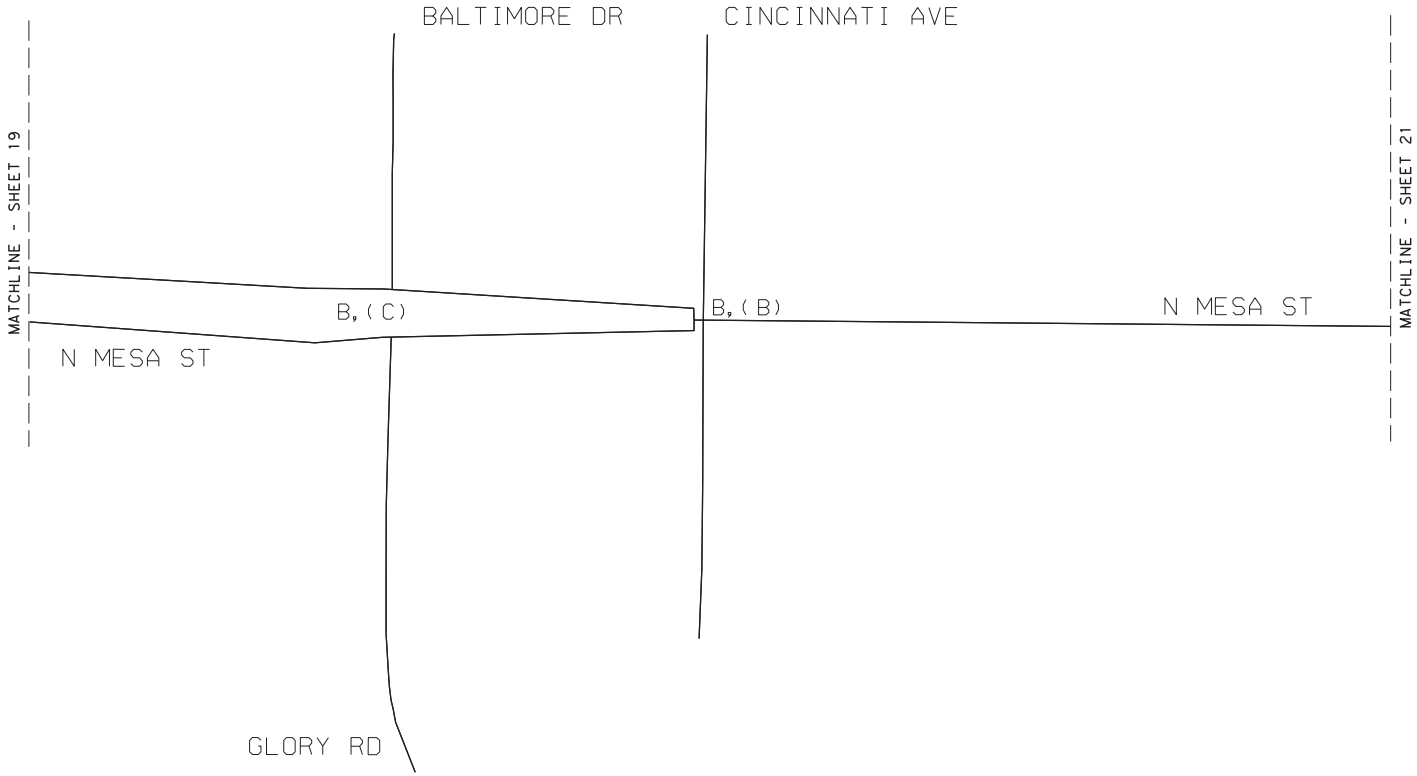

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
GLORY RD TO CINCINNATI AVE

Kimley»Horn F-928

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LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
KERBEY AVE TO UNIVERSITY AVE

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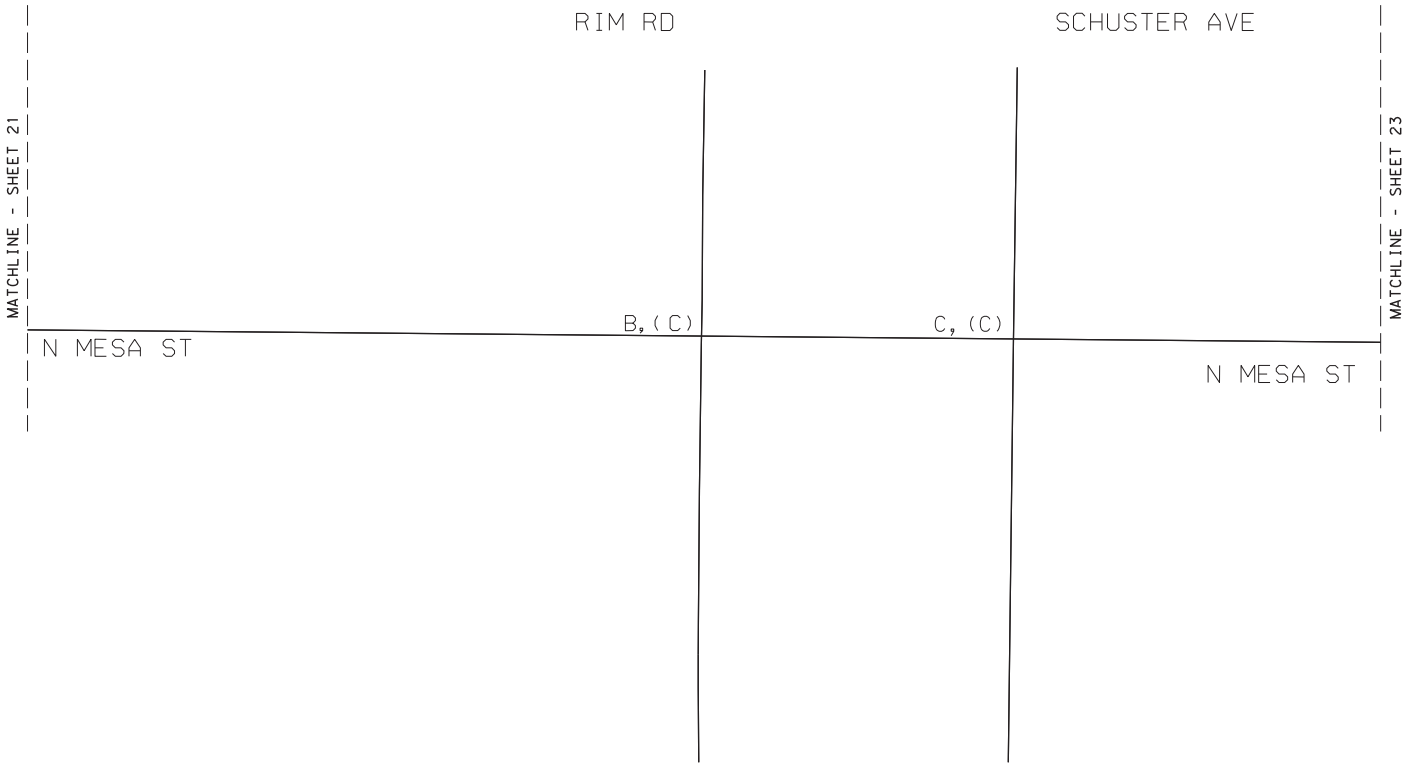

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
RIM RD TO SCHUSTER AVE

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LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
RIVER AVE

Kimley»Horn F-928

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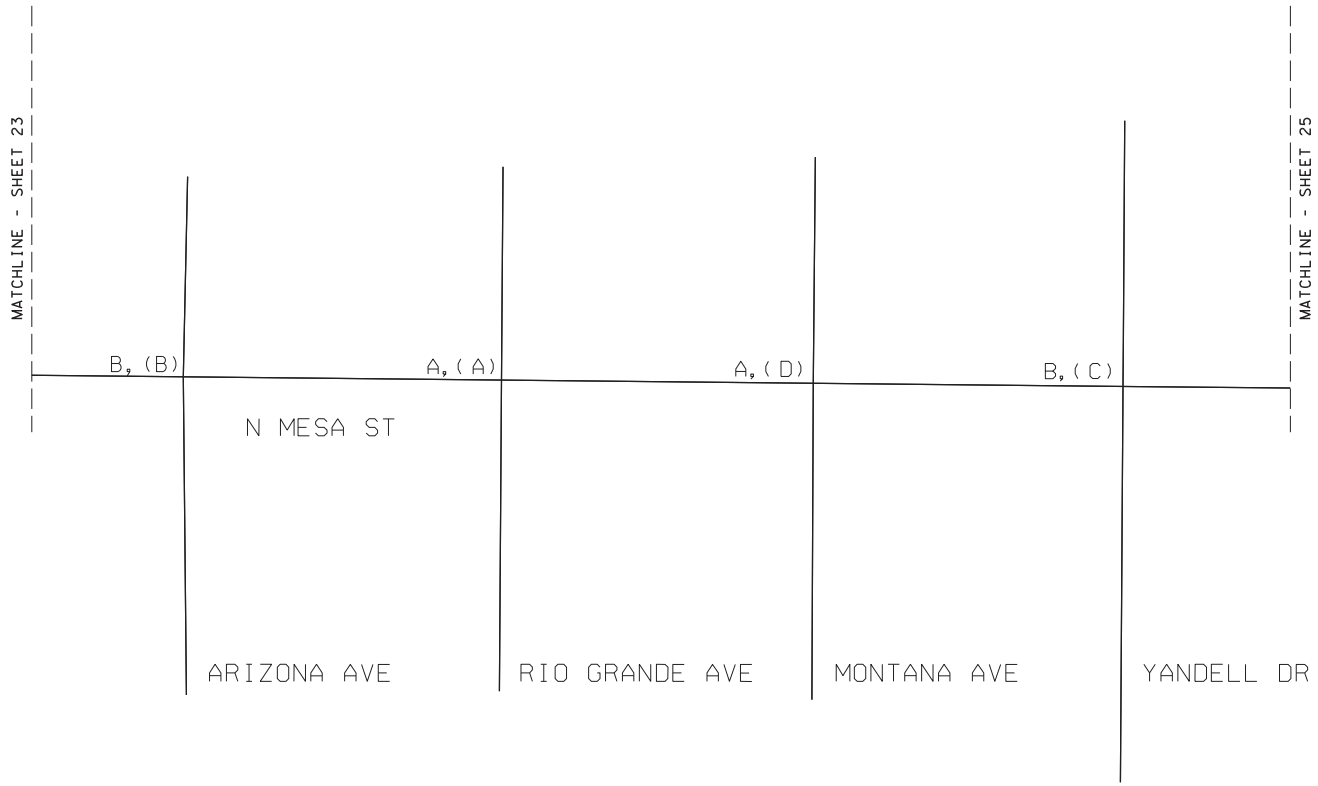

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
ARIZONA AVE TO YANDELL DR

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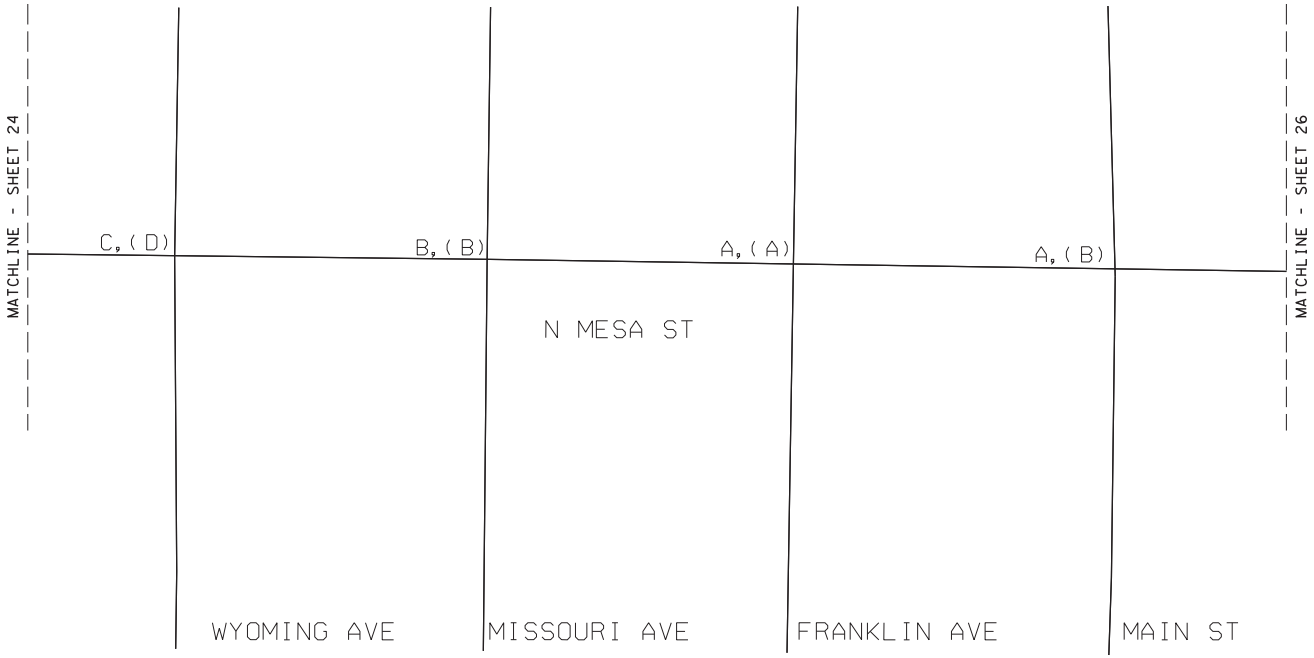

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
WYOMING AVE TO MAIN ST

Kimley»Horn F-928

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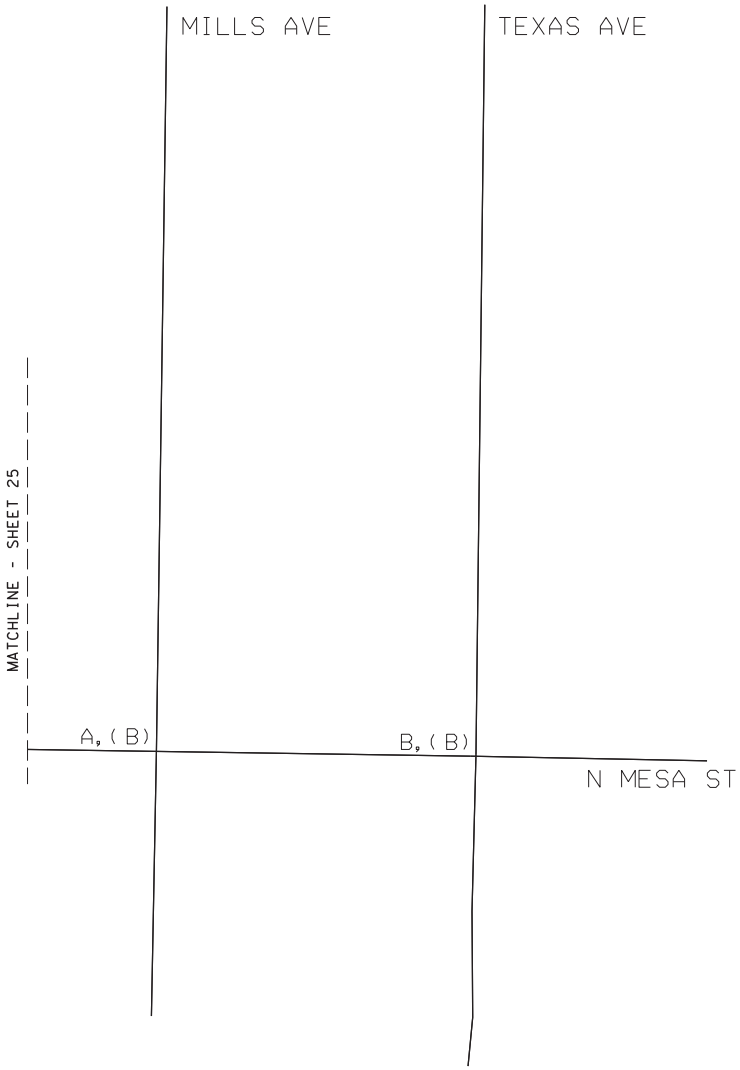

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
MILLS AVE TO TEXAS AVE

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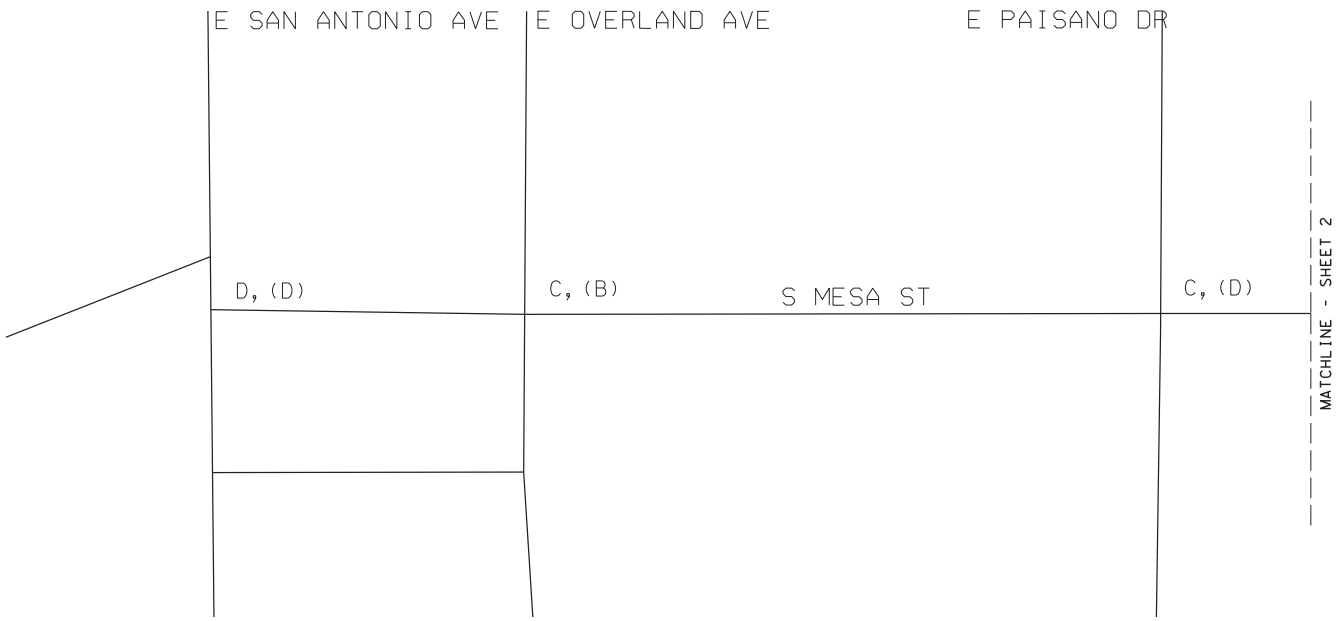
2020 BUILD PEAK HOUR INTERSECTION LOS

(Section 2 – San Antonio Ave to LP 375)



LEGEND
AM, (PM) LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
SAN ANTONIO AVE TO PAISANO DR

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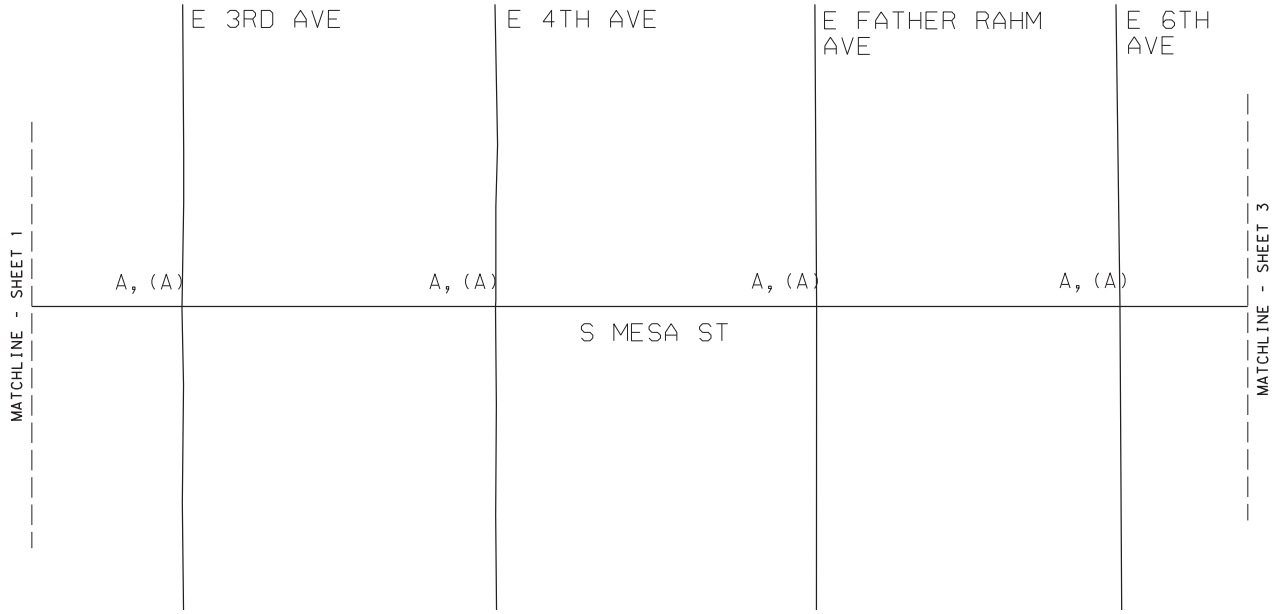

LEGEND
AM, (PM) LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
3RD AVE TO 6TH AVE

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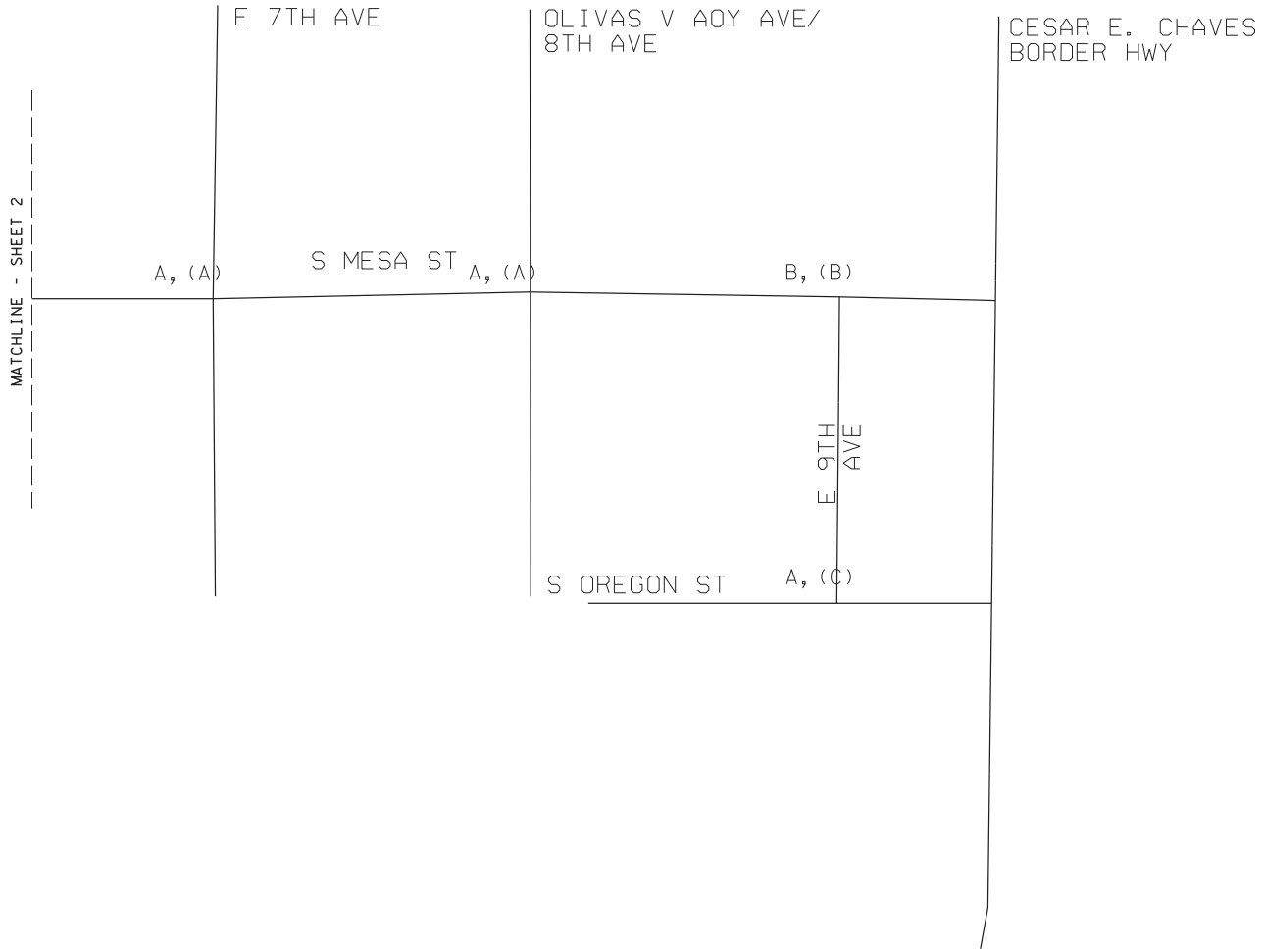

LEGEND
AM, (PM) LOS

NOT TO SCALE

YEAR 2020 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
7TH AVE TO BORDER HWY

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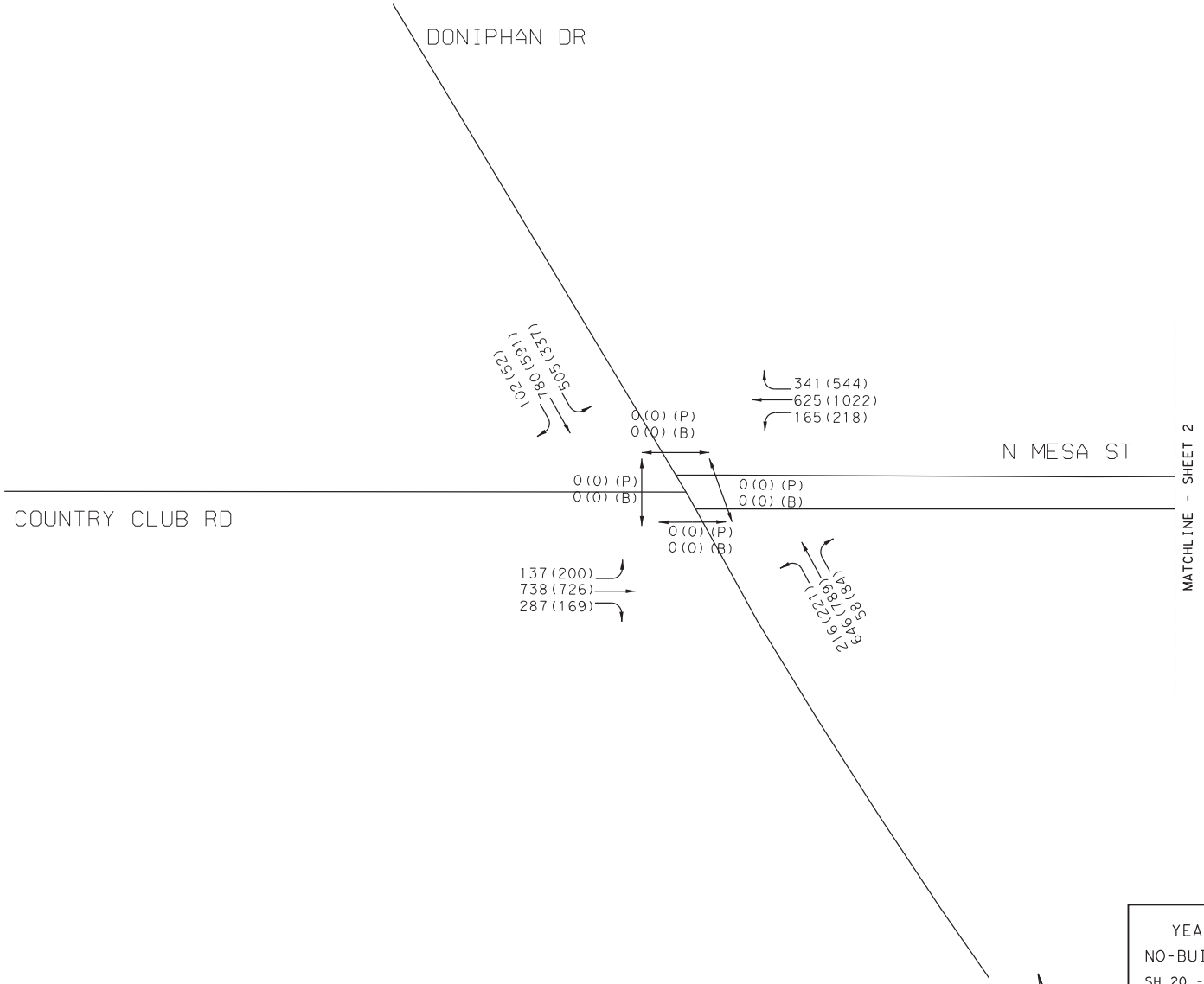
2040 NO-BUILD PEAK HOUR

(Section 1 – Doniphan Dr to Texas Ave)



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNTY
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
DONIPHAN DR

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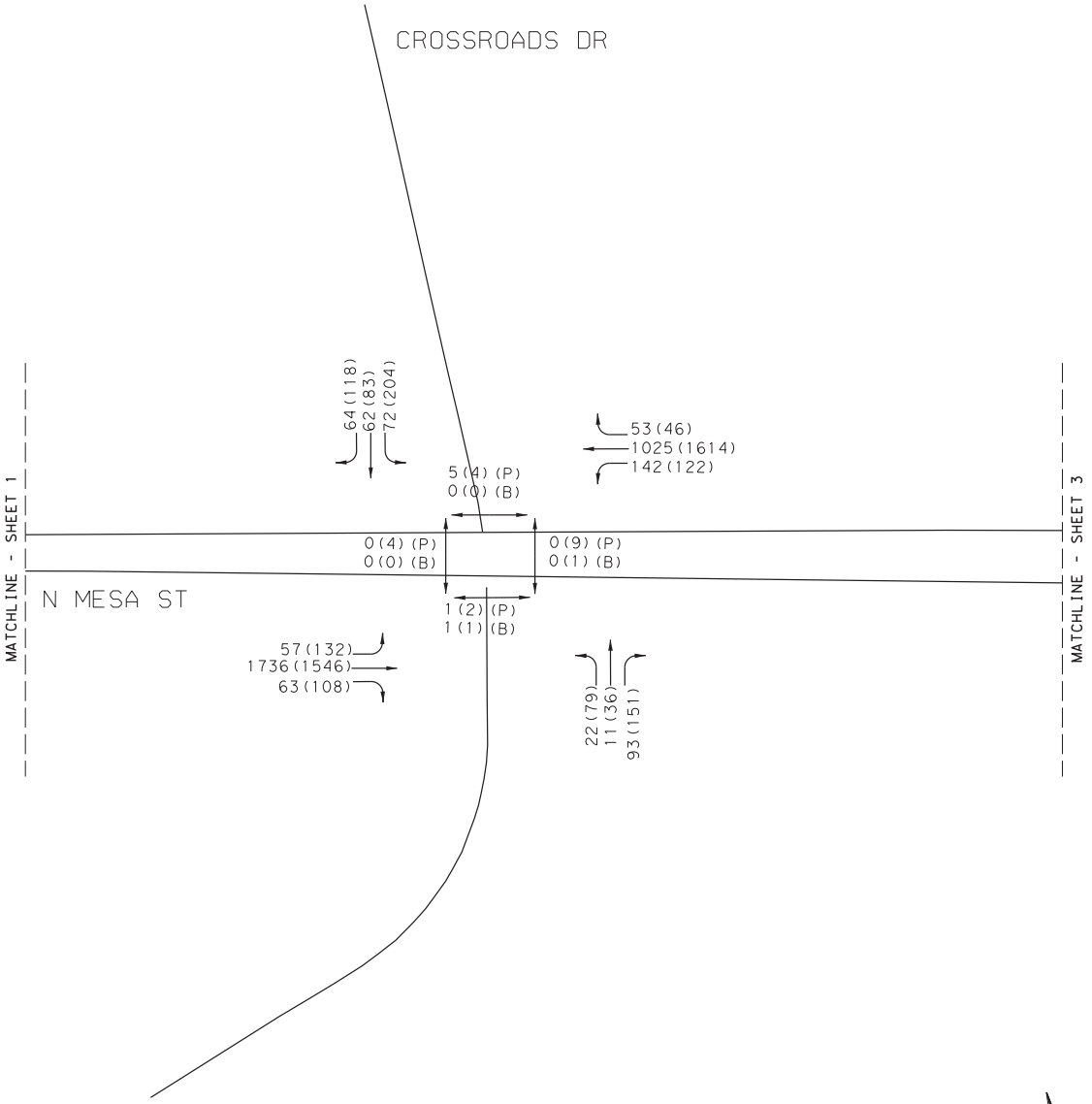

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
CROSSROADS DR

Kimley»Horn F-928

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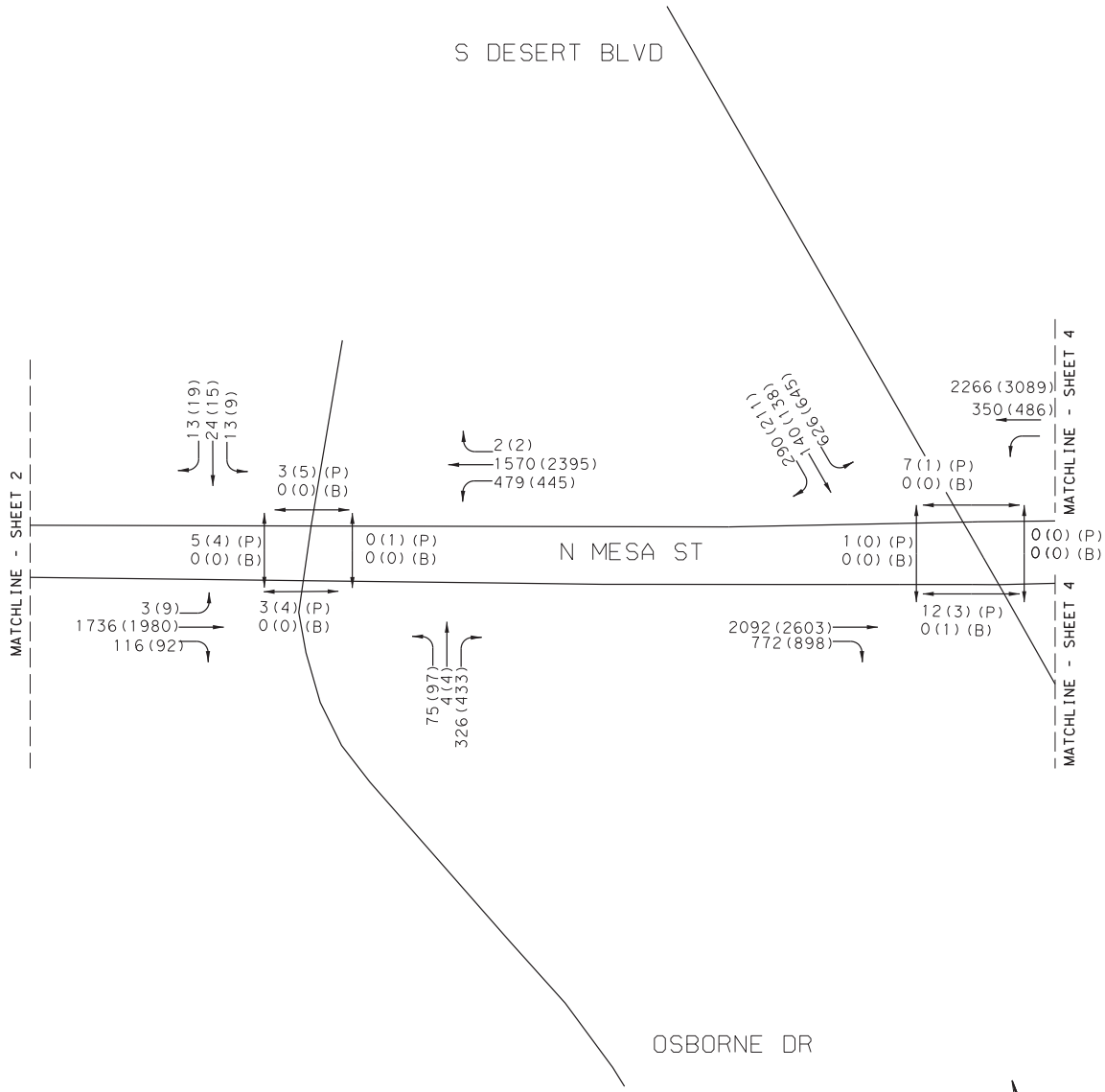

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
OSBORNE DR TO S DESERT BLVD

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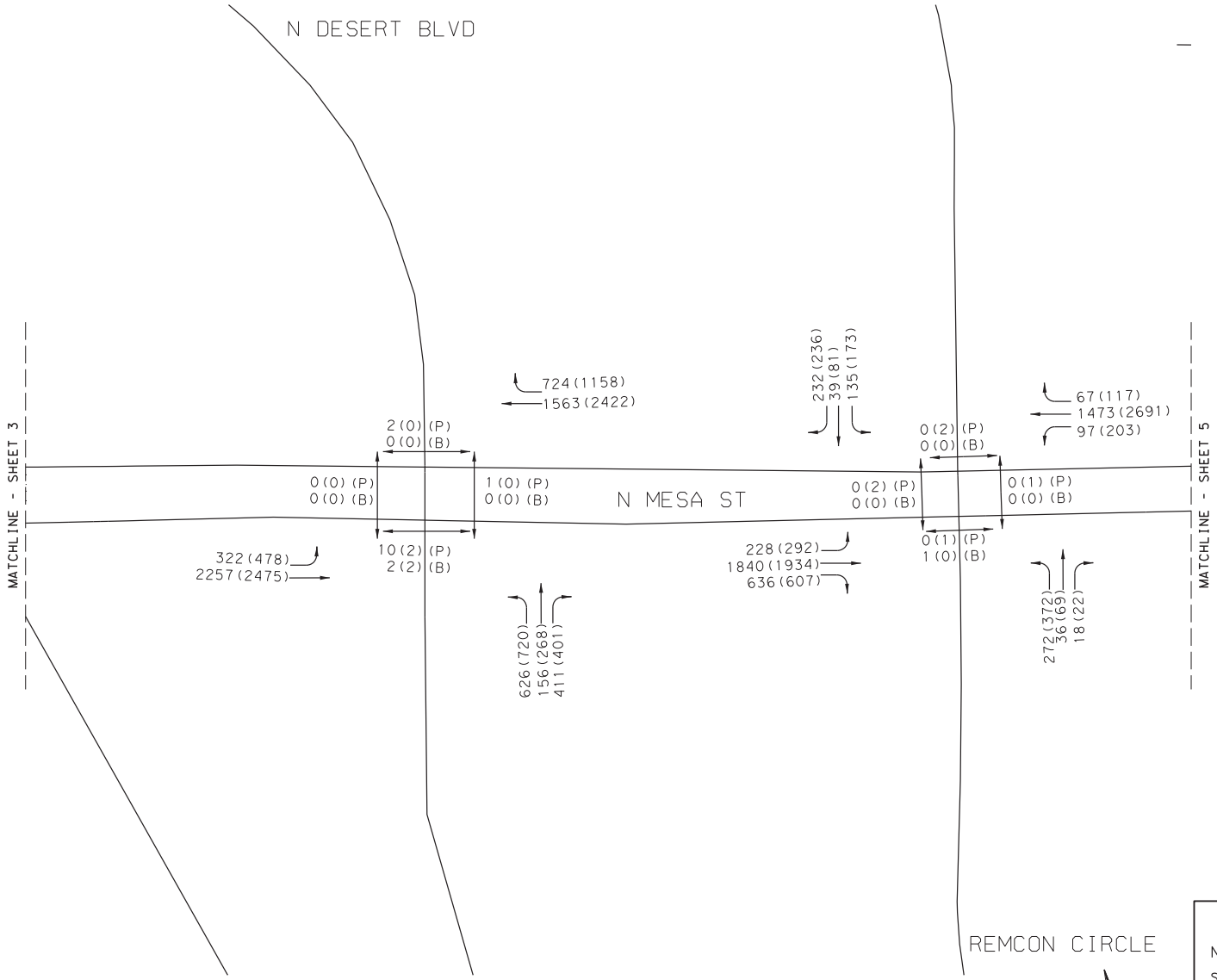

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
N DESERT BLVD TO REMCON CIR

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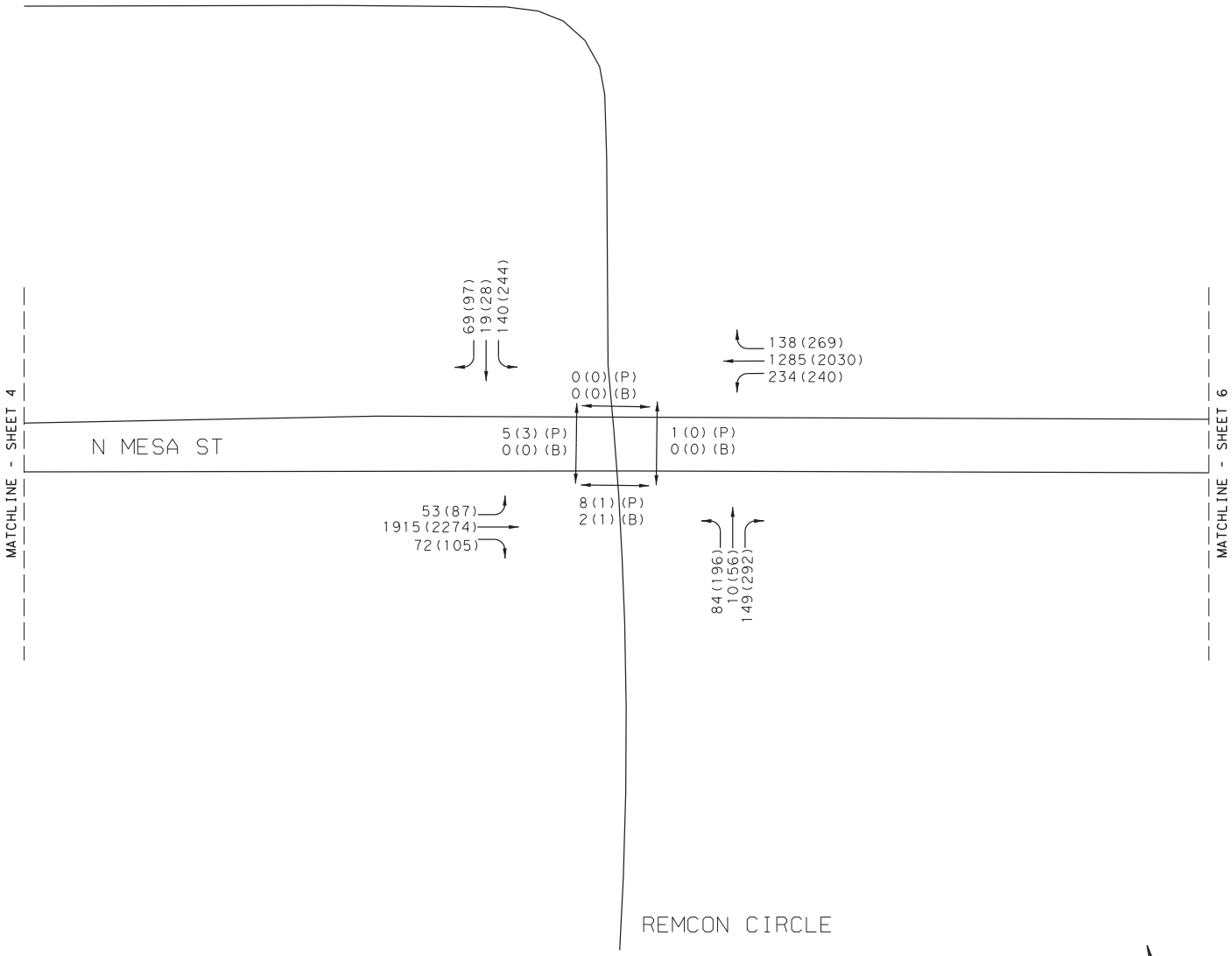

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
REMCON CIR

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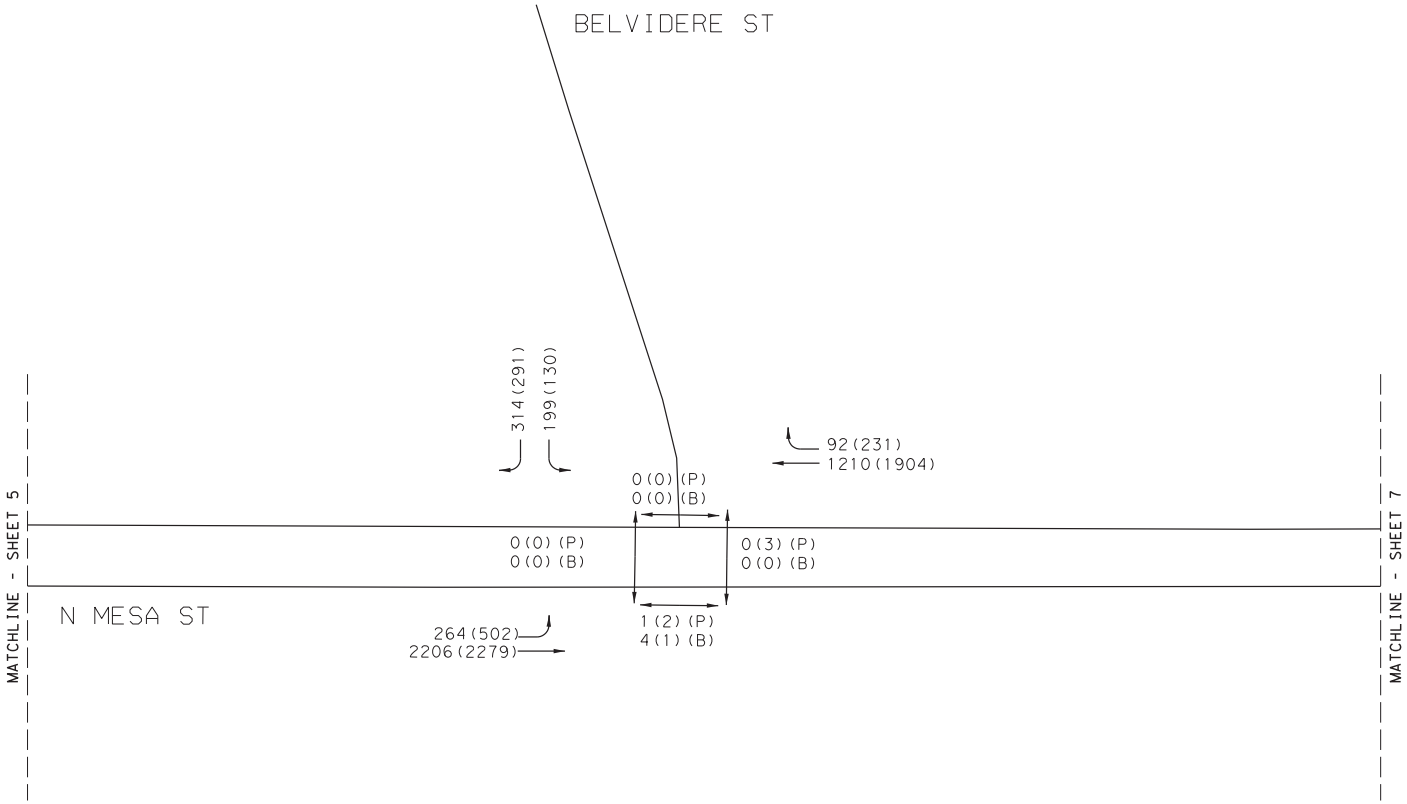

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
BELVIDERE ST

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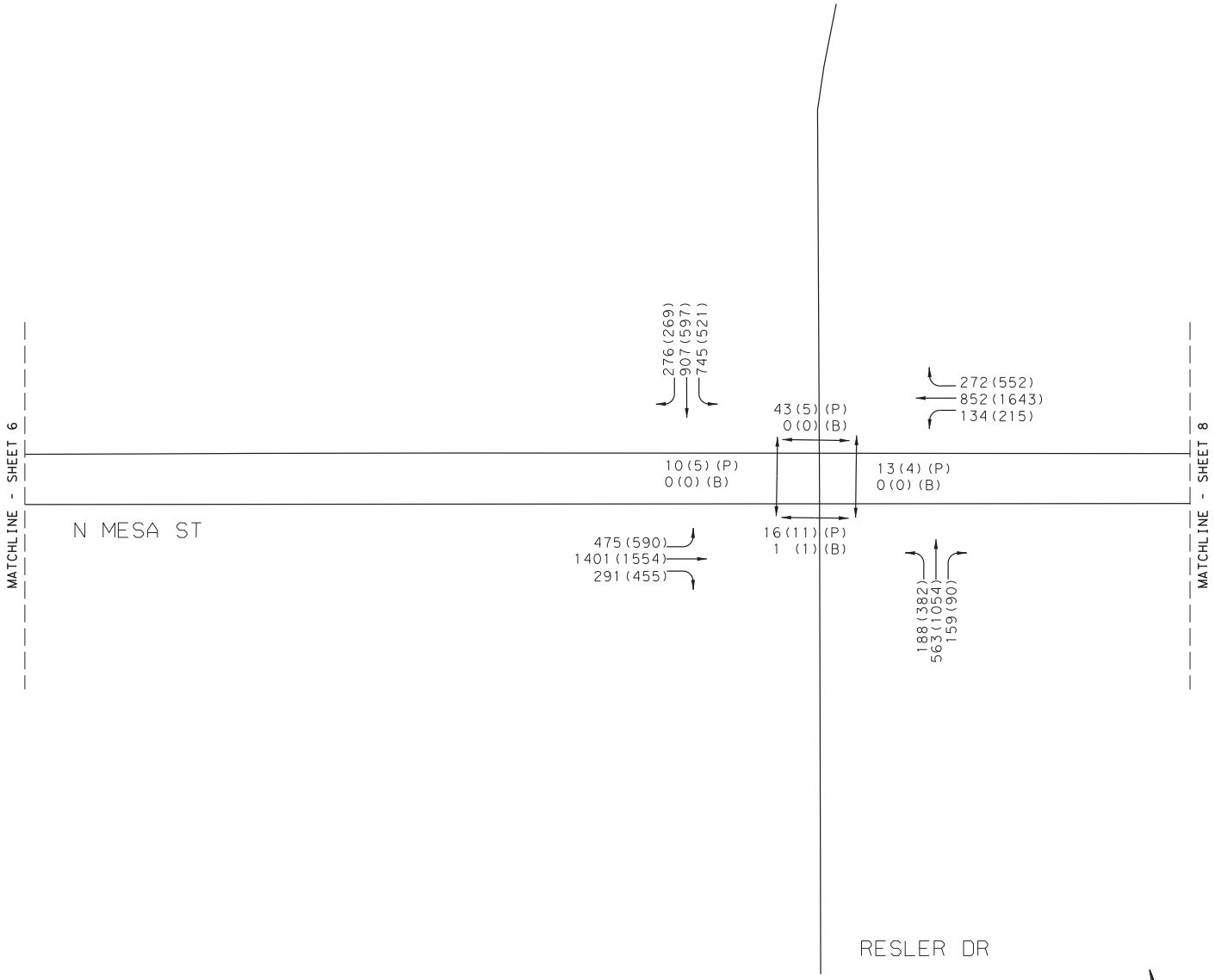

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
RESLER DR

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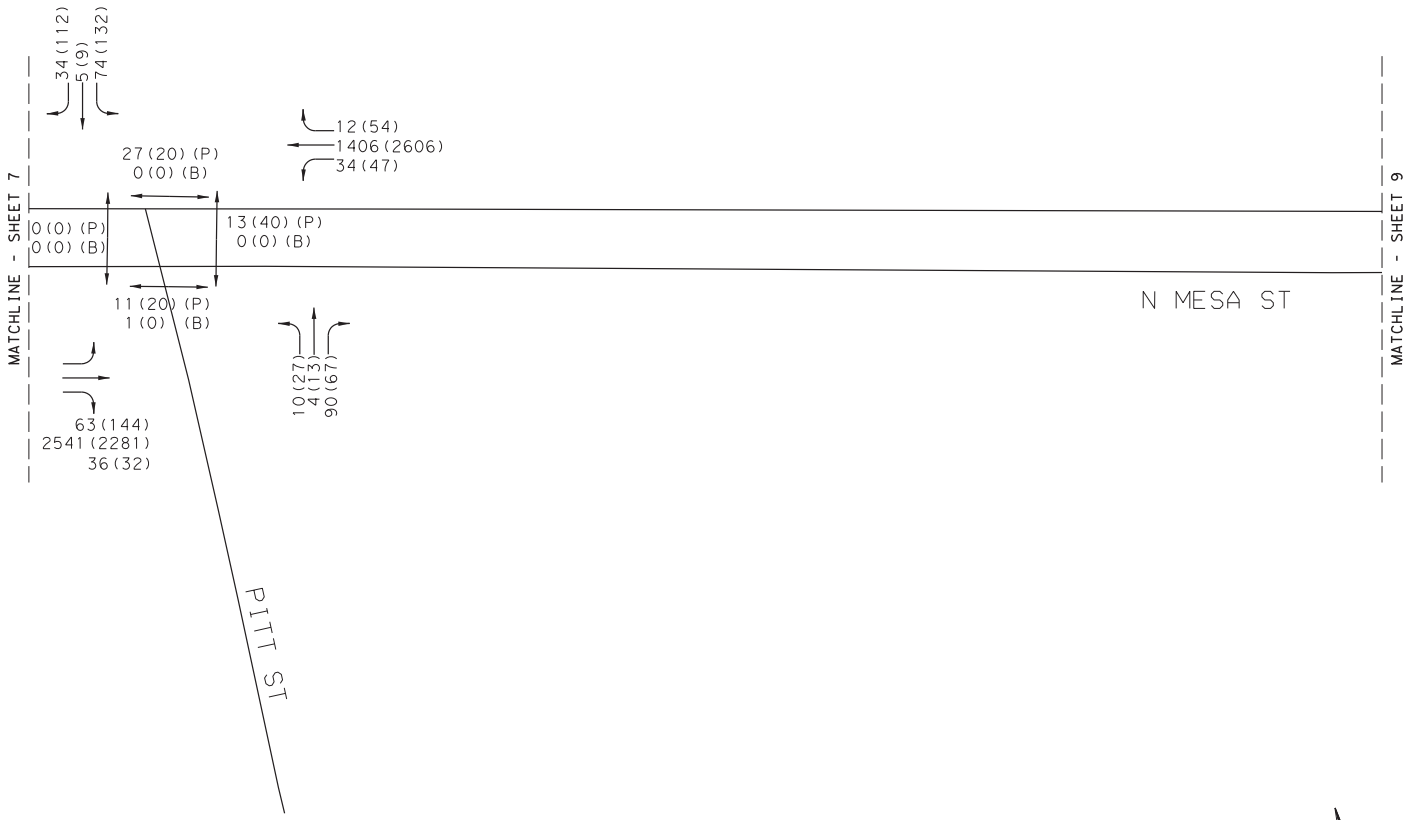

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
PITT ST

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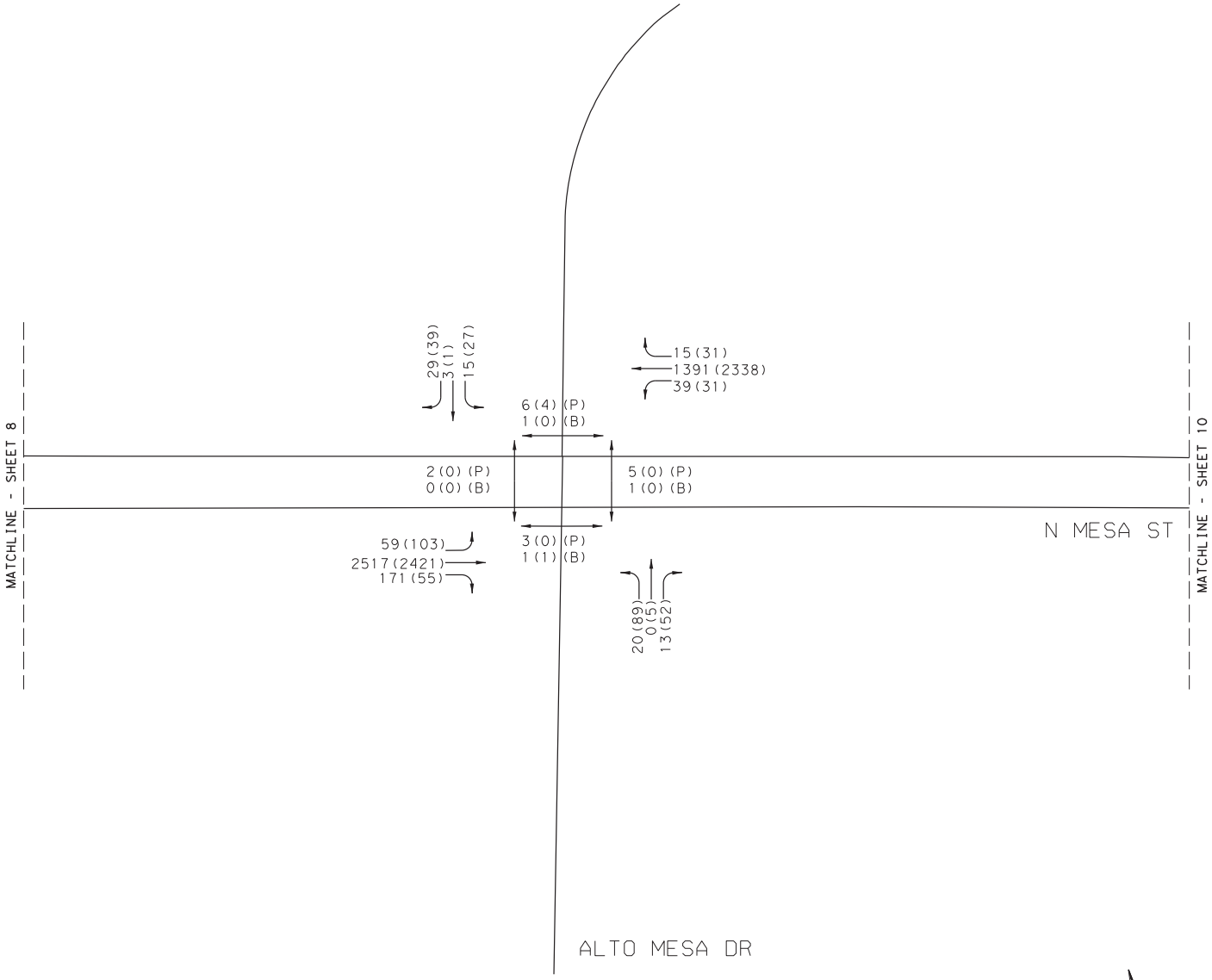

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
ALTO MESA DR

Kimley»Horn F-928

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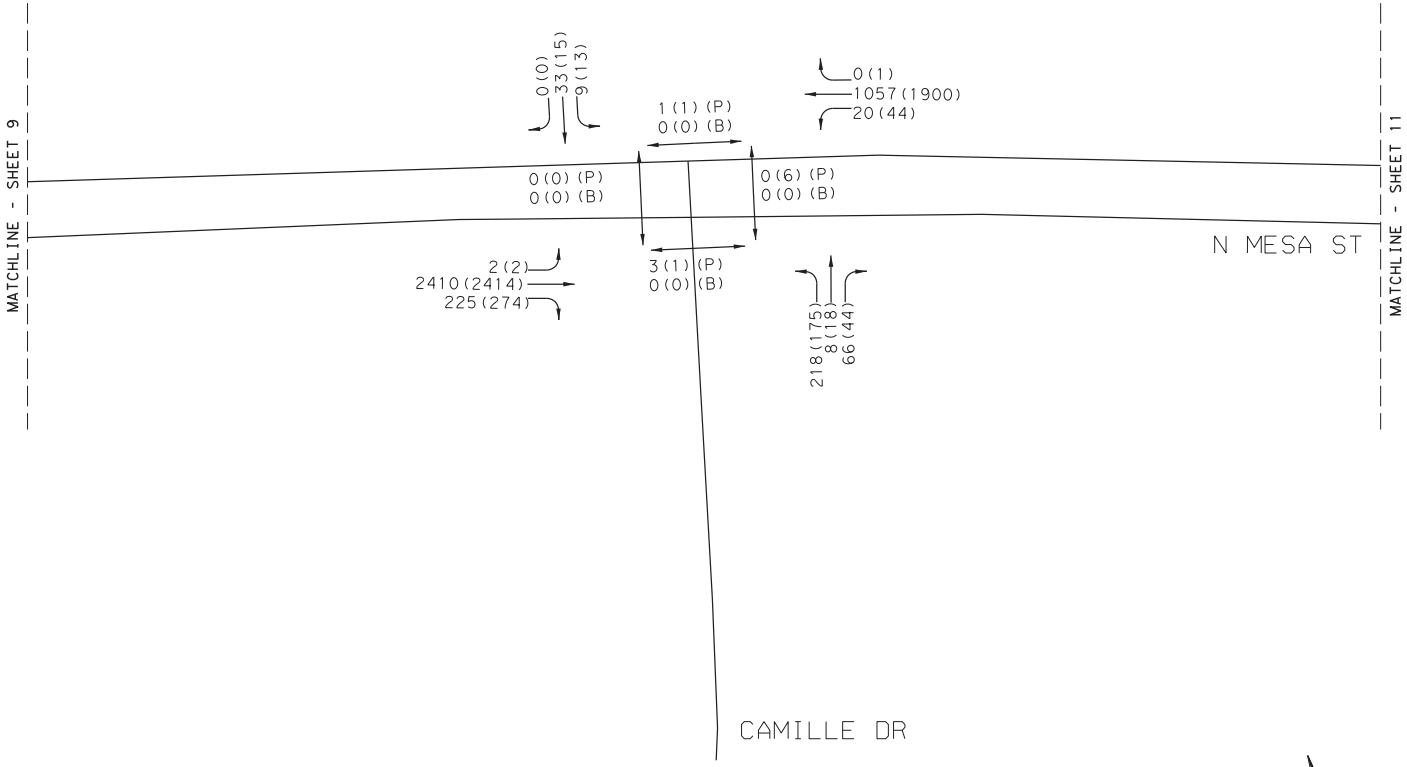

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
CAMILLE DR

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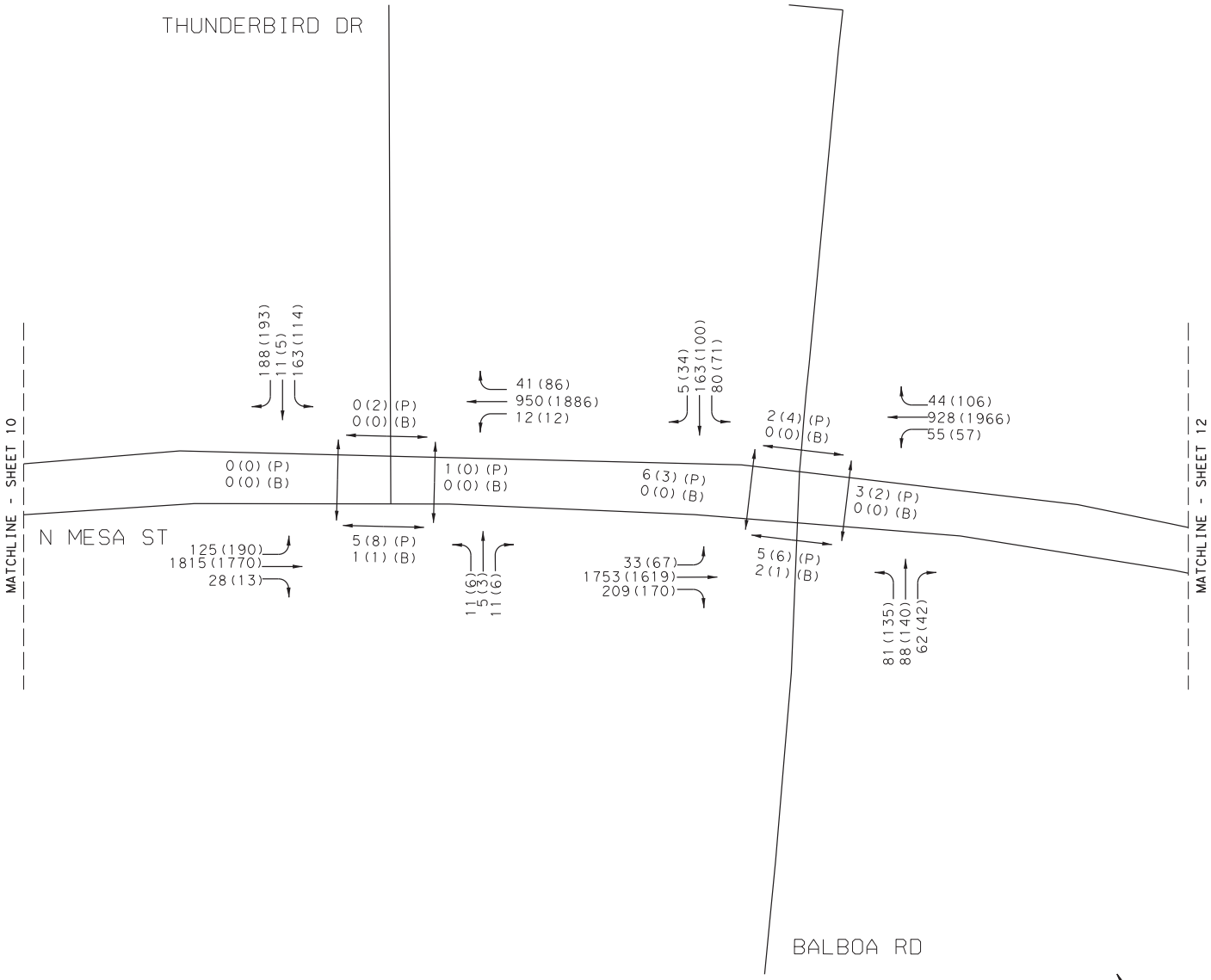

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
THUNDERBIRD DR TO BALBOA RD

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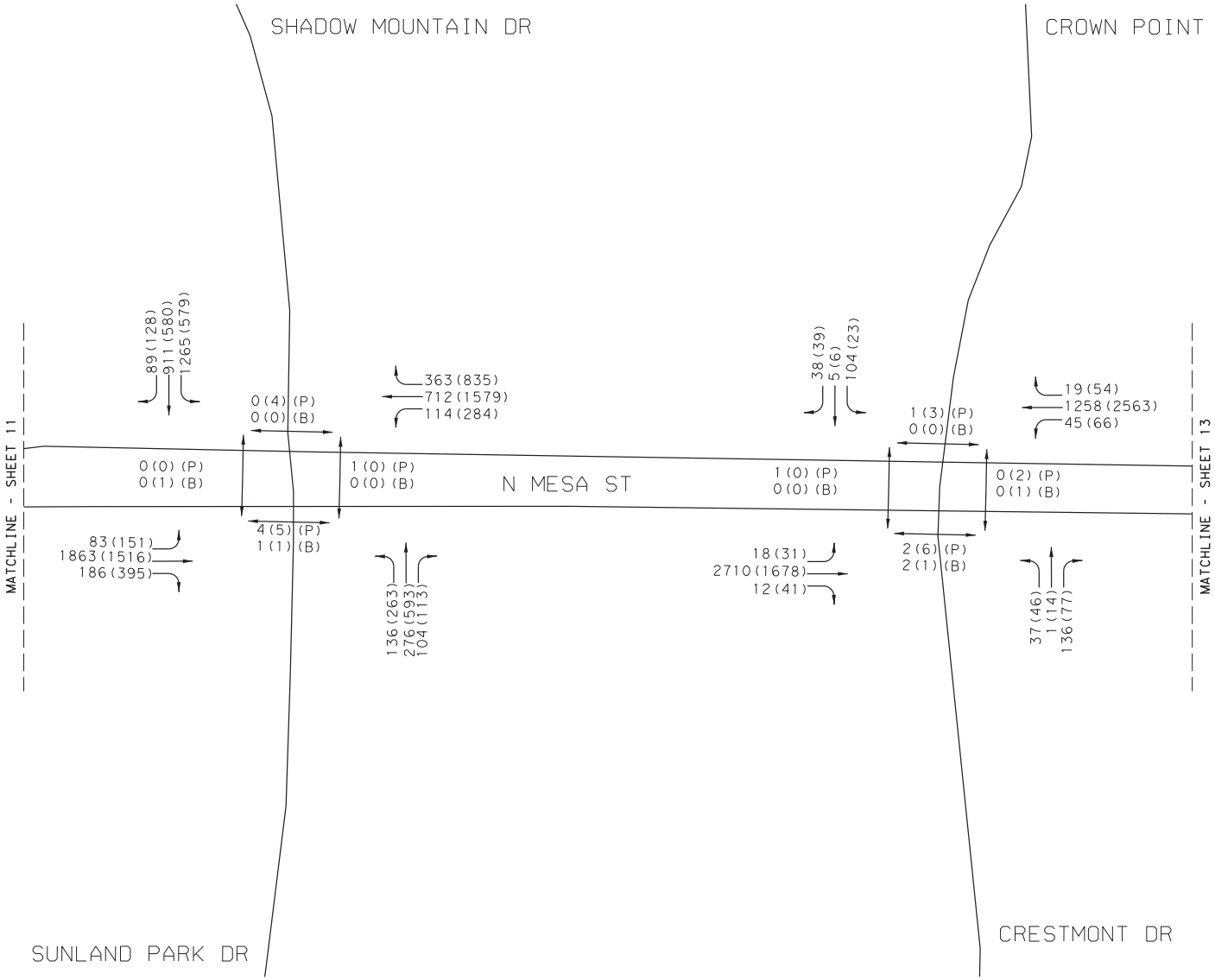

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
SUNLAND PARK DR TO CRESTMONT DR

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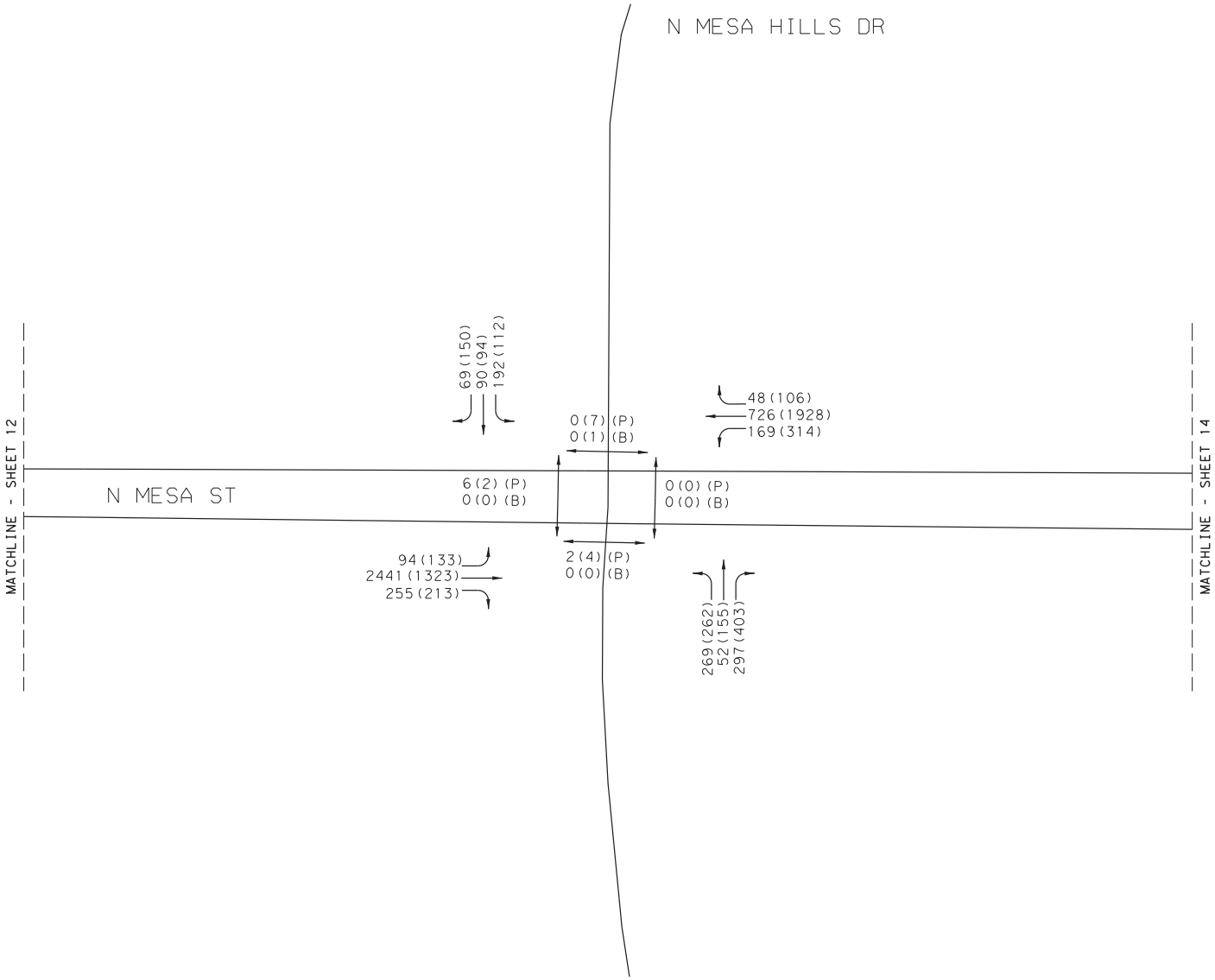

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
N MESA HILLS DR

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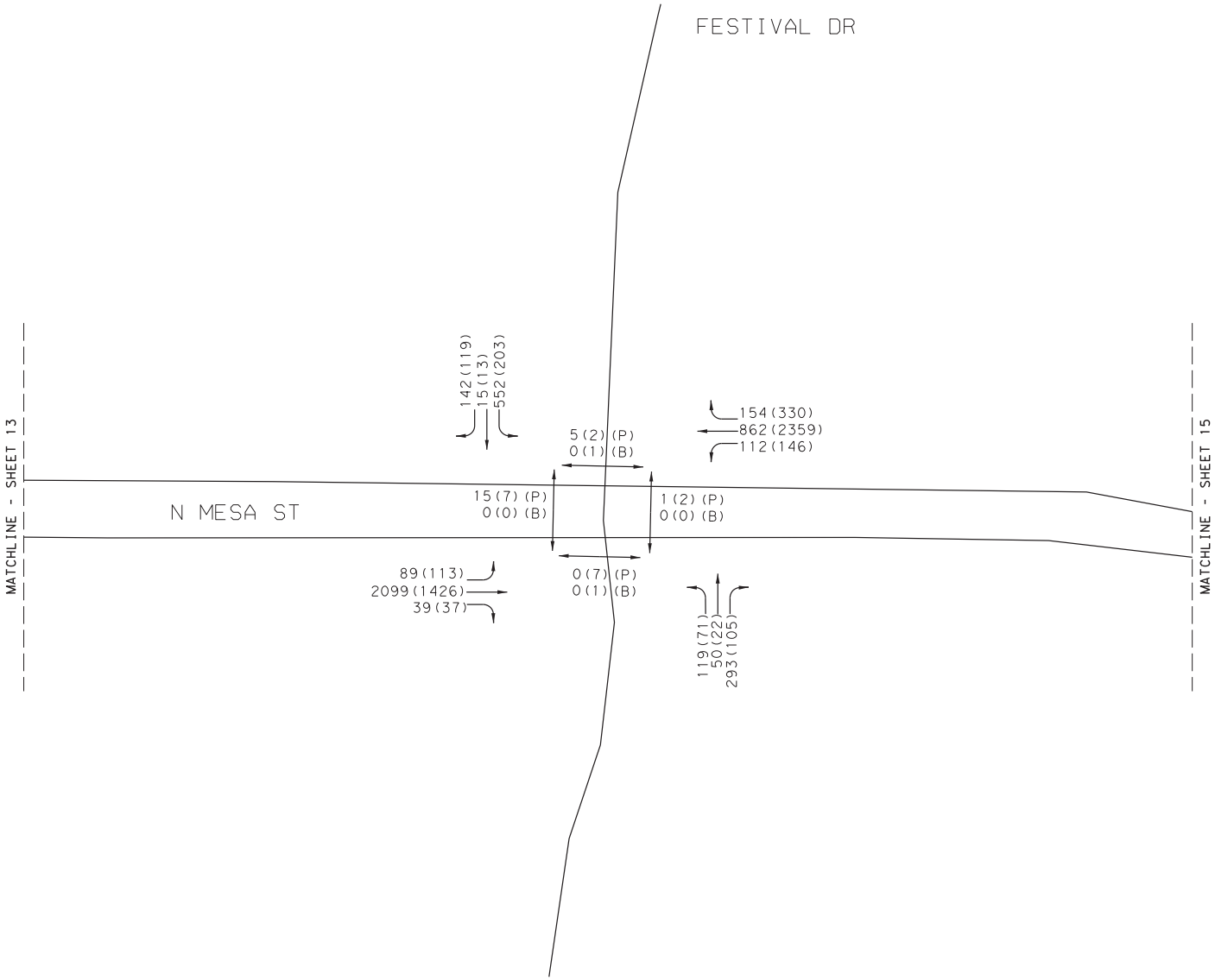

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
FESTIVAL DR

Kimley»Horn F-928

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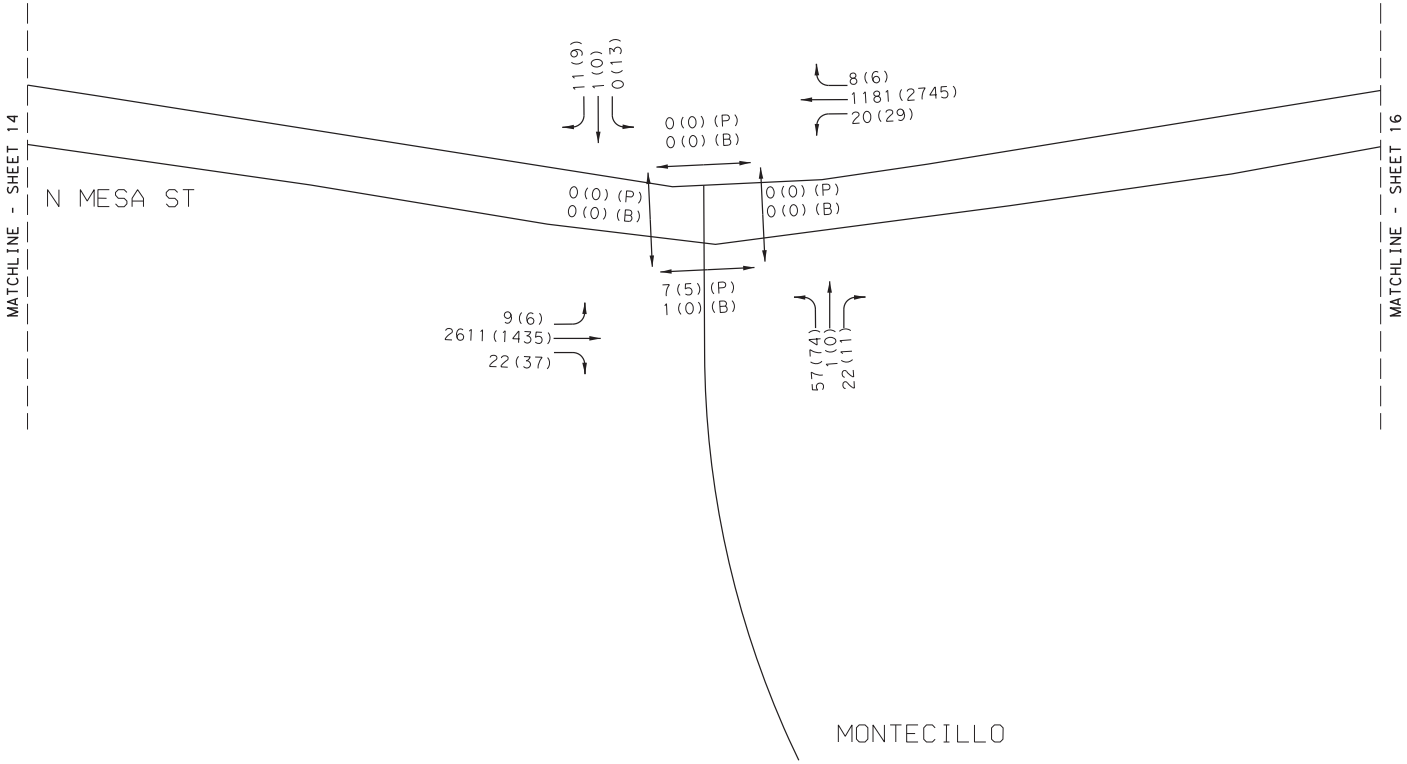

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
MONTECILLO

Kimley»Horn F-928

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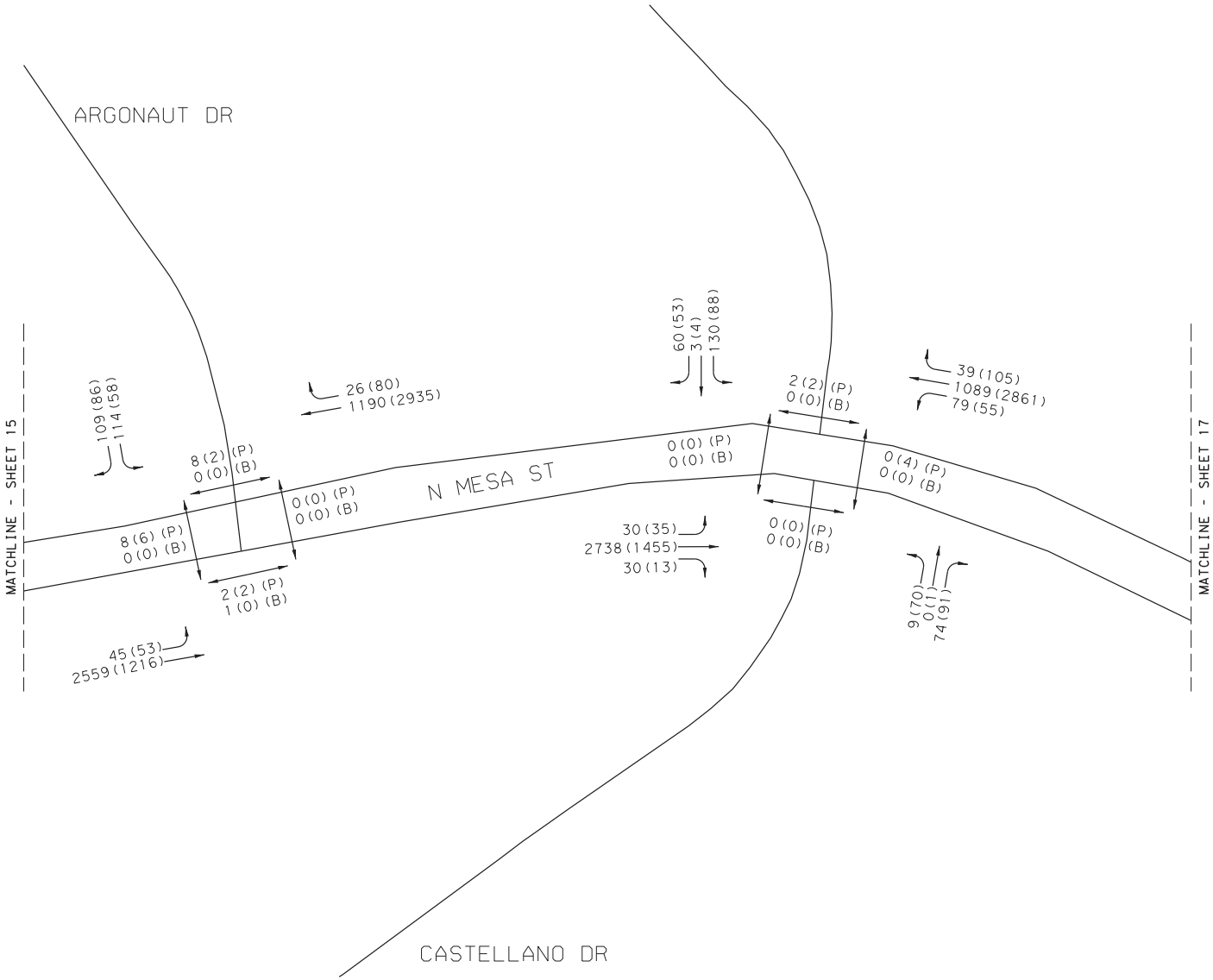

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
ARGONAUT DR TO CASTELLANO DR

Kimley»Horn F-928

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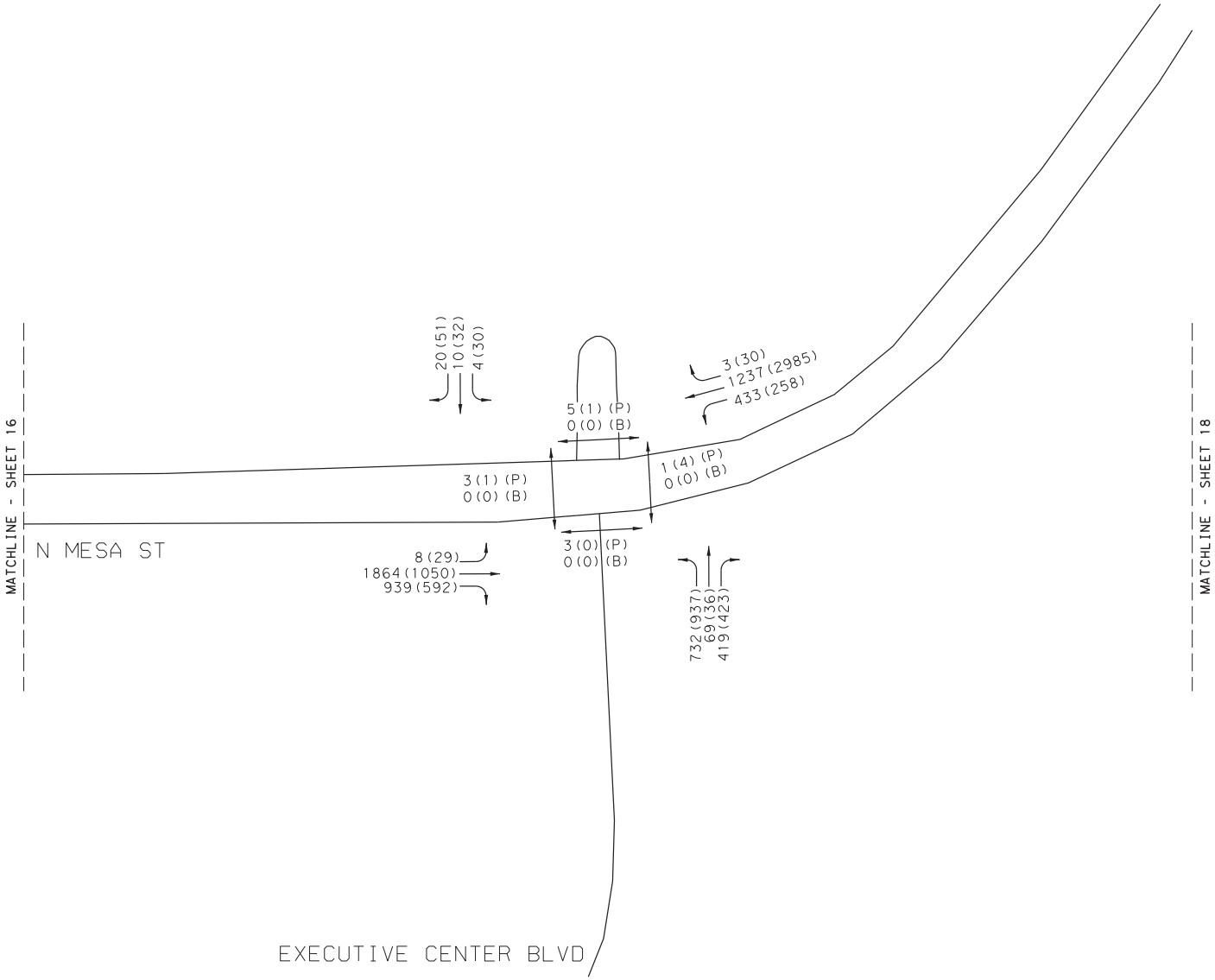

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
EXECUTIVE CENTER BLVD

Kimley»Horn F-928

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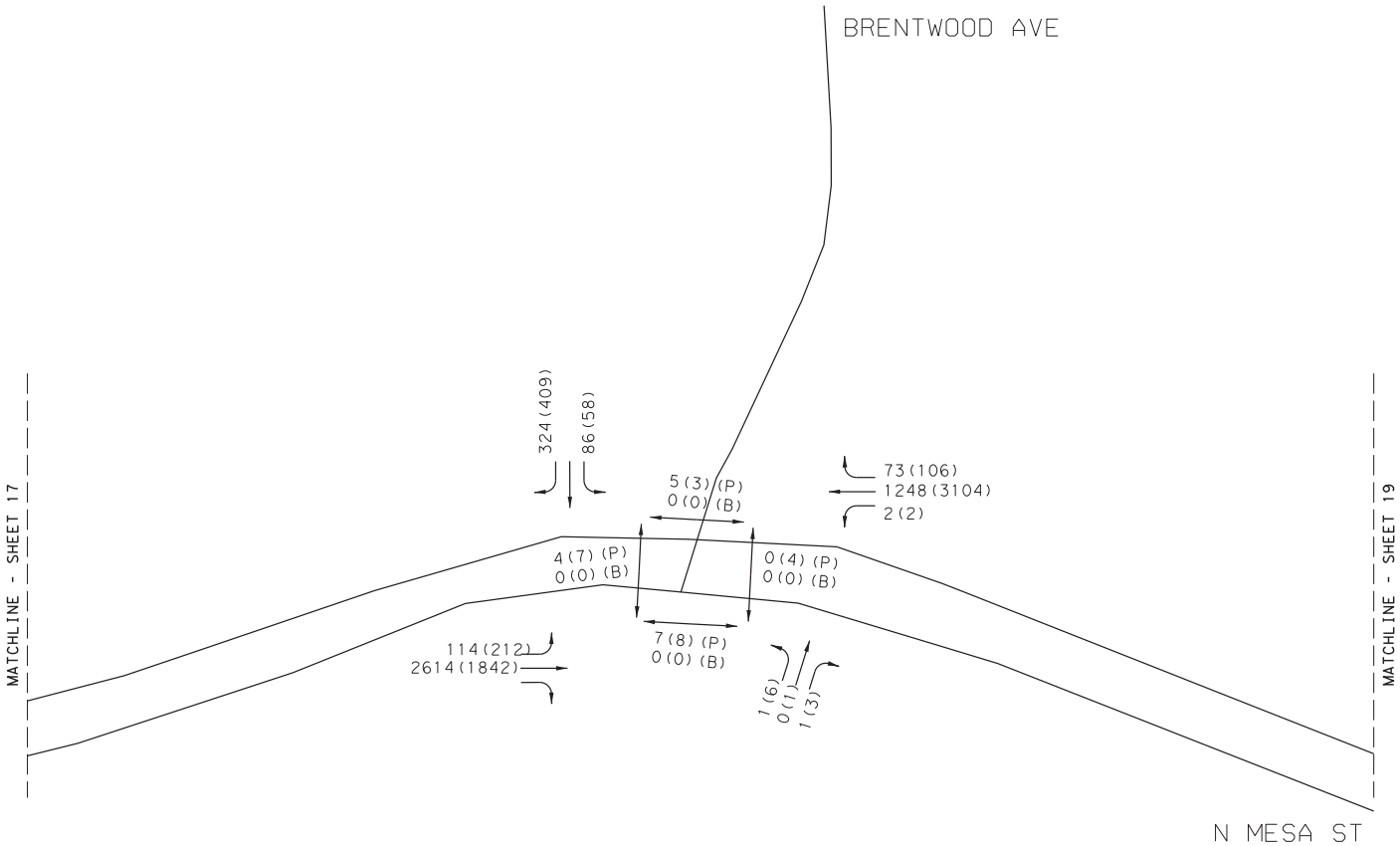

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
BRENTWOOD AVE

Kimley»Horn F-928

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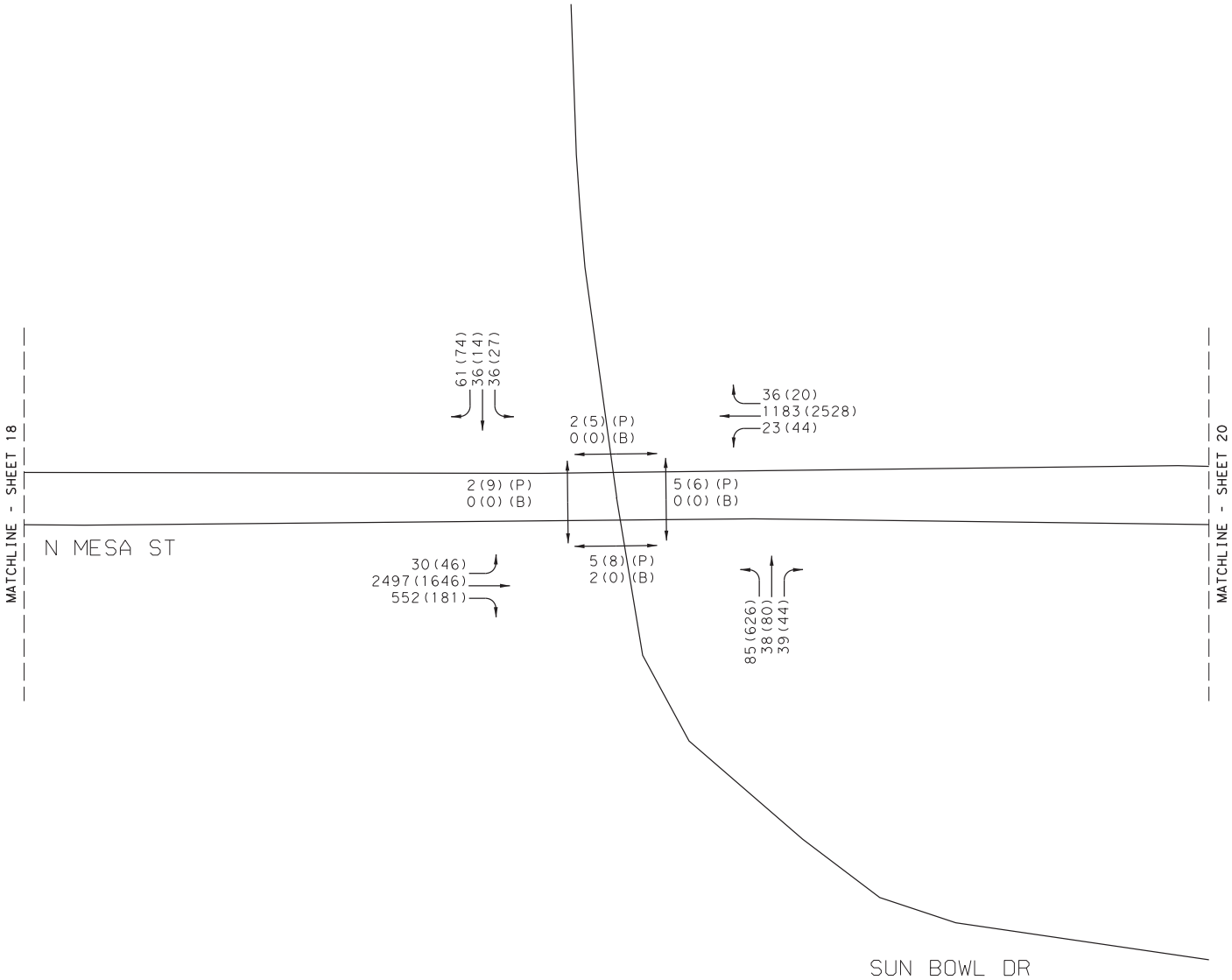

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
SUN BOWL DR

Kimley»Horn F-928

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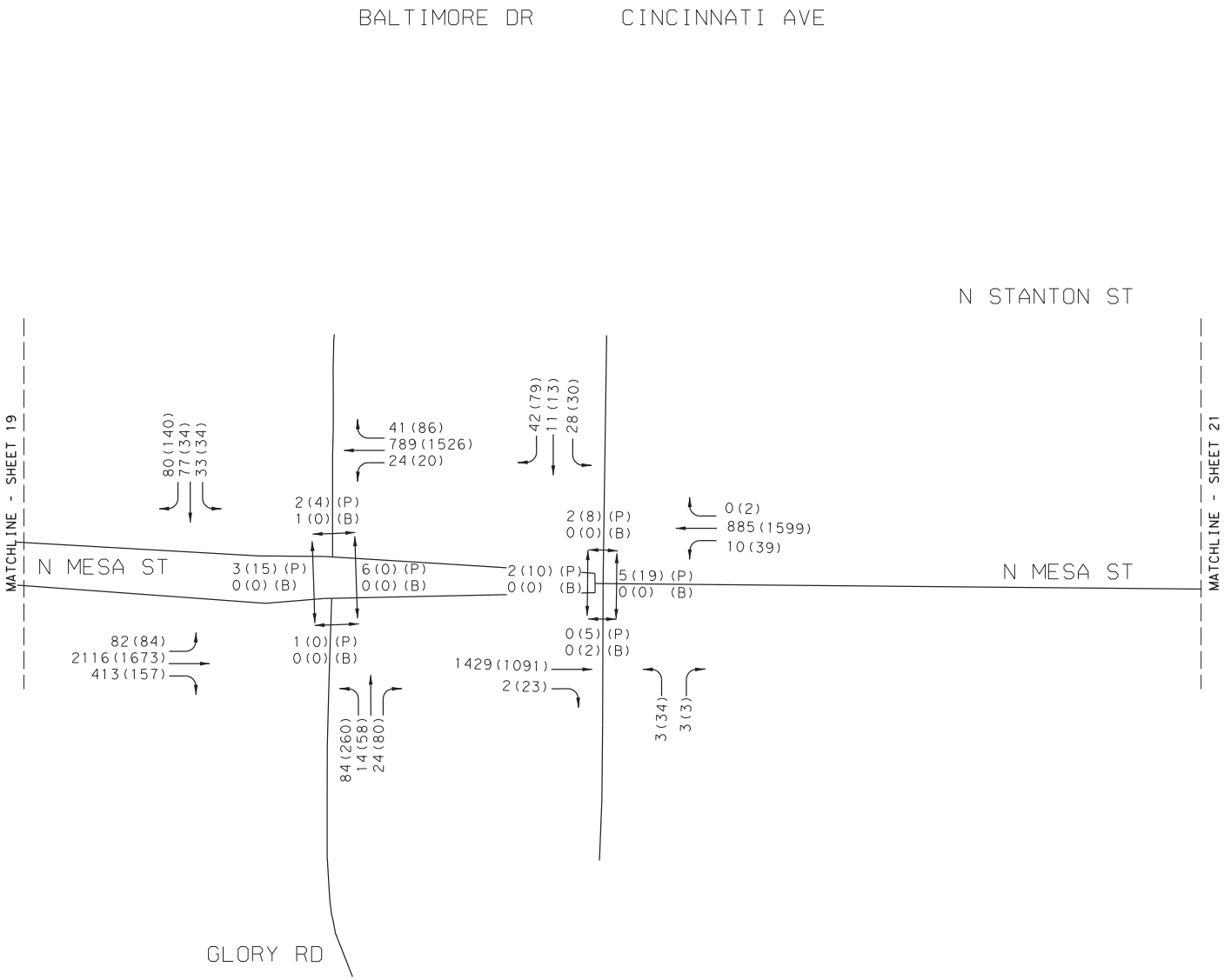

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
GLORY RD TO CINCINNATI AVE

Kimley»Horn F-928

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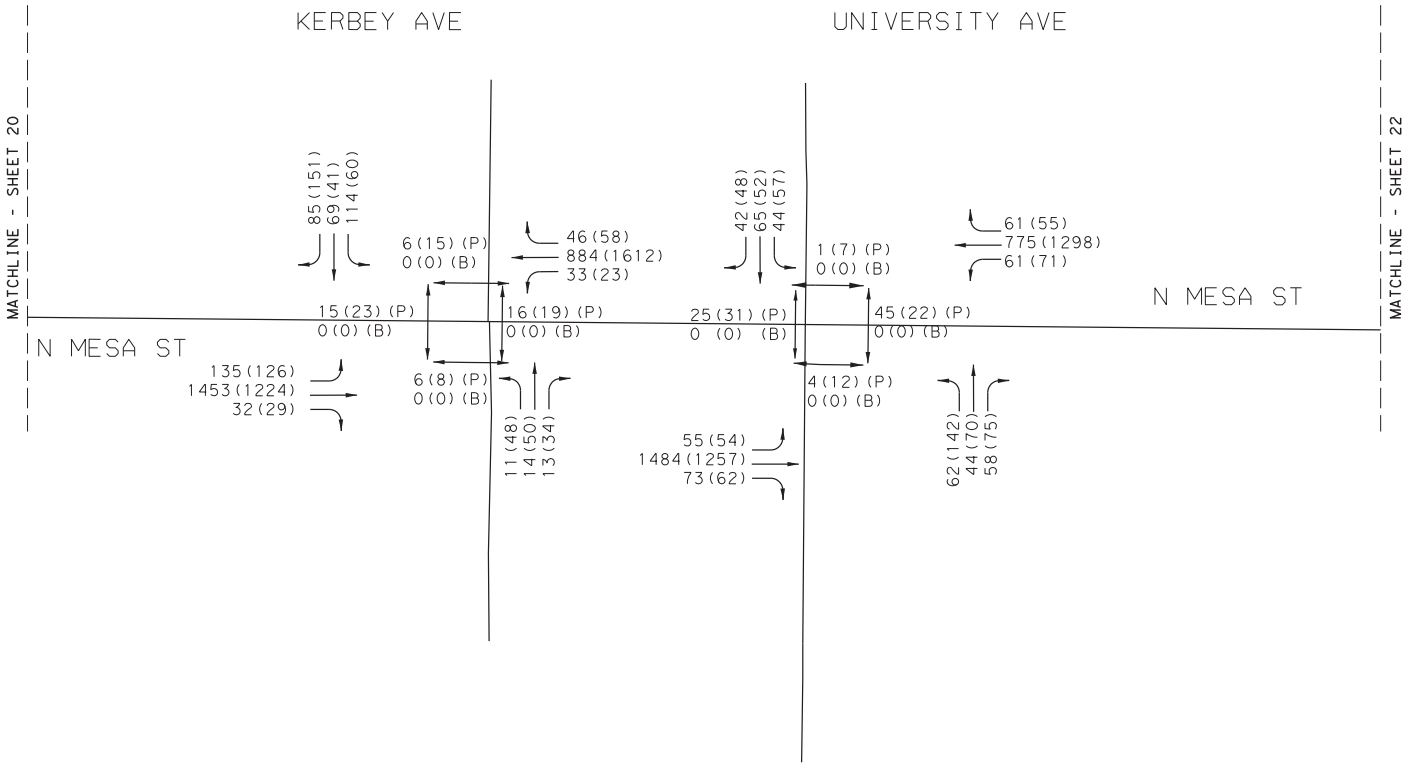

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
KERBEY AVE TO UNIVERSITY AVE

Kimley»Horn F-928

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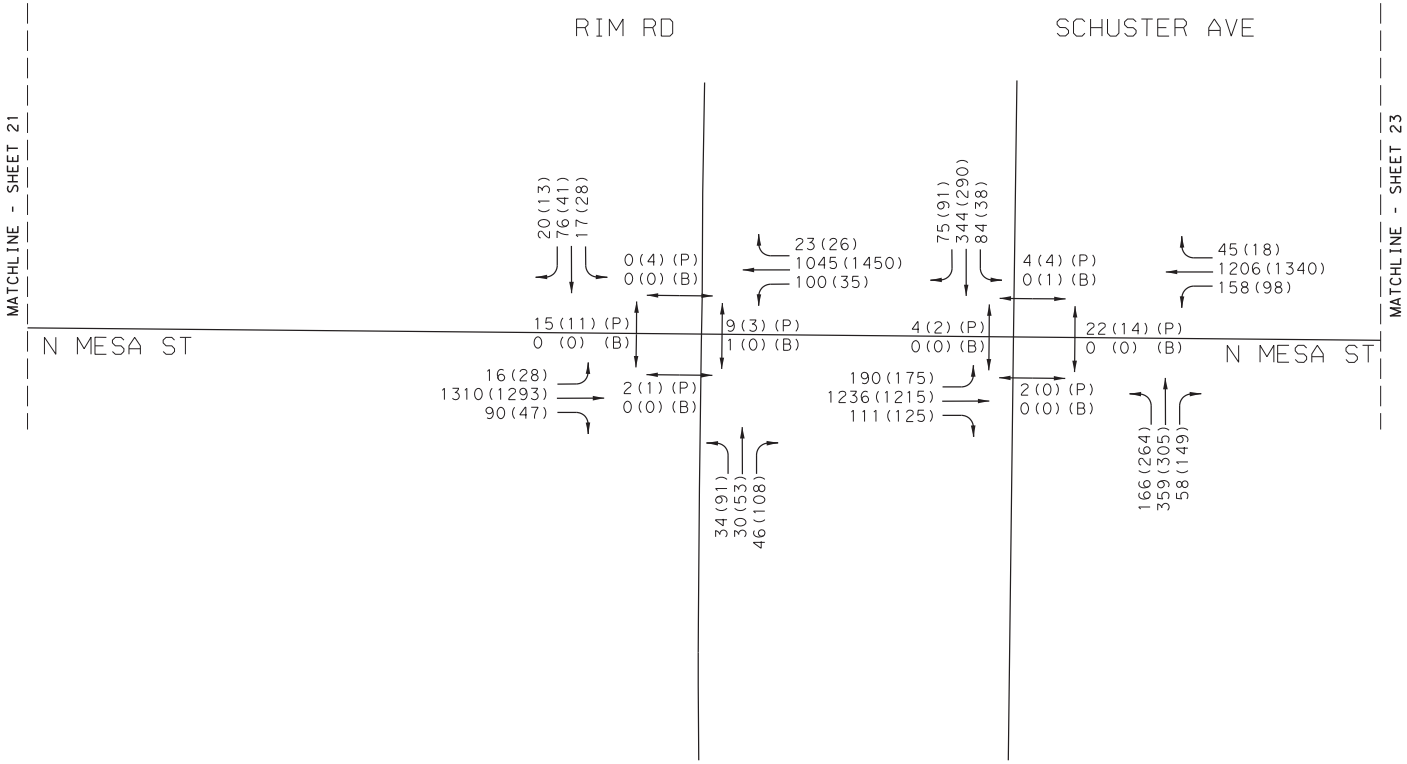

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
RIM RD TO SCHUSTER AVE

Kimley»Horn F-928

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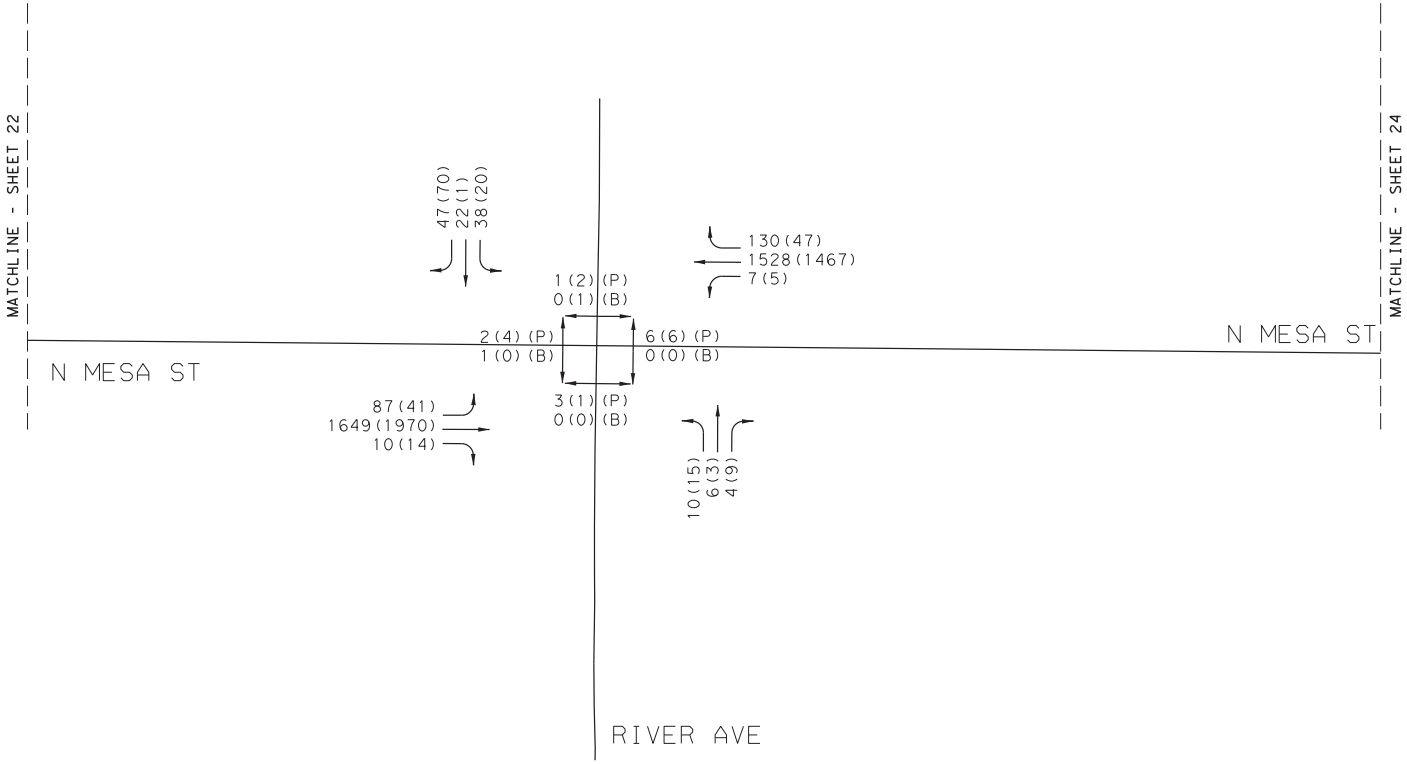

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
RIVER AVE

Kimley»Horn F-928

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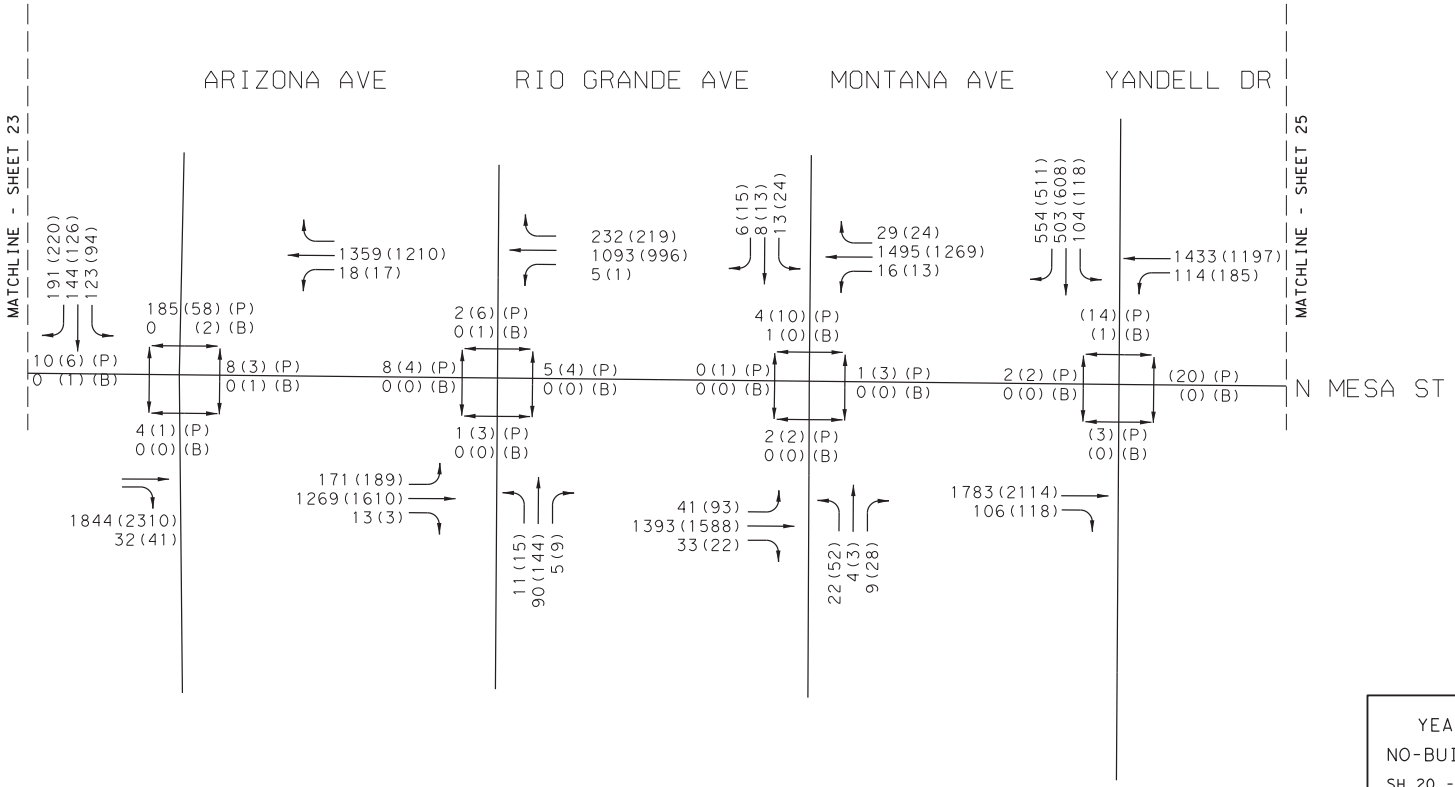

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
ARIZONA AVE TO YANDELL DR

Kimley»Horn F-928

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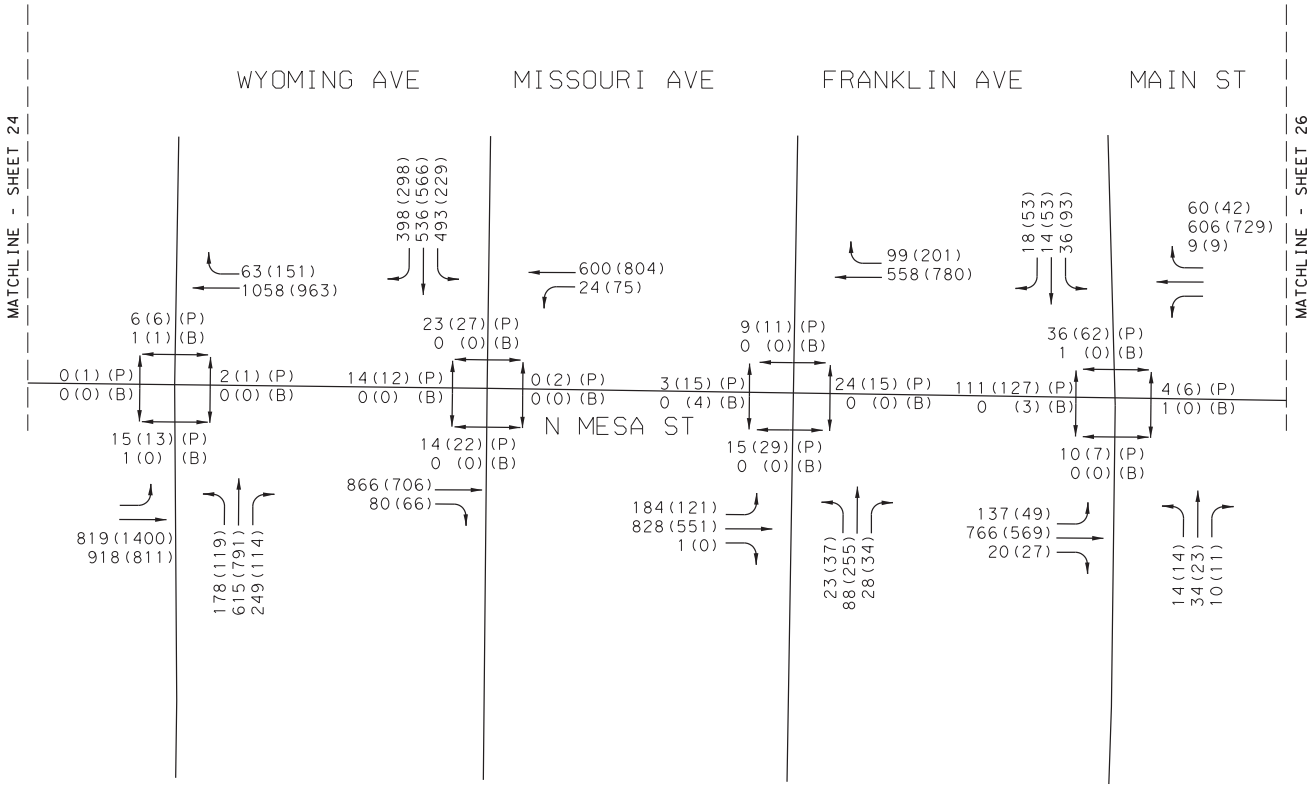

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
WYOMING AVE TO MAIN ST

Kimley»Horn F-928

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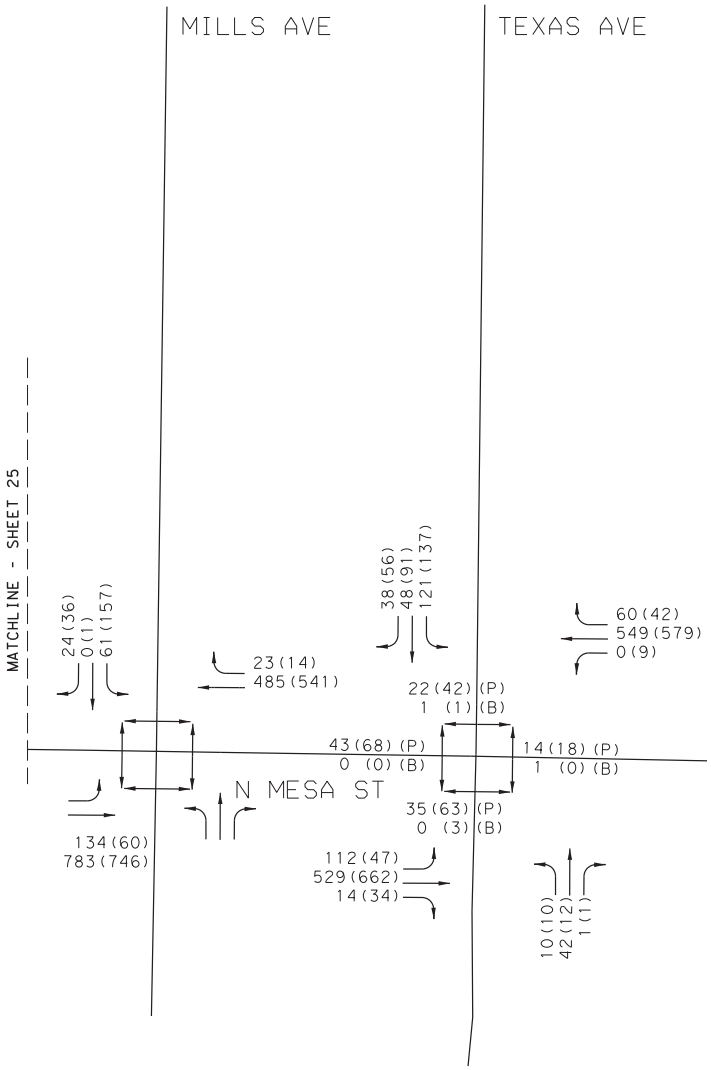

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
MILLS AVE TO TEXAS AVE

Kimley»Horn F-928

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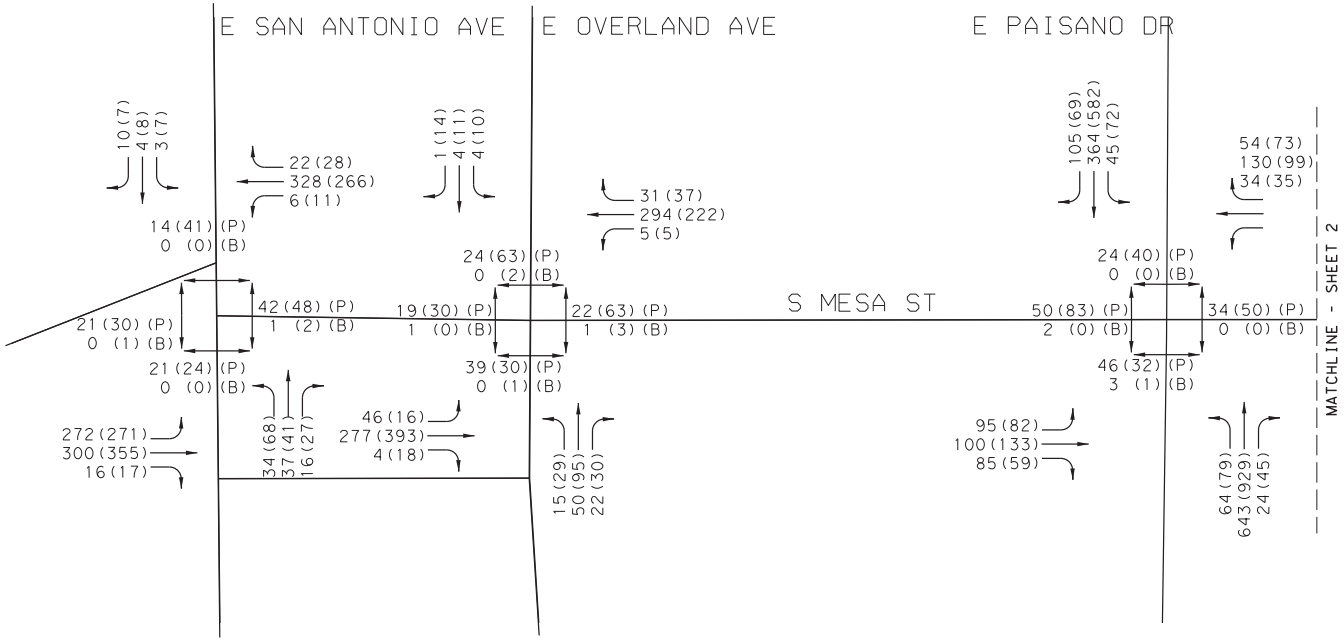
2040 NO-BUILD PEAK HOUR

(Section 2 – San Antonio Ave to LP 375)



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
SAN ANTONIO AVE TO PAISANO DR

Kimley»Horn F-928

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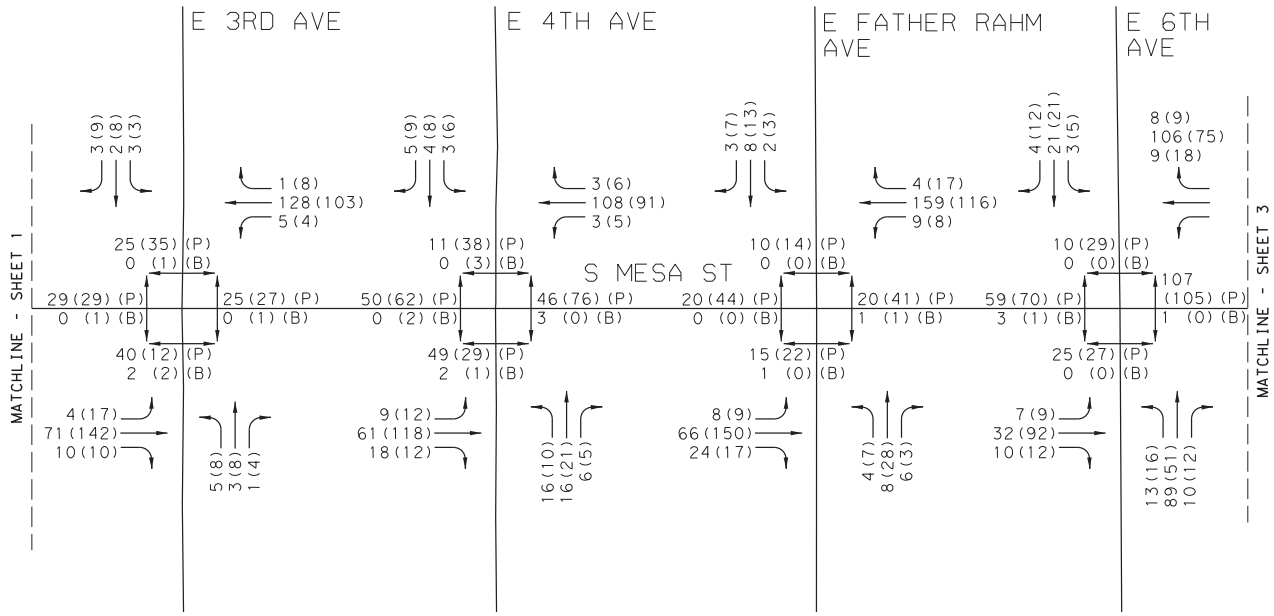

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
3RD AVE TO 6TH AVE

Kimley»Horn F-928

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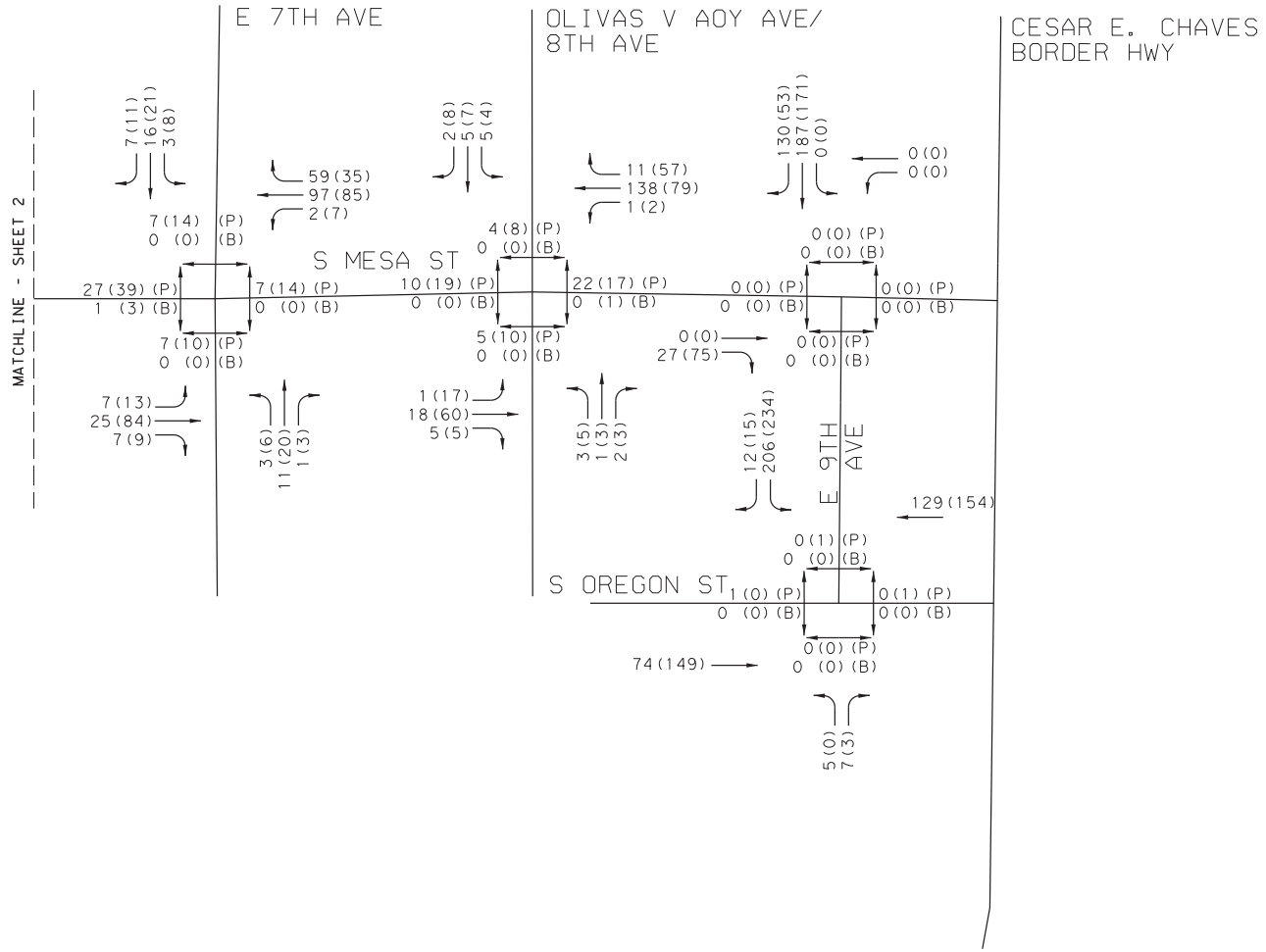

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
7TH AVE TO BORDER HWY

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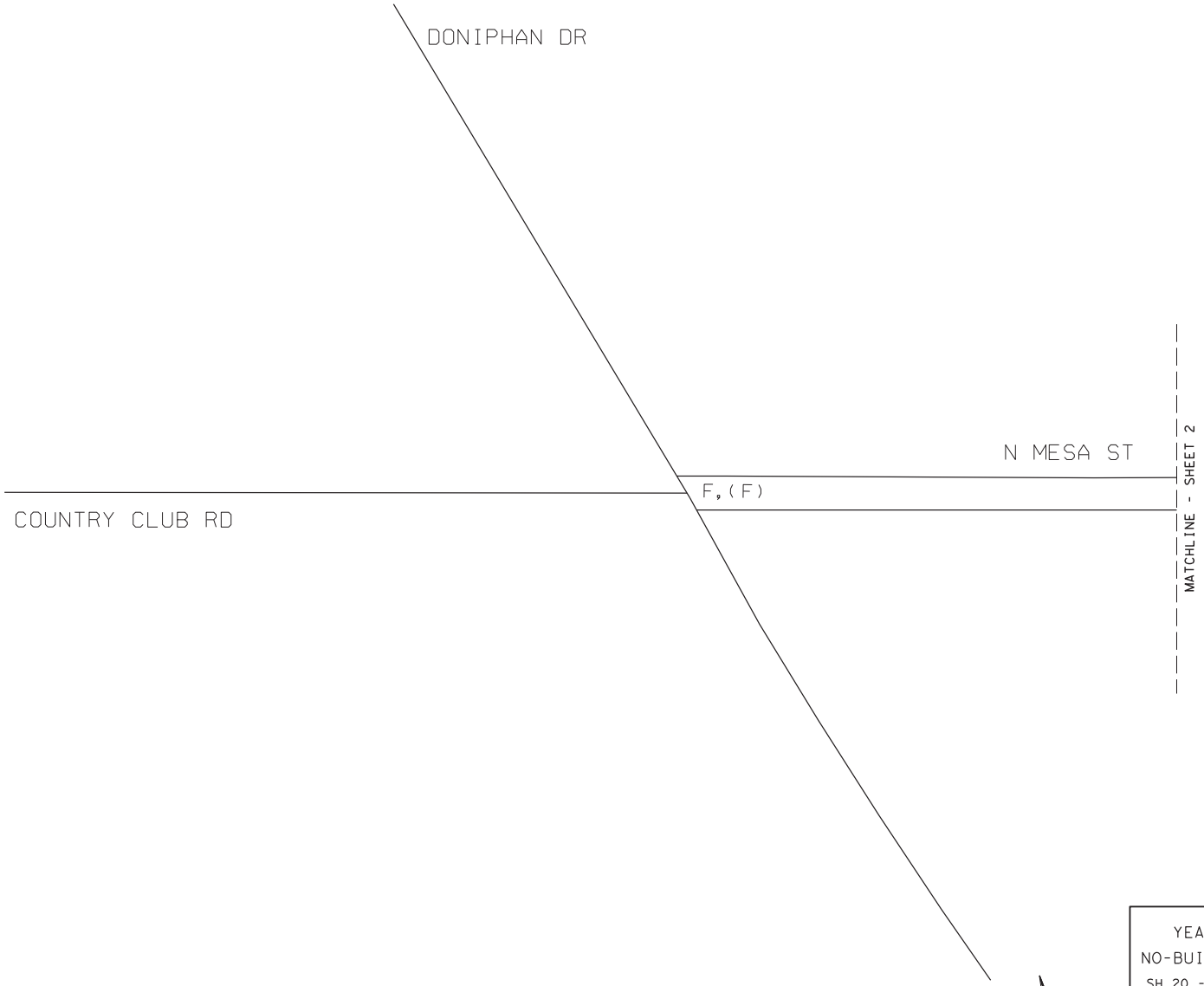
2040 NO-BUILD PEAK HOUR INTERSECTION LOS

(Section 1 – Doniphan Dr to Texas Ave)



LEGEND
AM, (PM) LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
DONIPHAN DR

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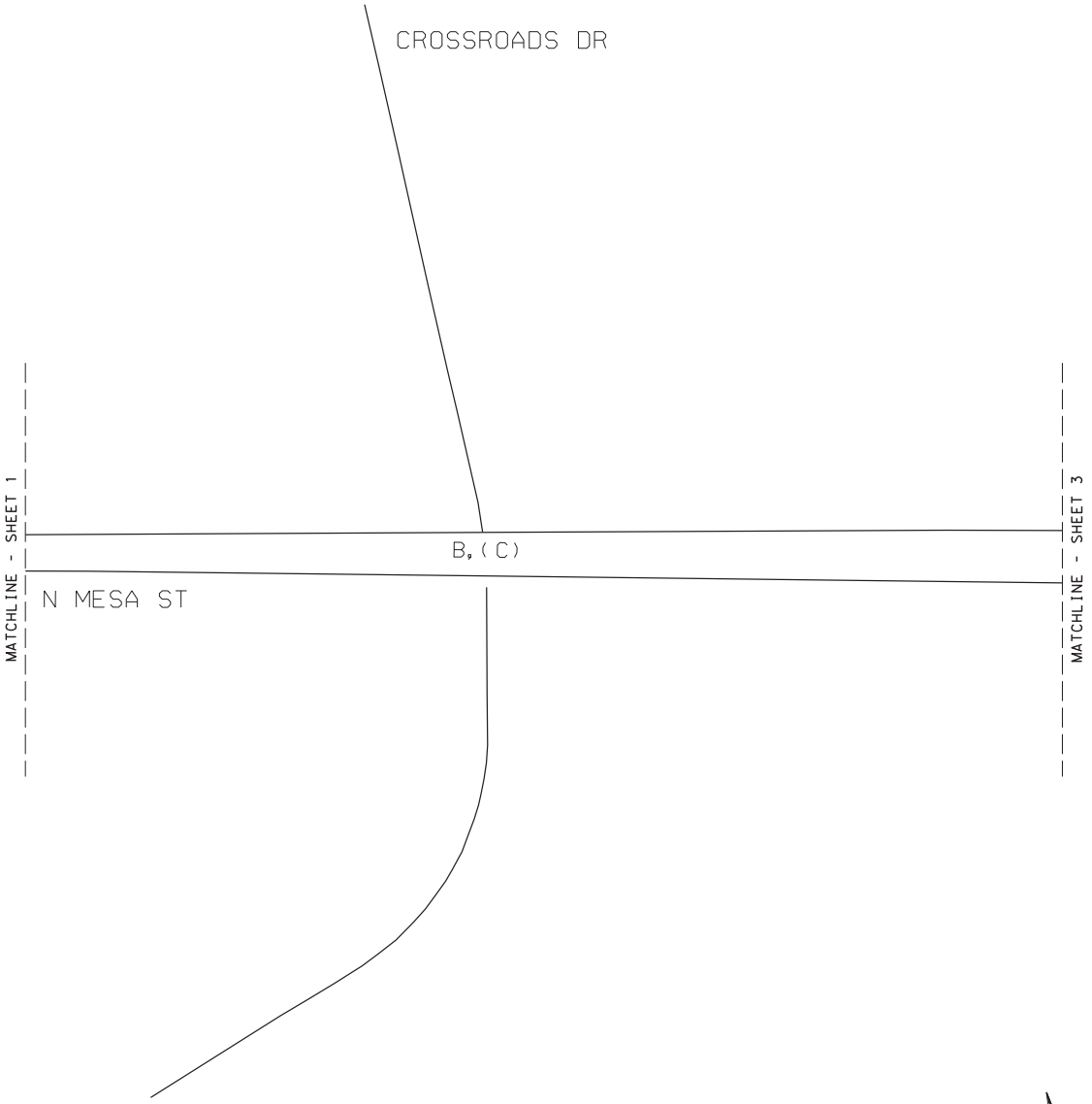

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
CROSSROADS DR

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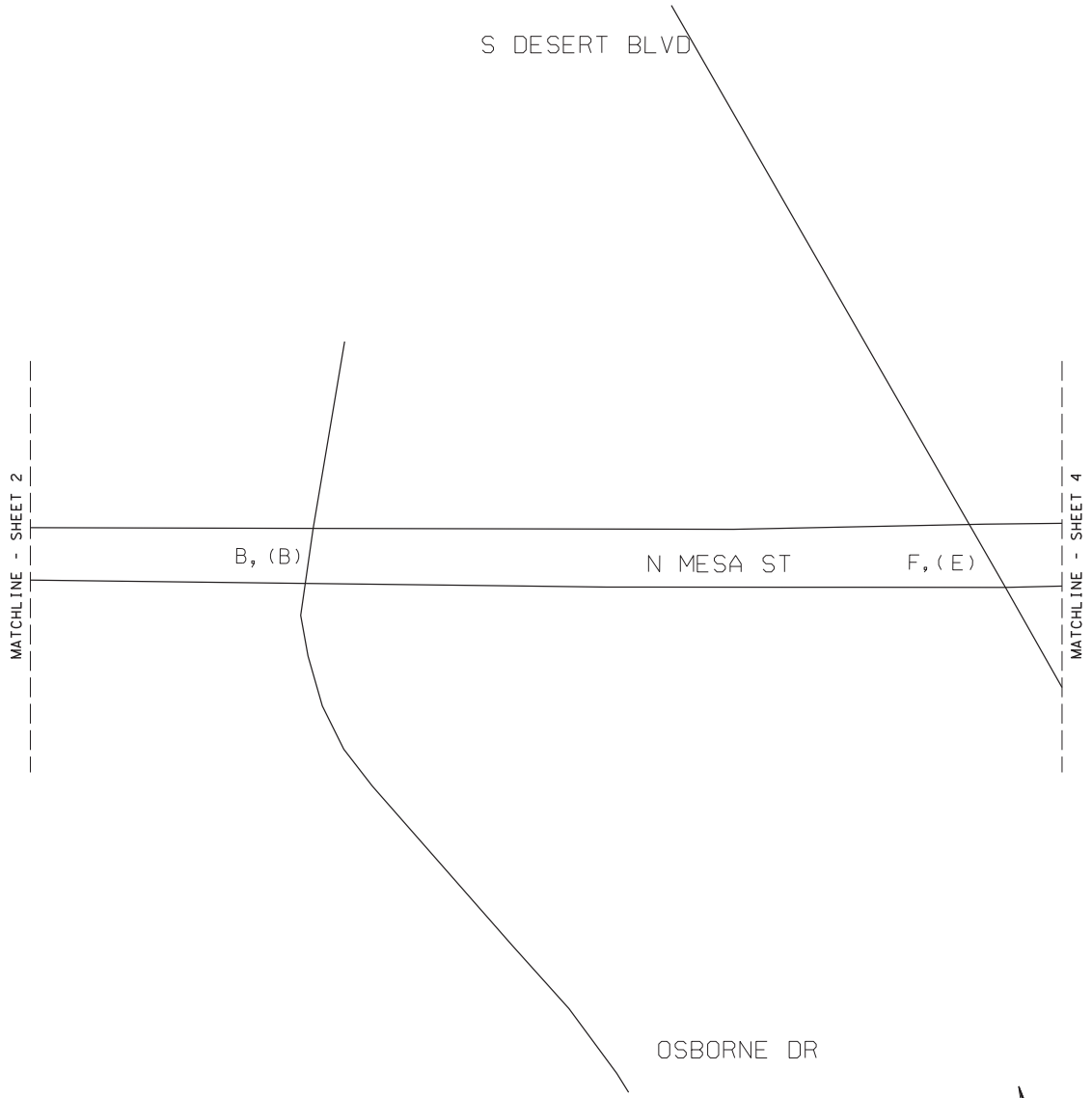

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
OSBORNE DR TO S DESERT BLVD

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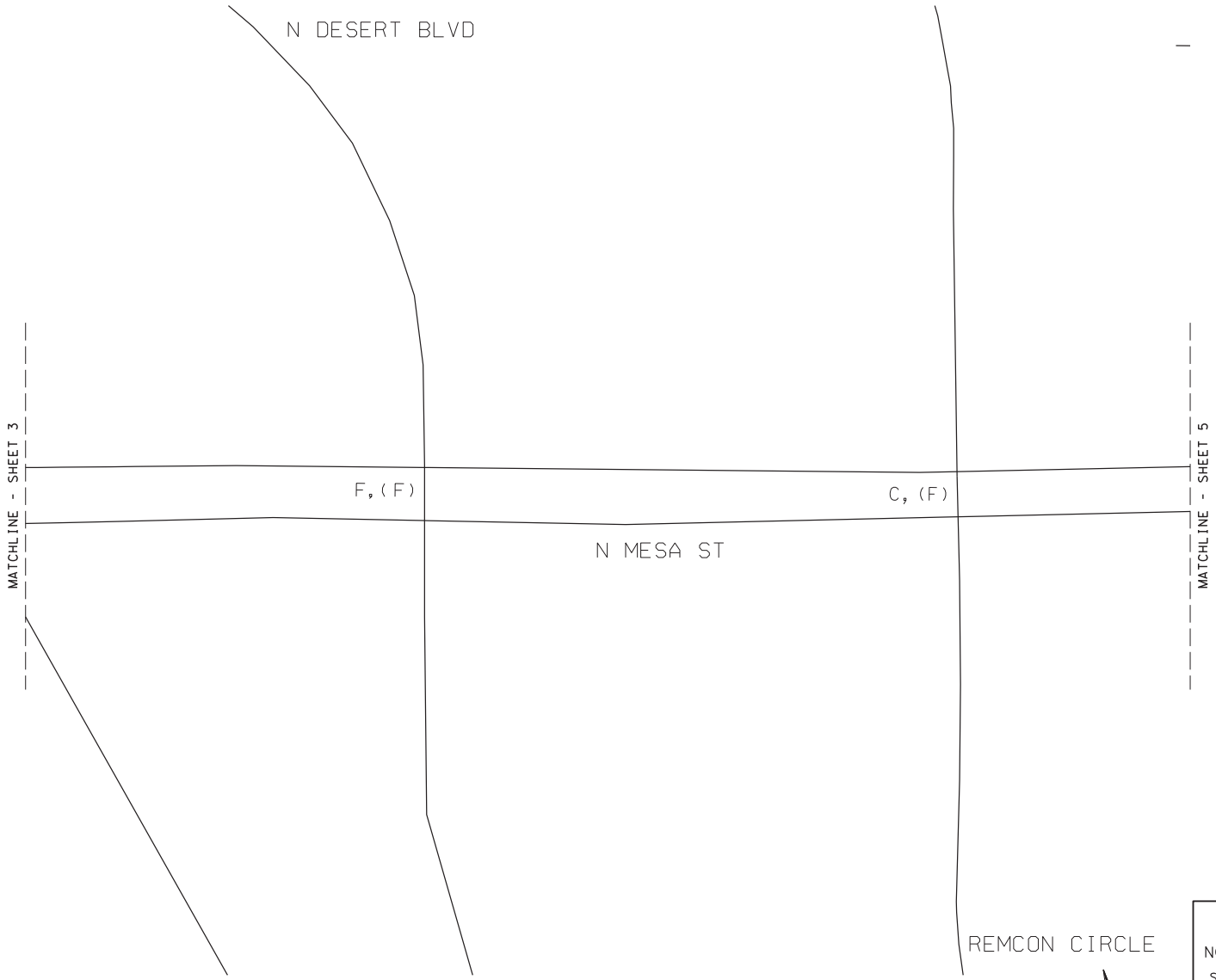

NOT TO SCALE

LEGEND	
AM, (PM)	LOS

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
N DESERT BLVD TO REMCON CIR

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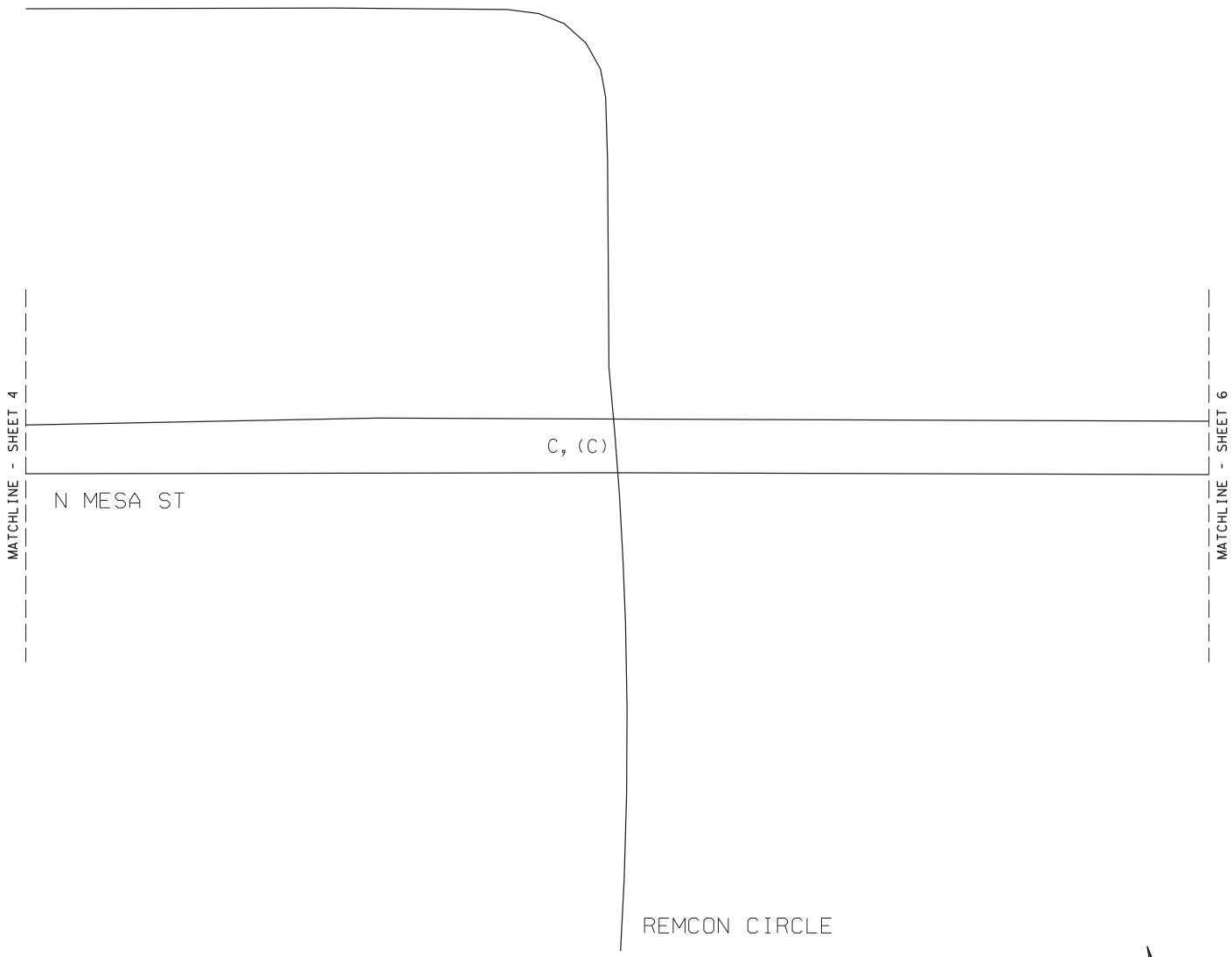

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
REMCON CIR

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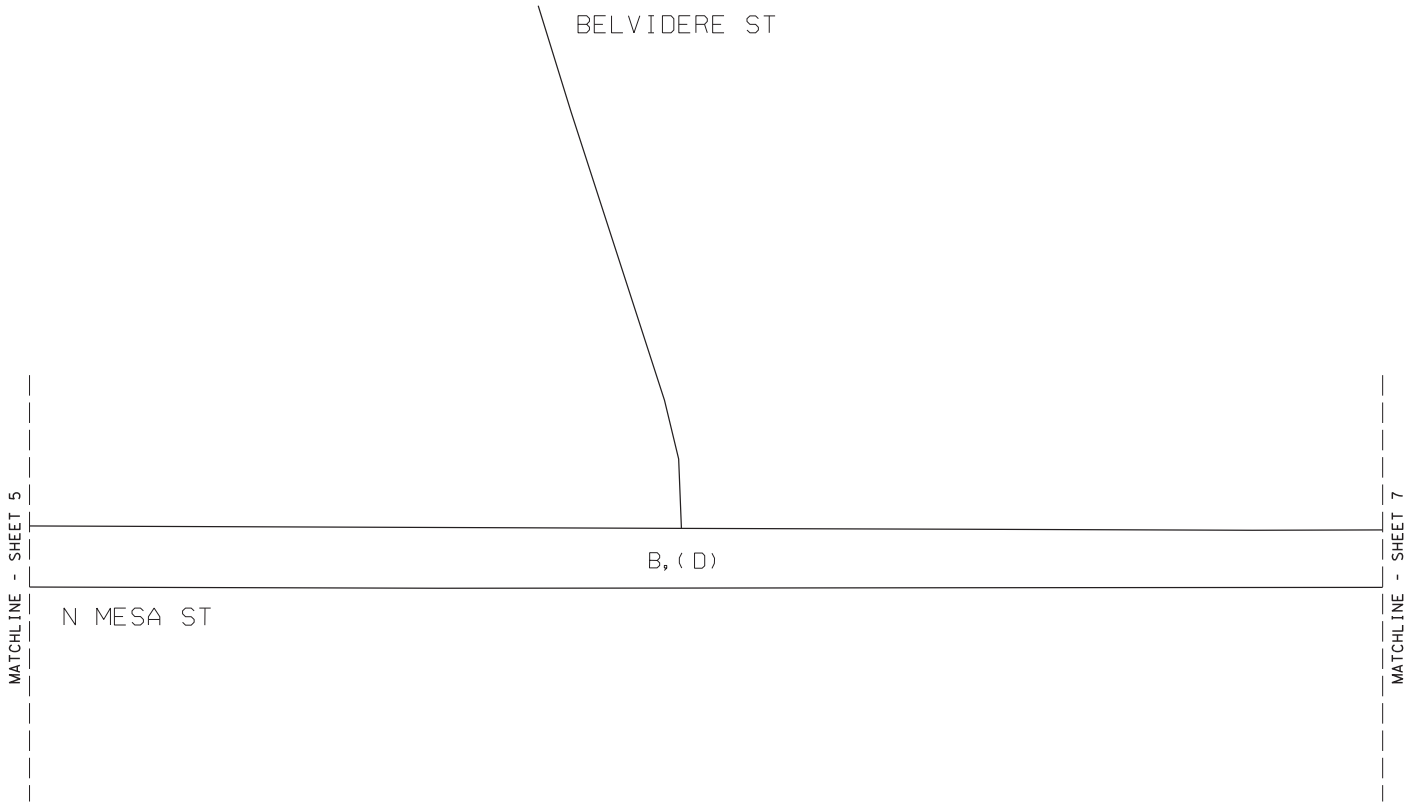

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
BELVIDERE ST

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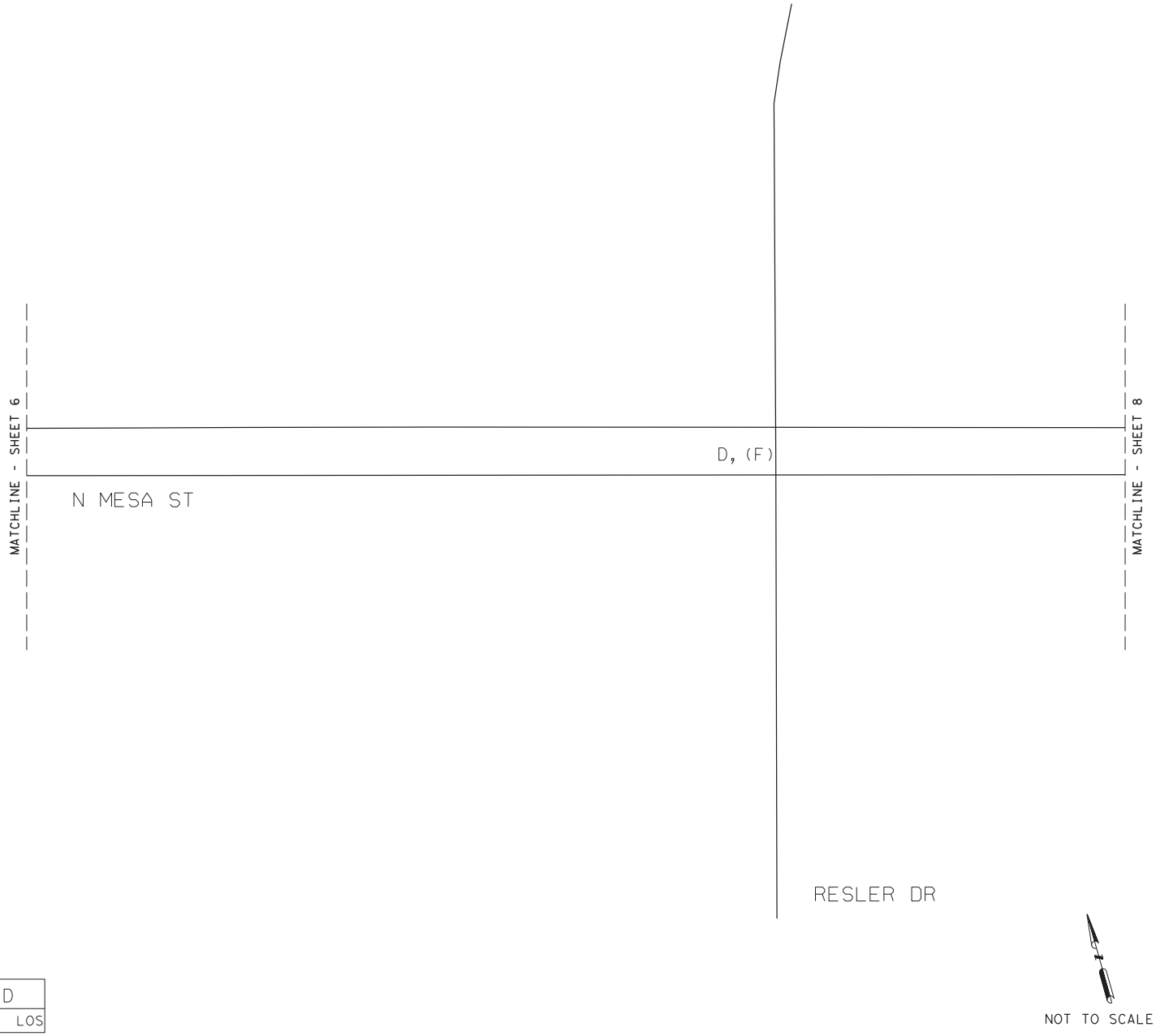

LEGEND	
AM, (PM)	LOS

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
RESLER DR

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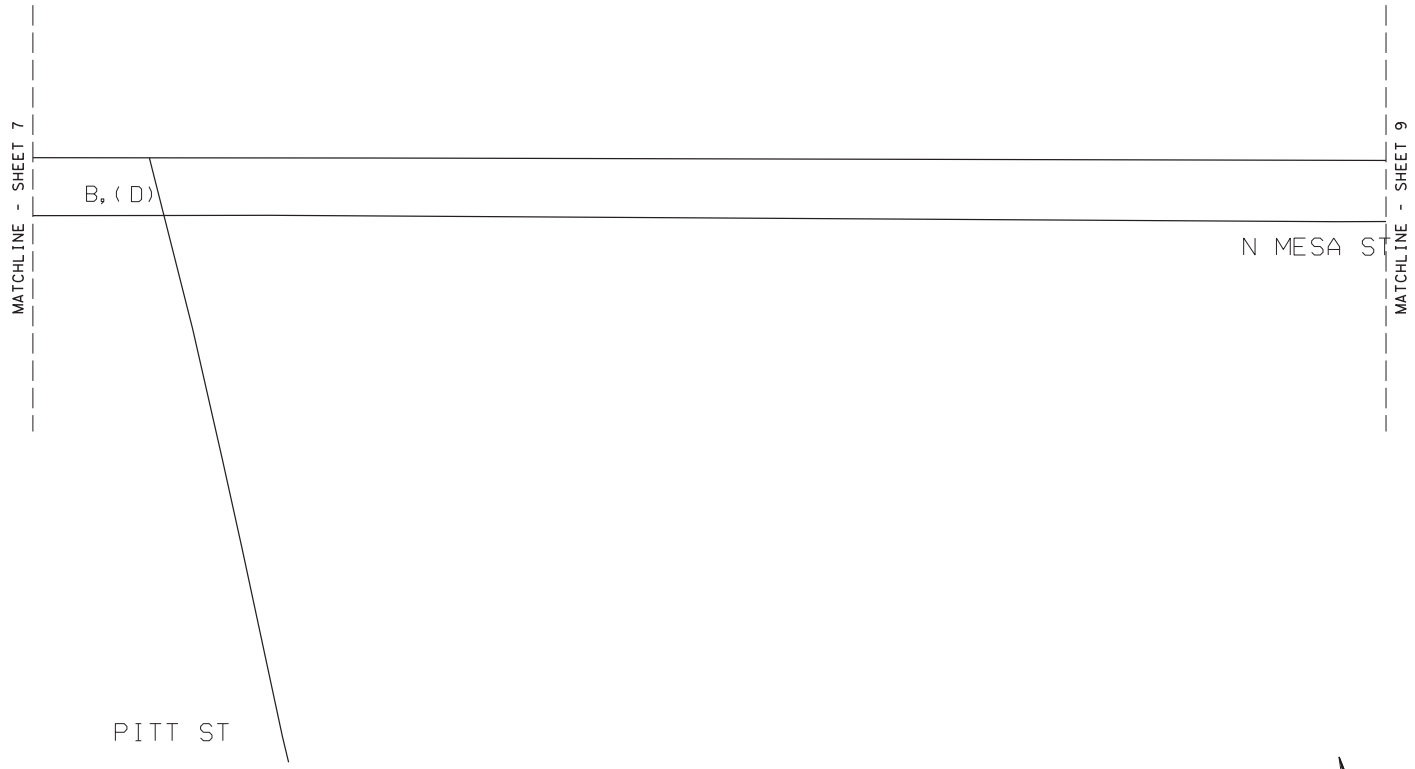

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
PITT ST

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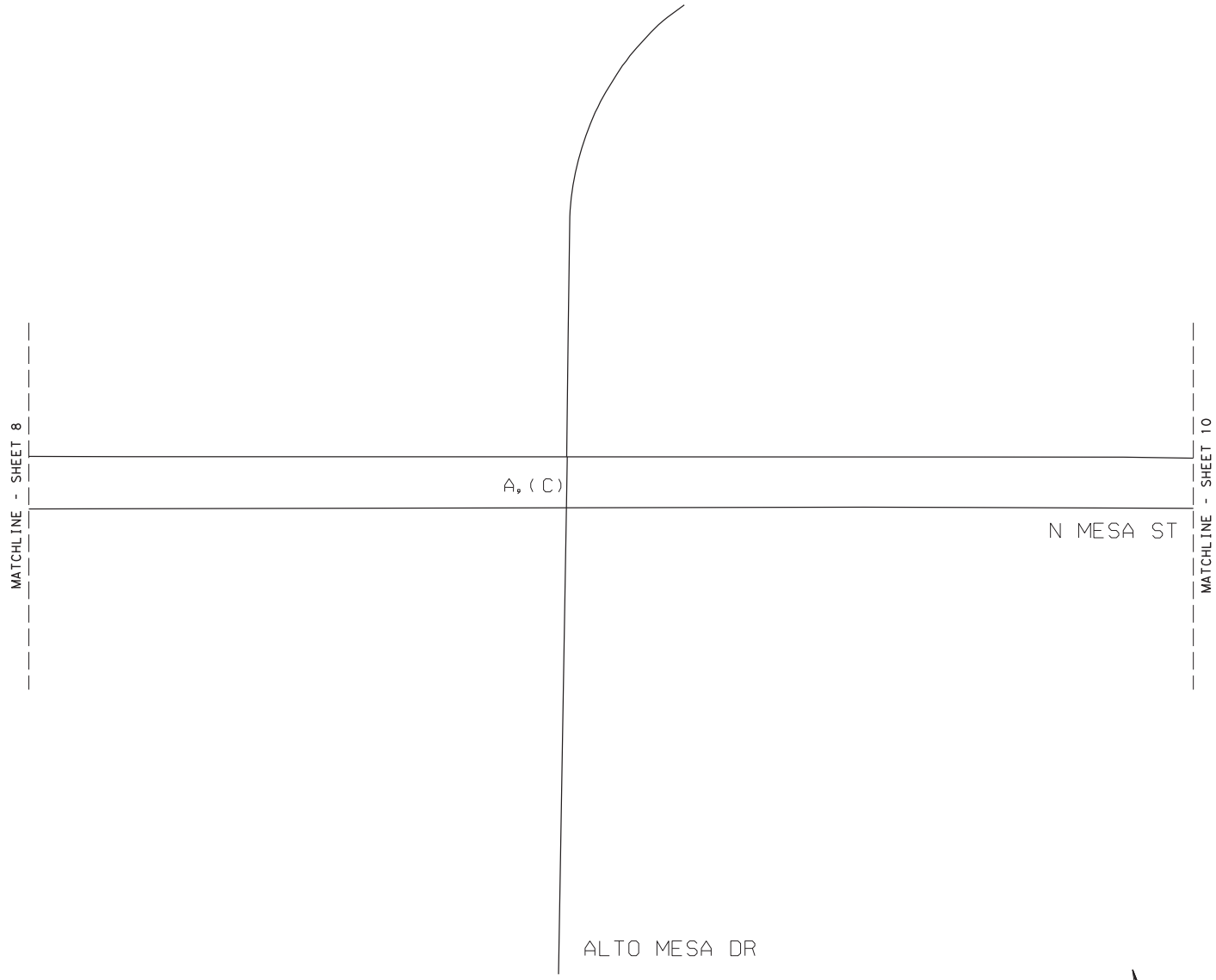

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
ALTO MESA DR

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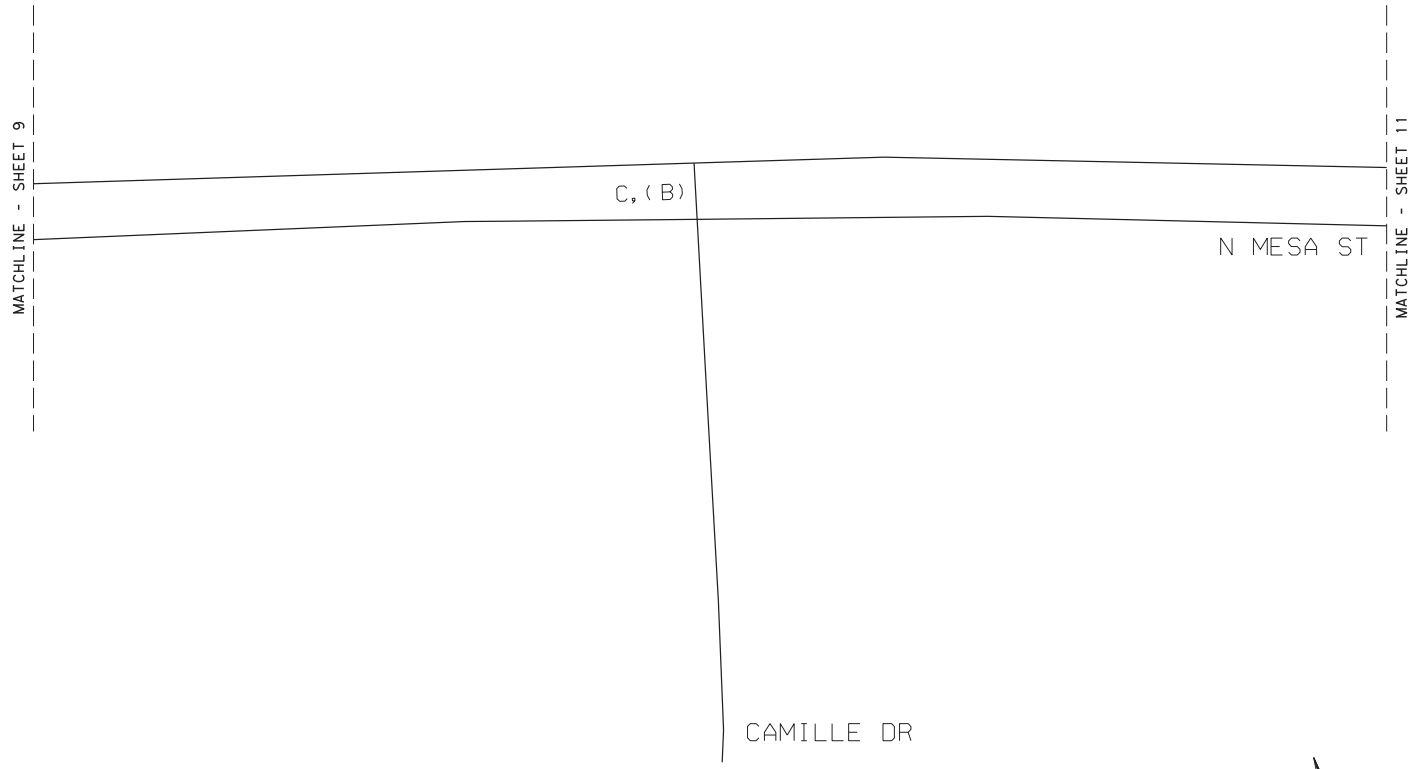

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
CAMILLE DR

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LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
THUNDERBIRD DR TO BALBOA RD

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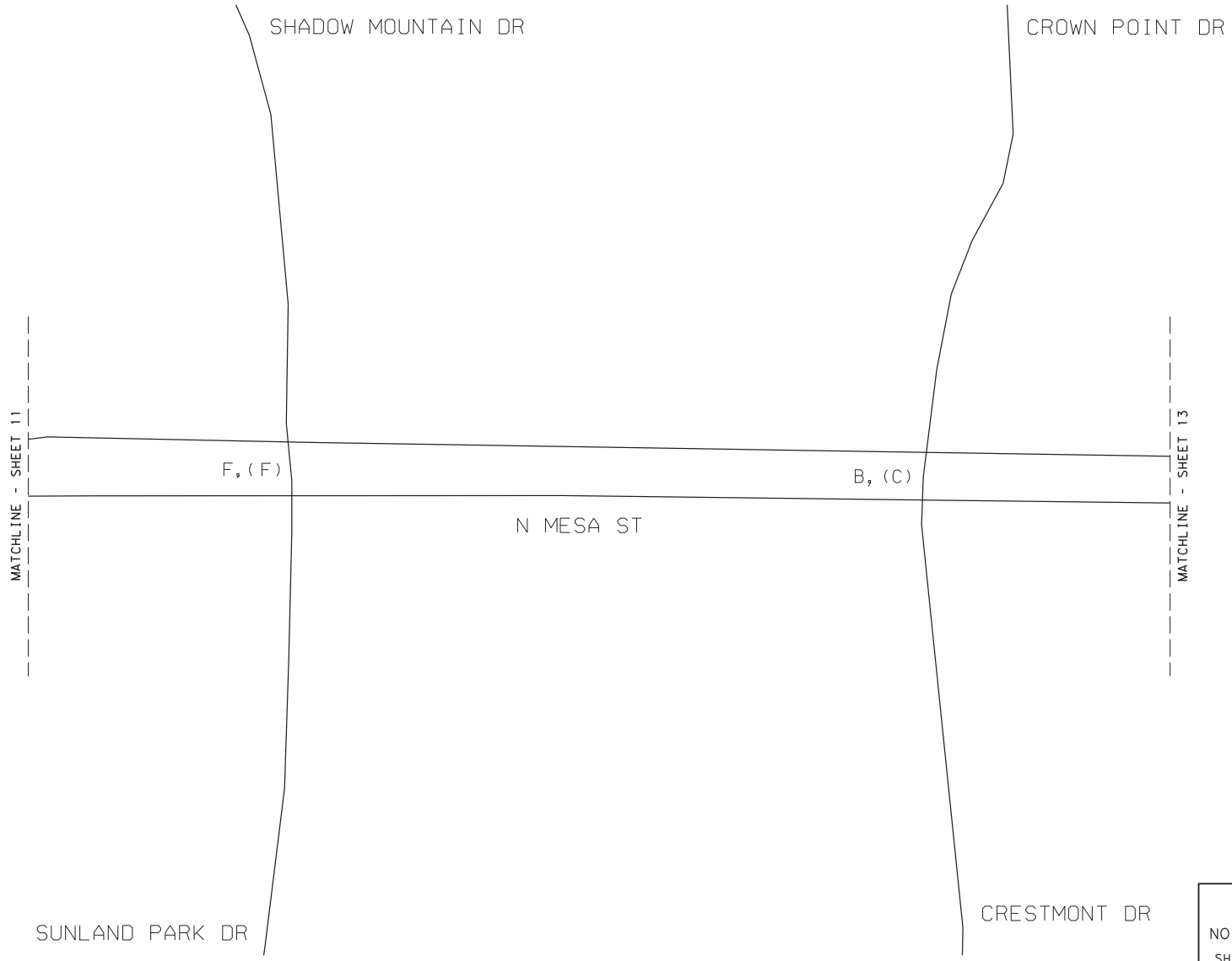

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
SUNLAND PARK DR TO CRESTMONT DR

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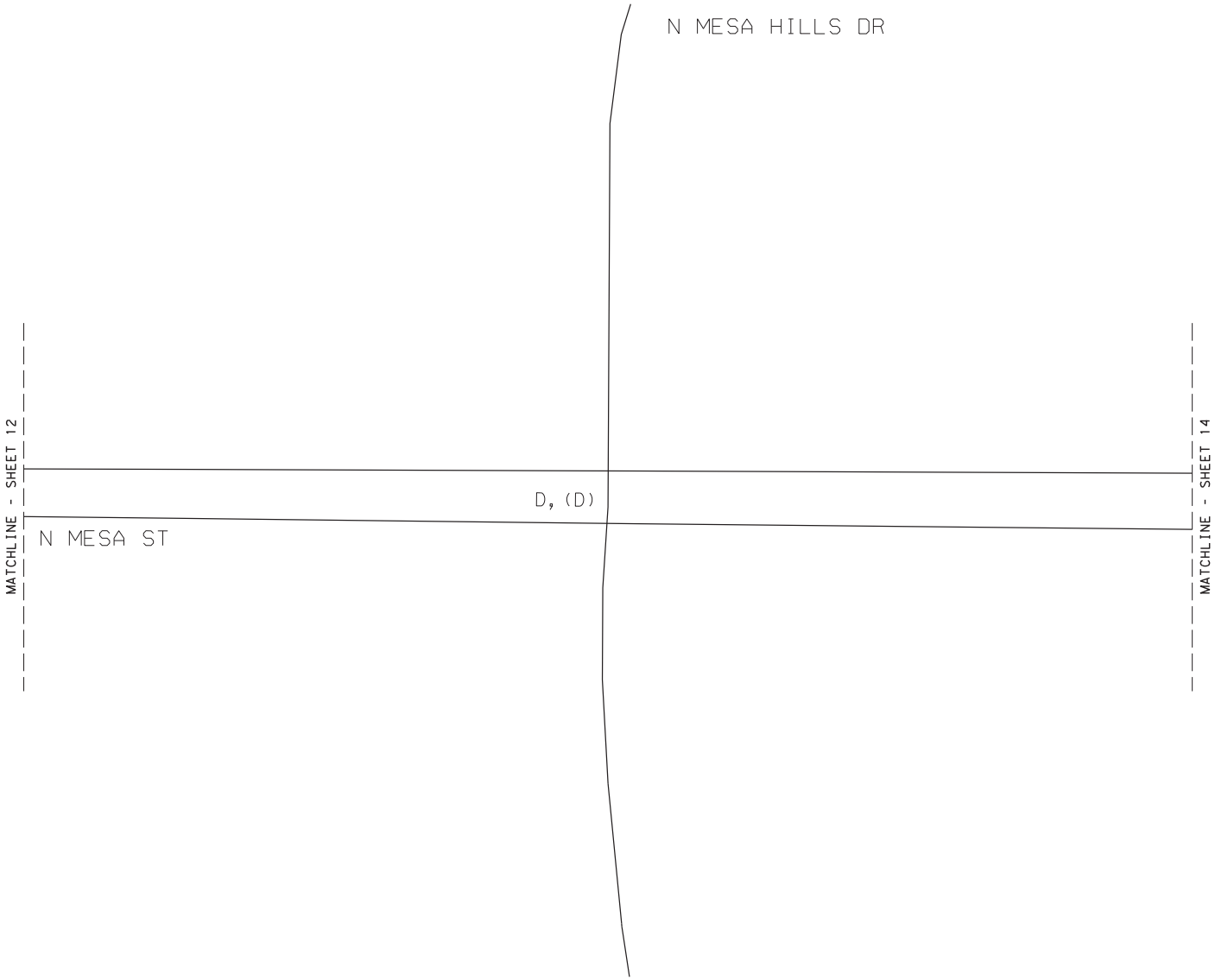

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
N MESA HILLS DR

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LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
FESTIVAL DR

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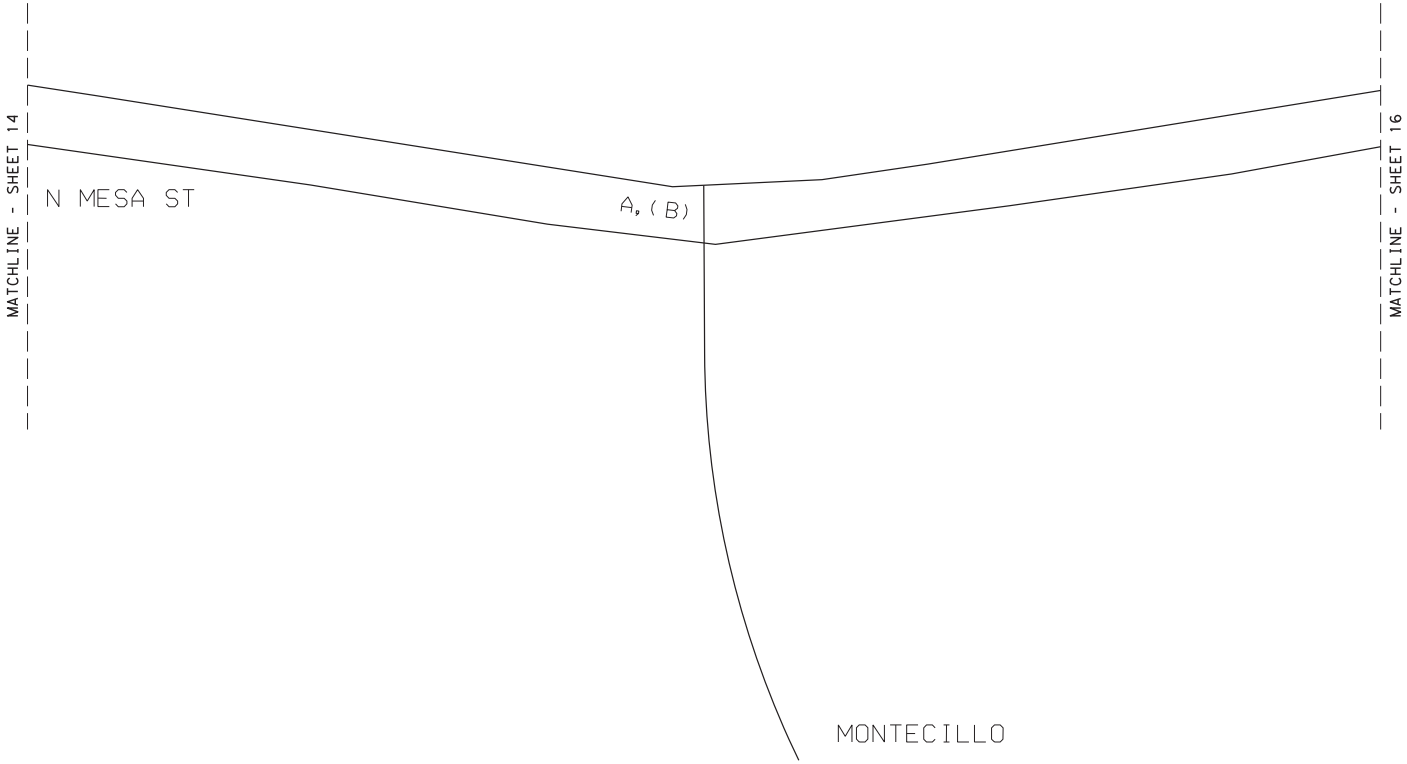

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
MONTECILLO

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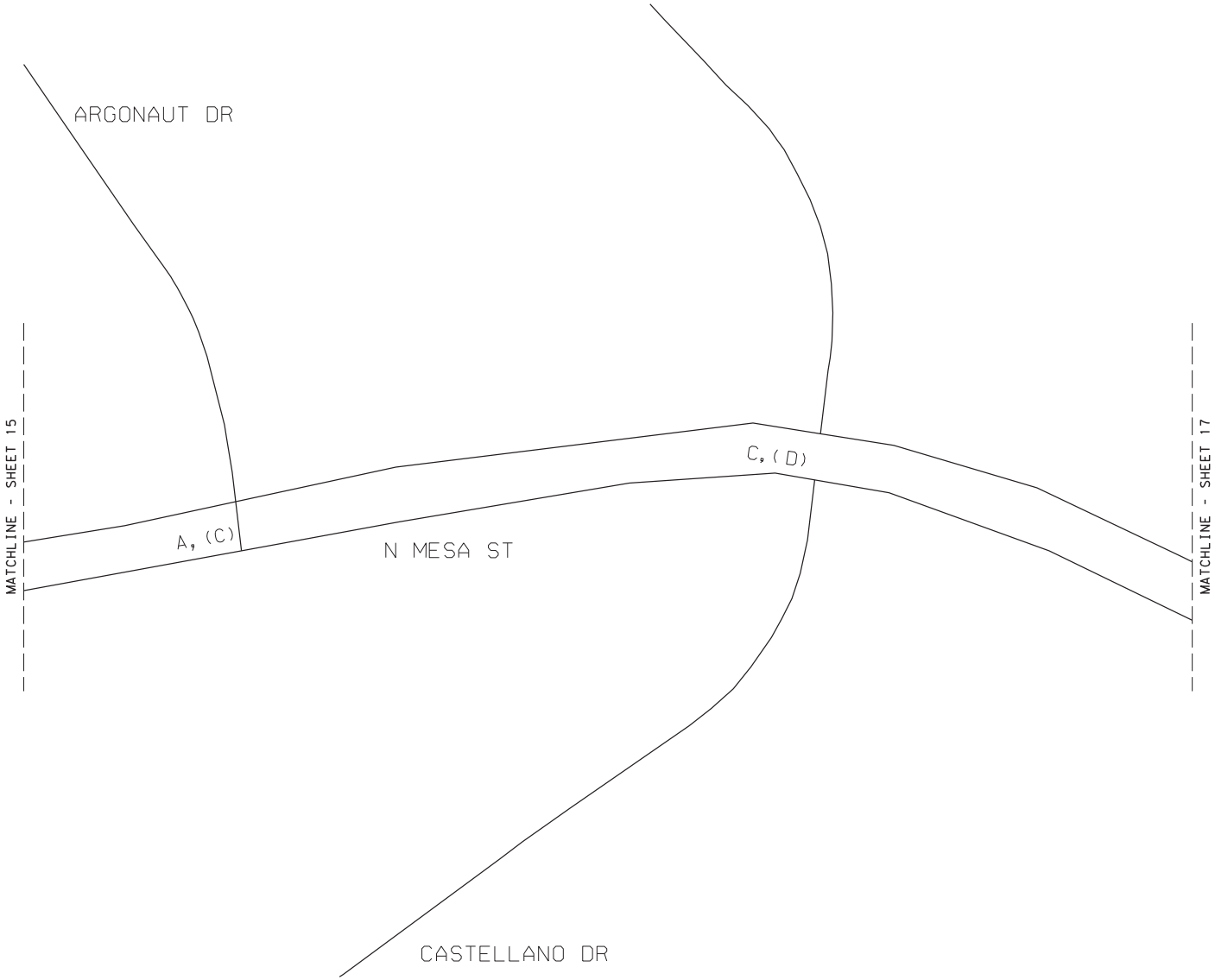

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
ARGONAUT DR TO CASTELLANO DR

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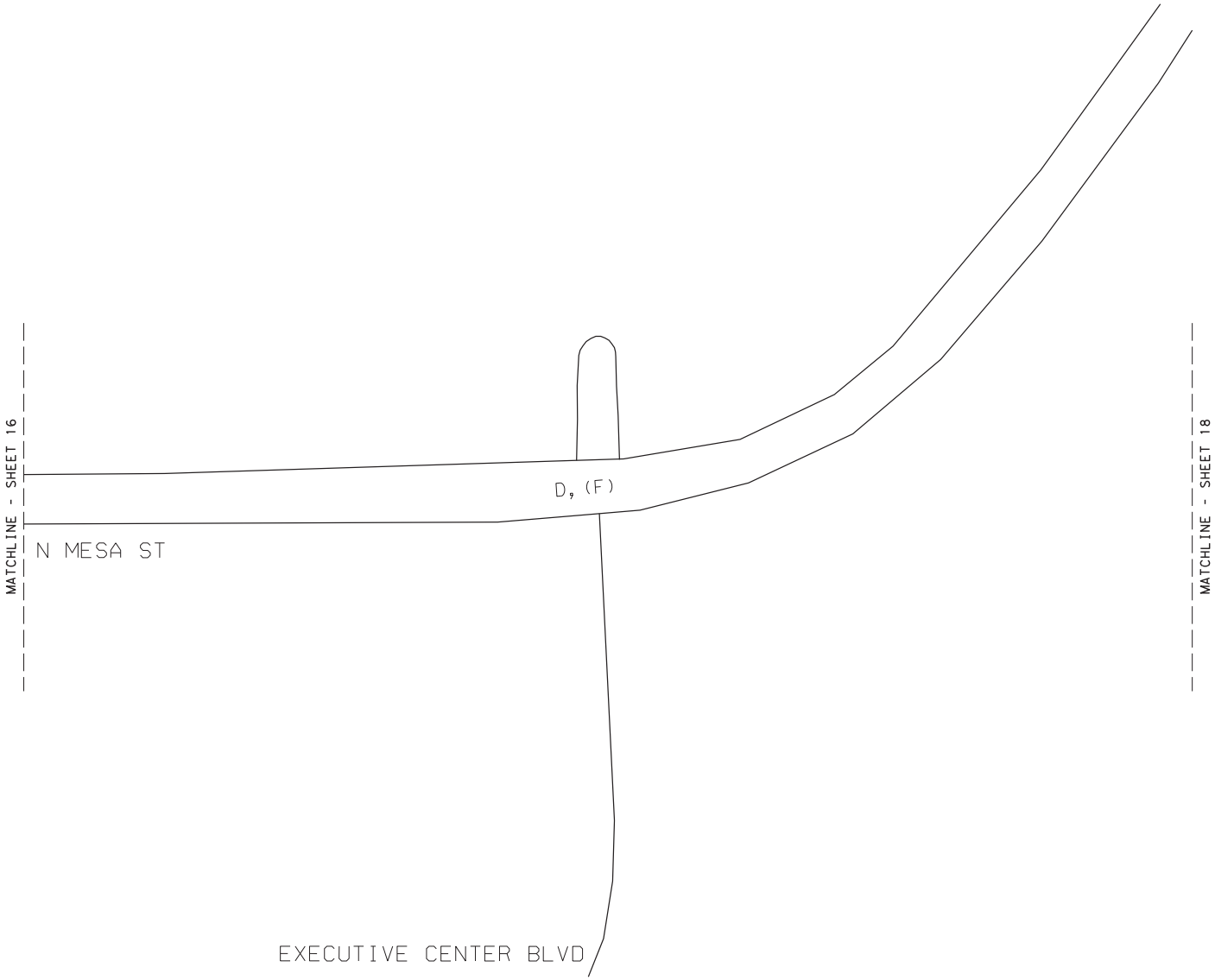

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
EXECUTIVE CENTER BLVD

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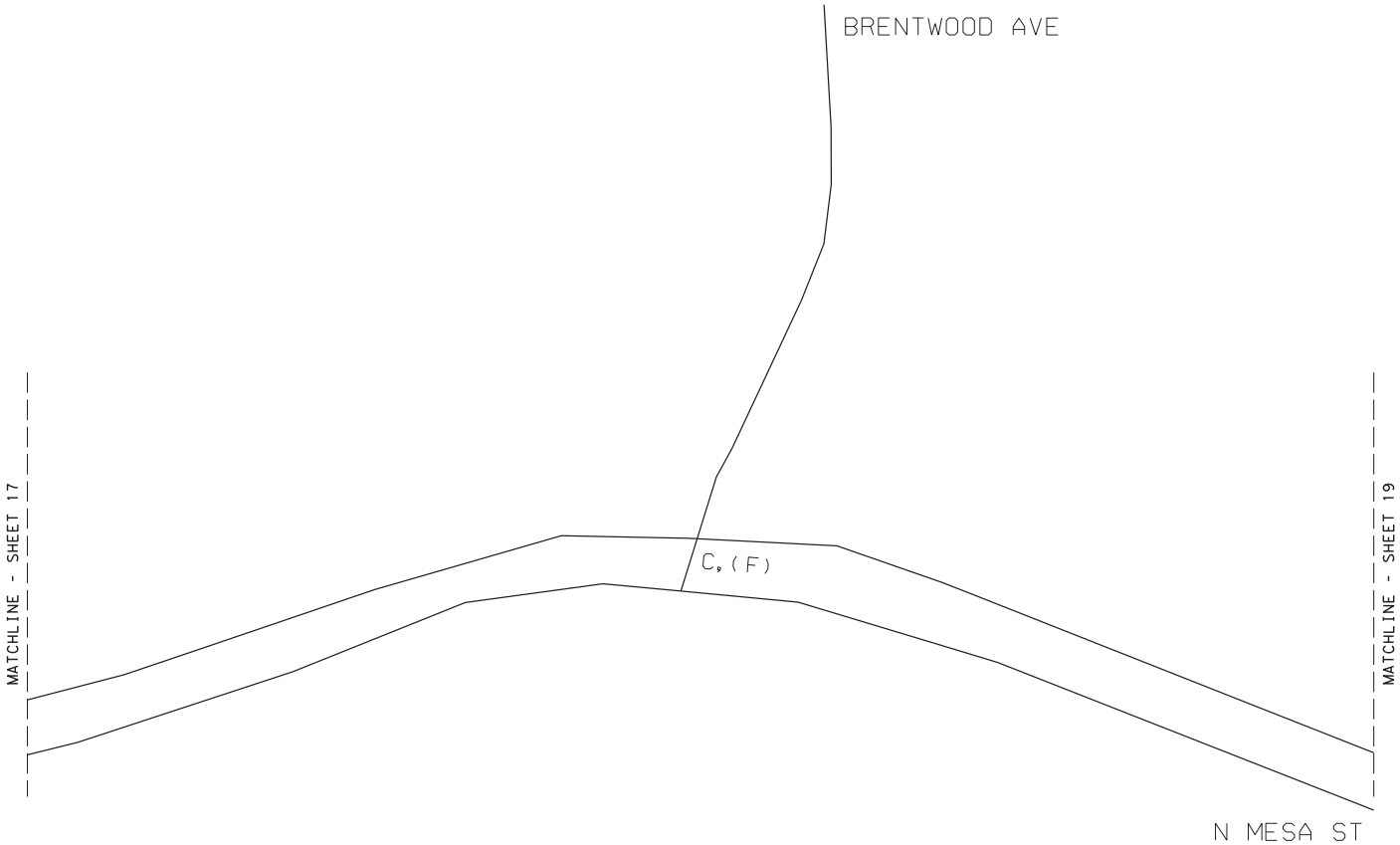

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
BRENTWOOD AVE

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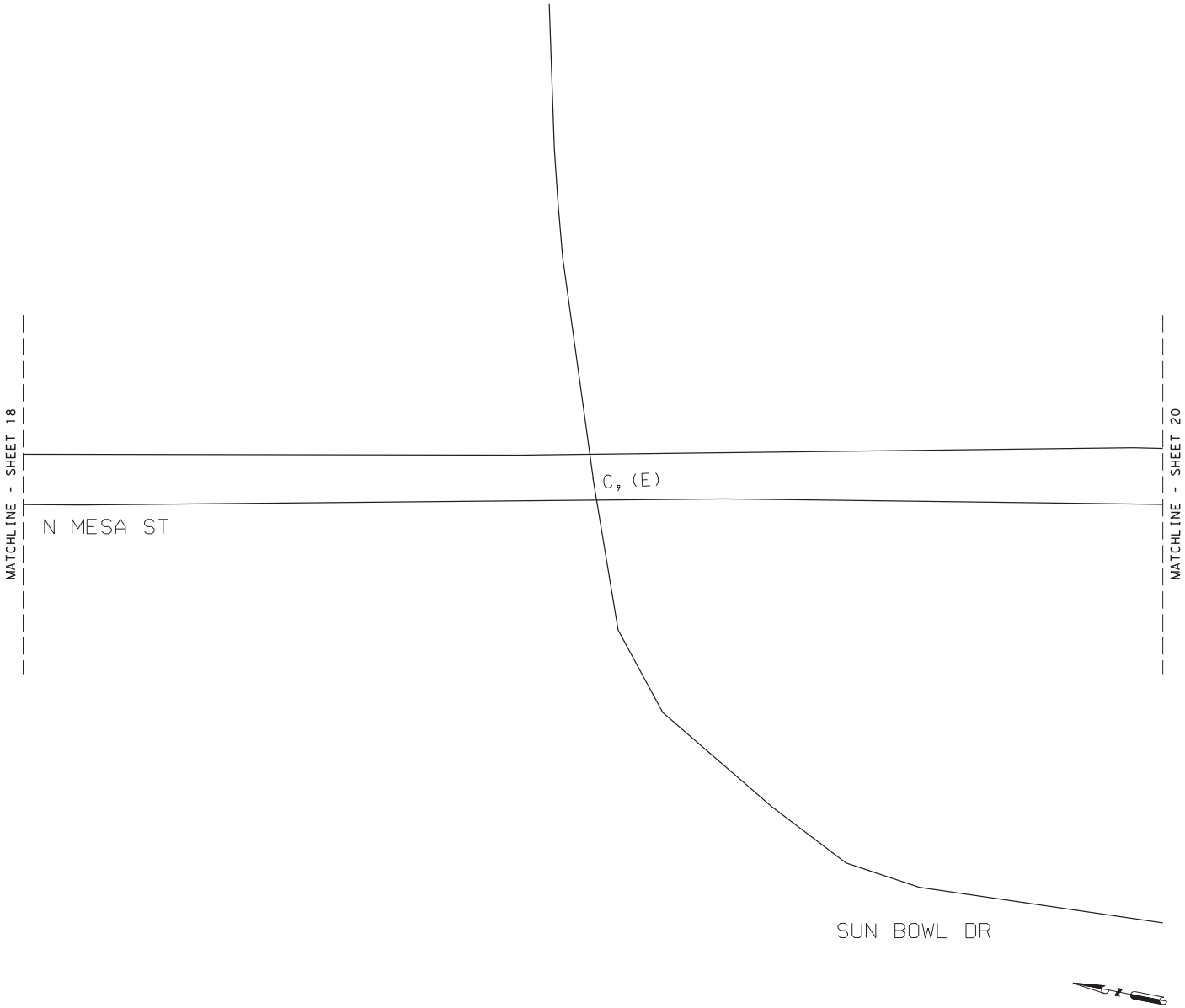

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
SUN BOWL DR

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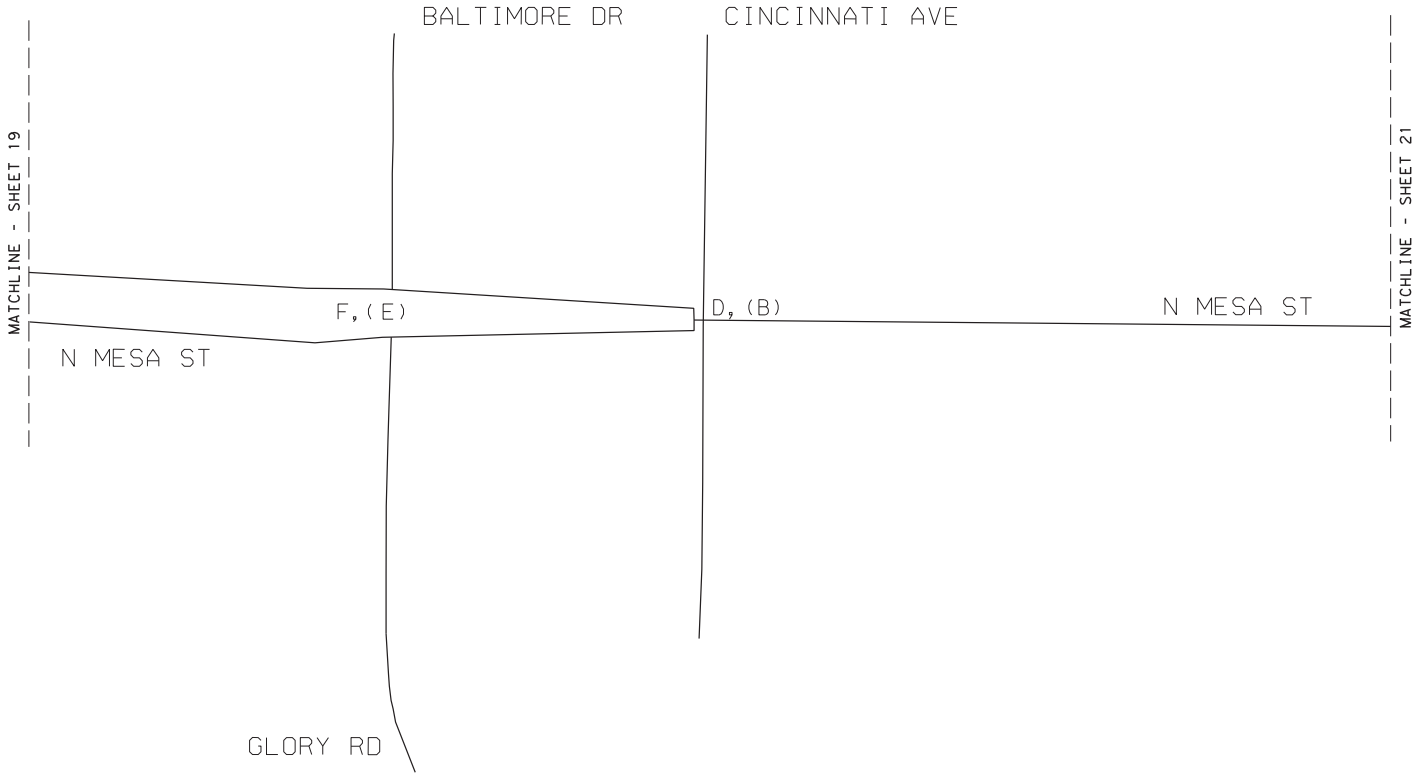

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
GLORY RD TO CINCINNATI AVE

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LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
KERBEY AVE TO UNIVERSITY AVE

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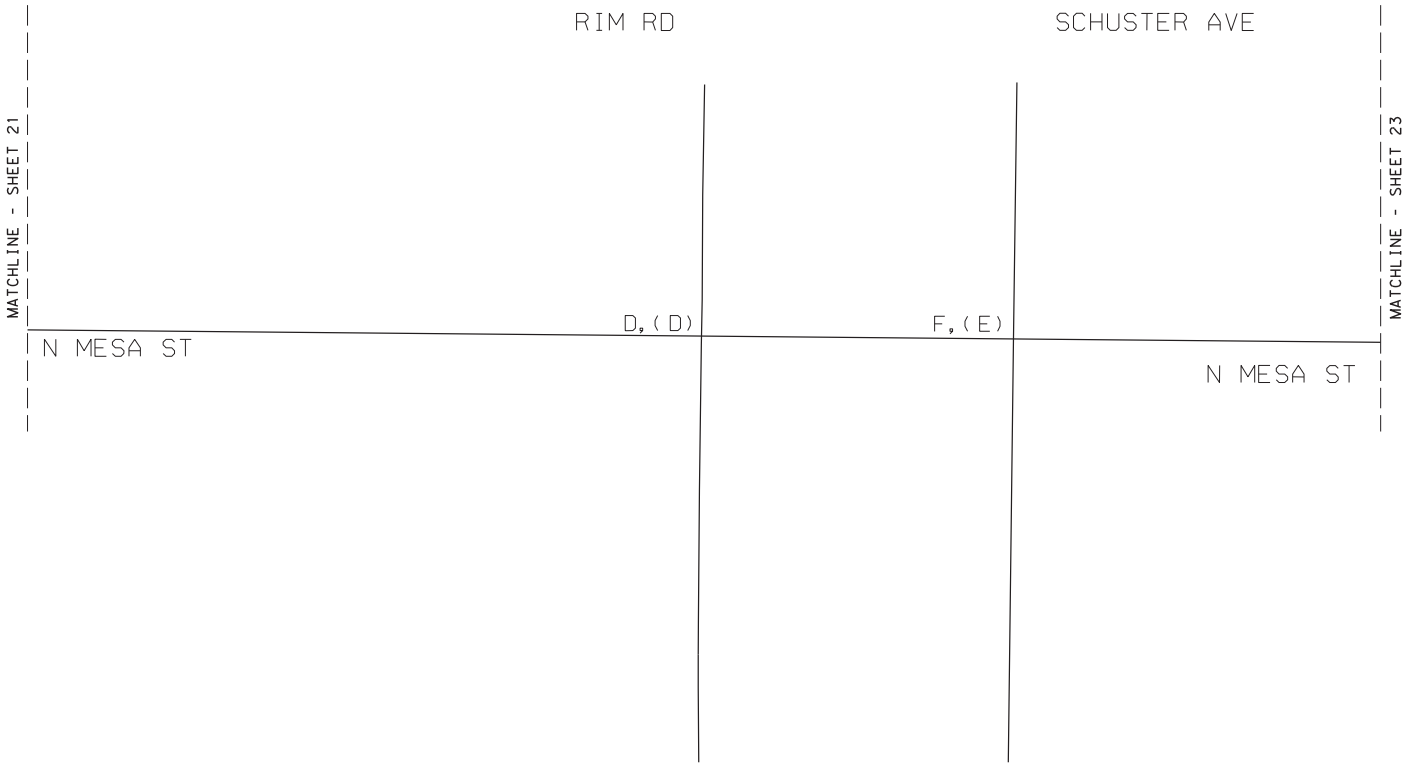

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
RIM RD TO SCHUSTER AVE

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LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
RIVER AVE

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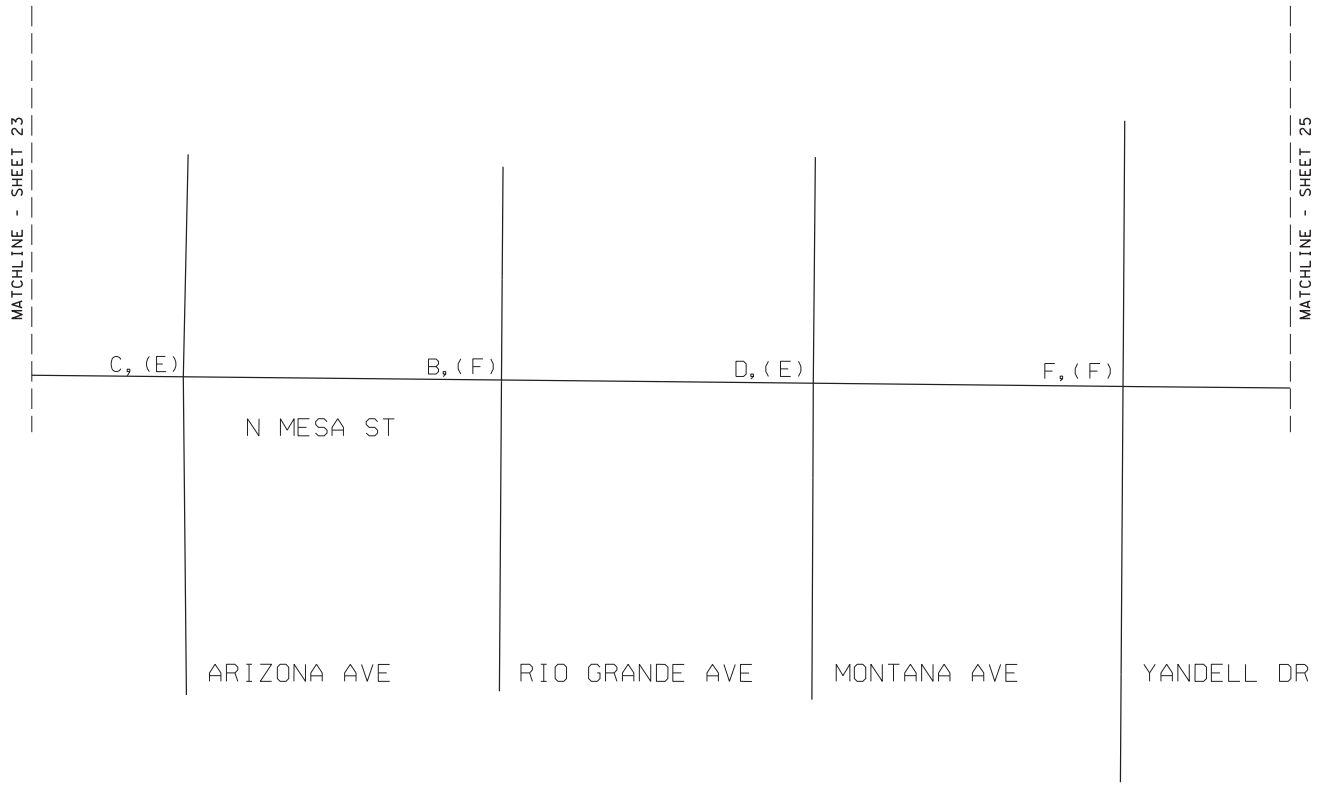

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
ARIZONA AVE TO YANDELL DR

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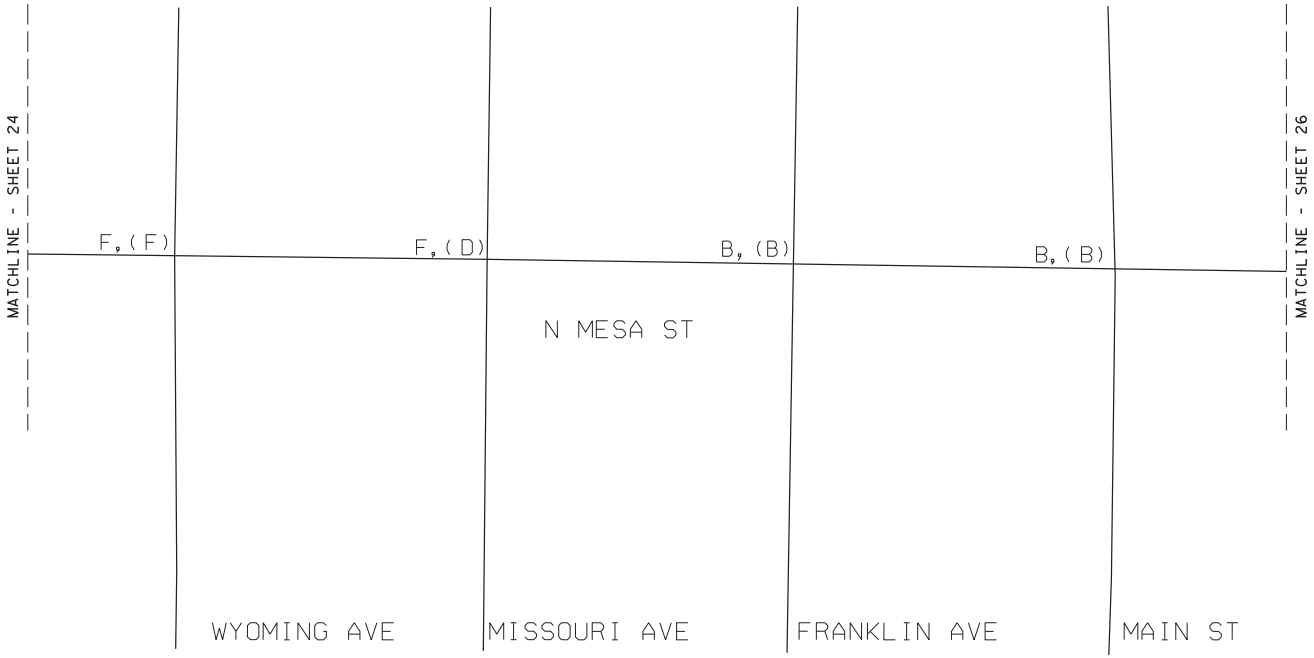

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
WYOMING AVE TO MAIN ST

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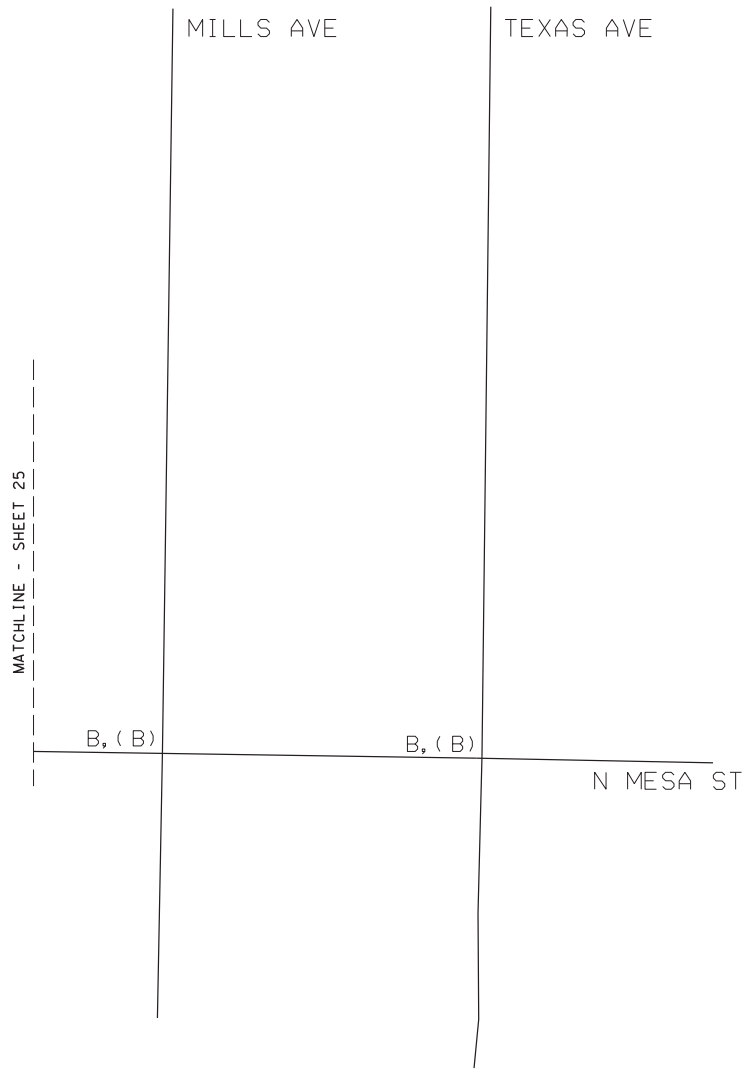

LEGEND
LEGEND
AM, (PM) LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
MILLS AVE TO TEXAS AVE

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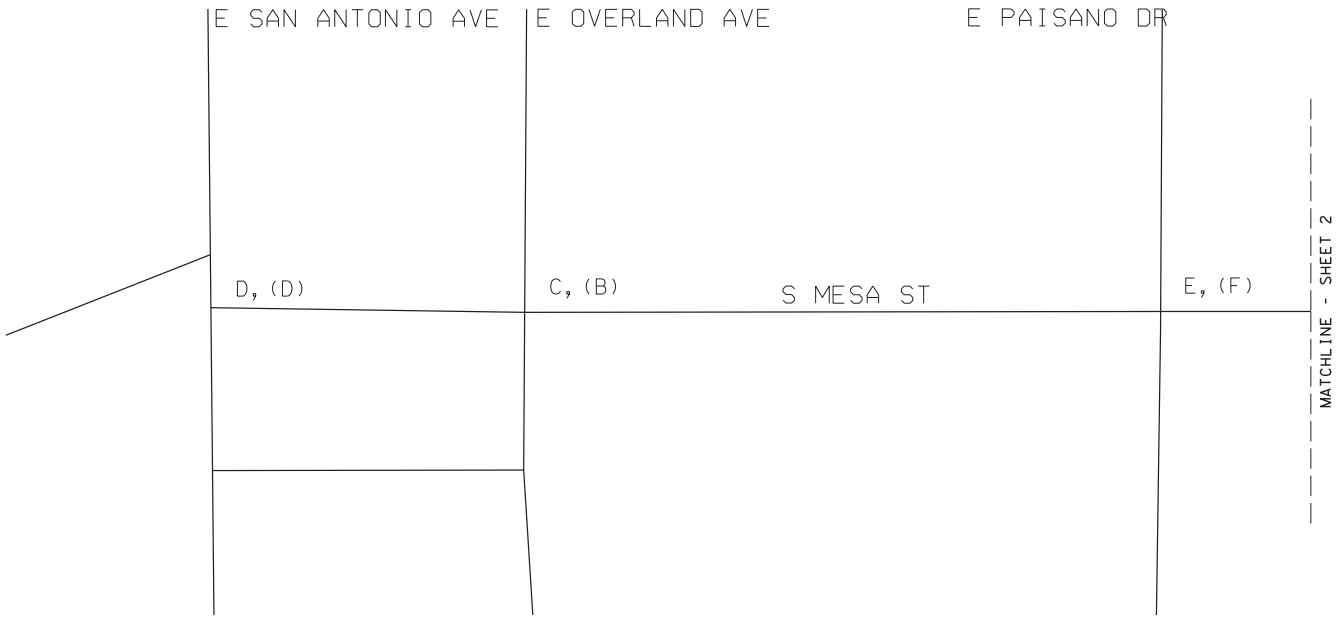
2040 NO-BUILD PEAK HOUR INTERSECTION LOS

(Section 2 – San Antonio Ave to LP 375)



LEGEND
AM, (PM) LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
SAN ANTONIO AVE TO PAISANO DR

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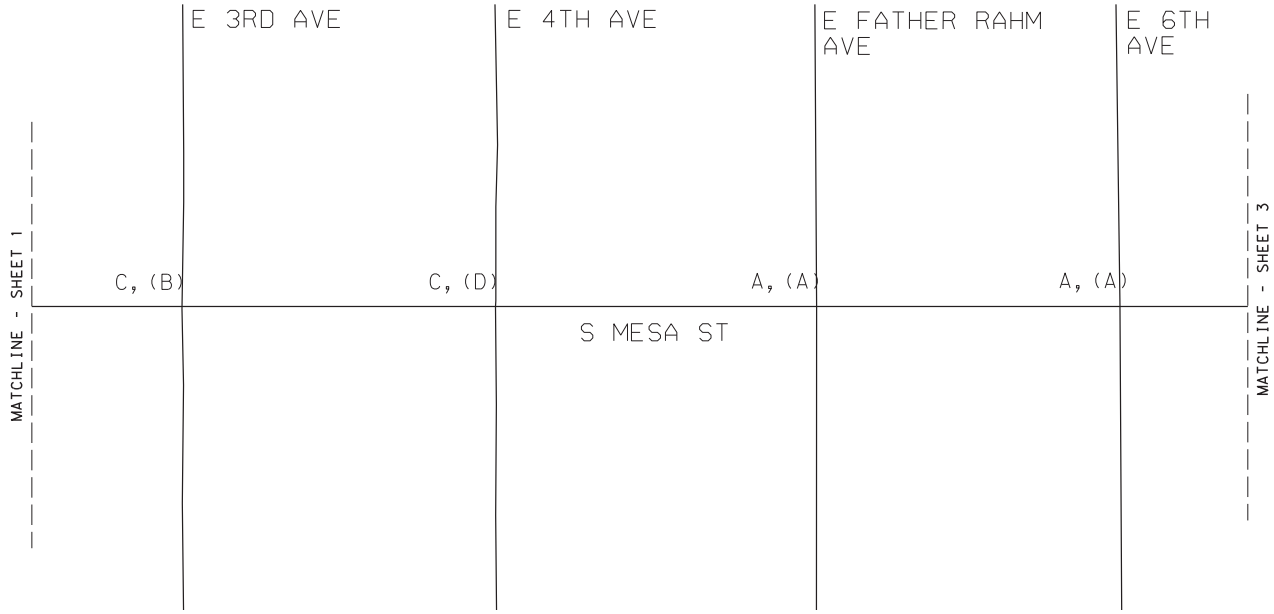

LEGEND
AM, (PM) LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
3RD AVE TO 6TH AVE

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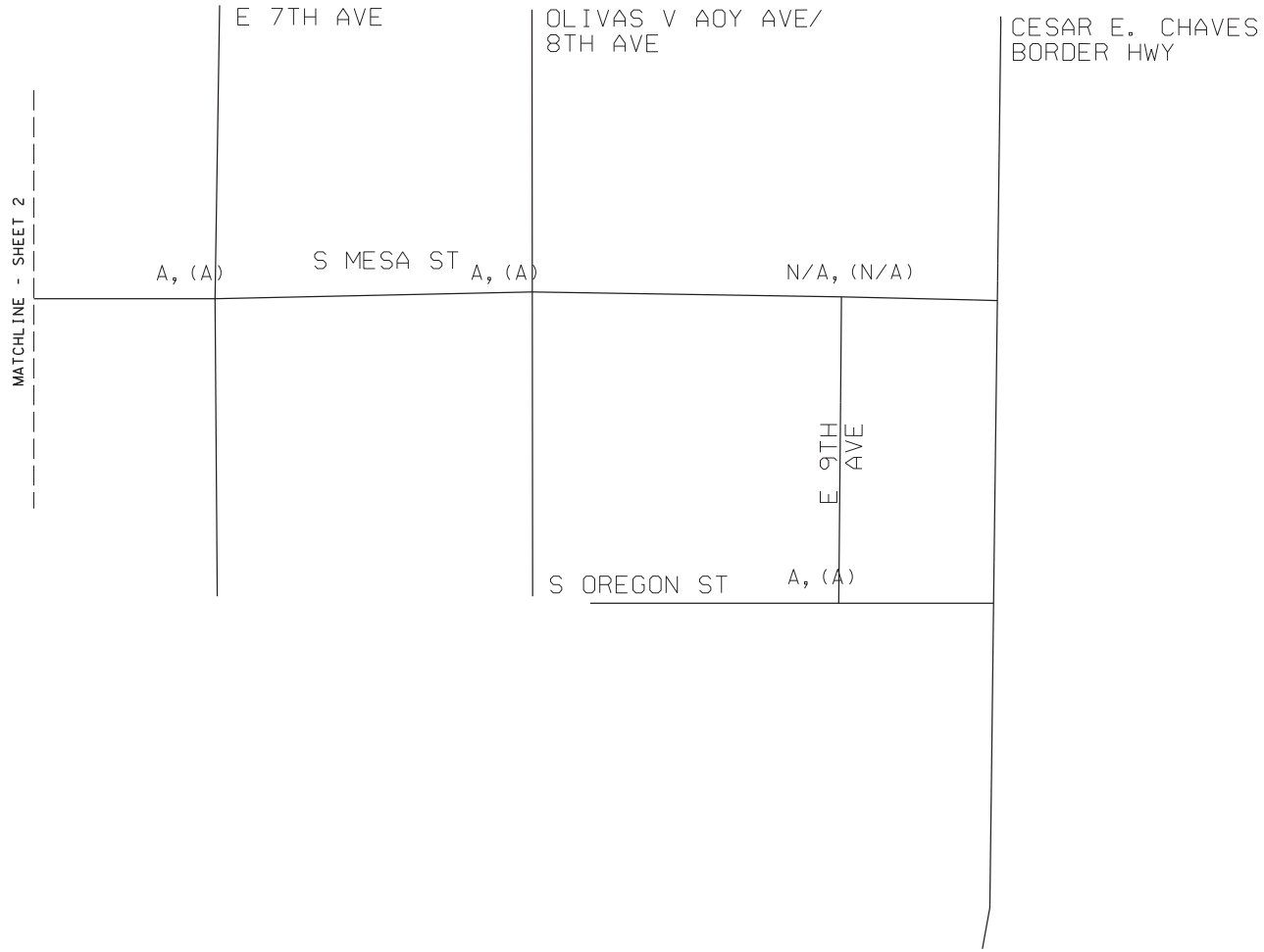

LEGEND
AM, (PM) LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
NO-BUILD INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
7TH AVE TO BORDER HWY

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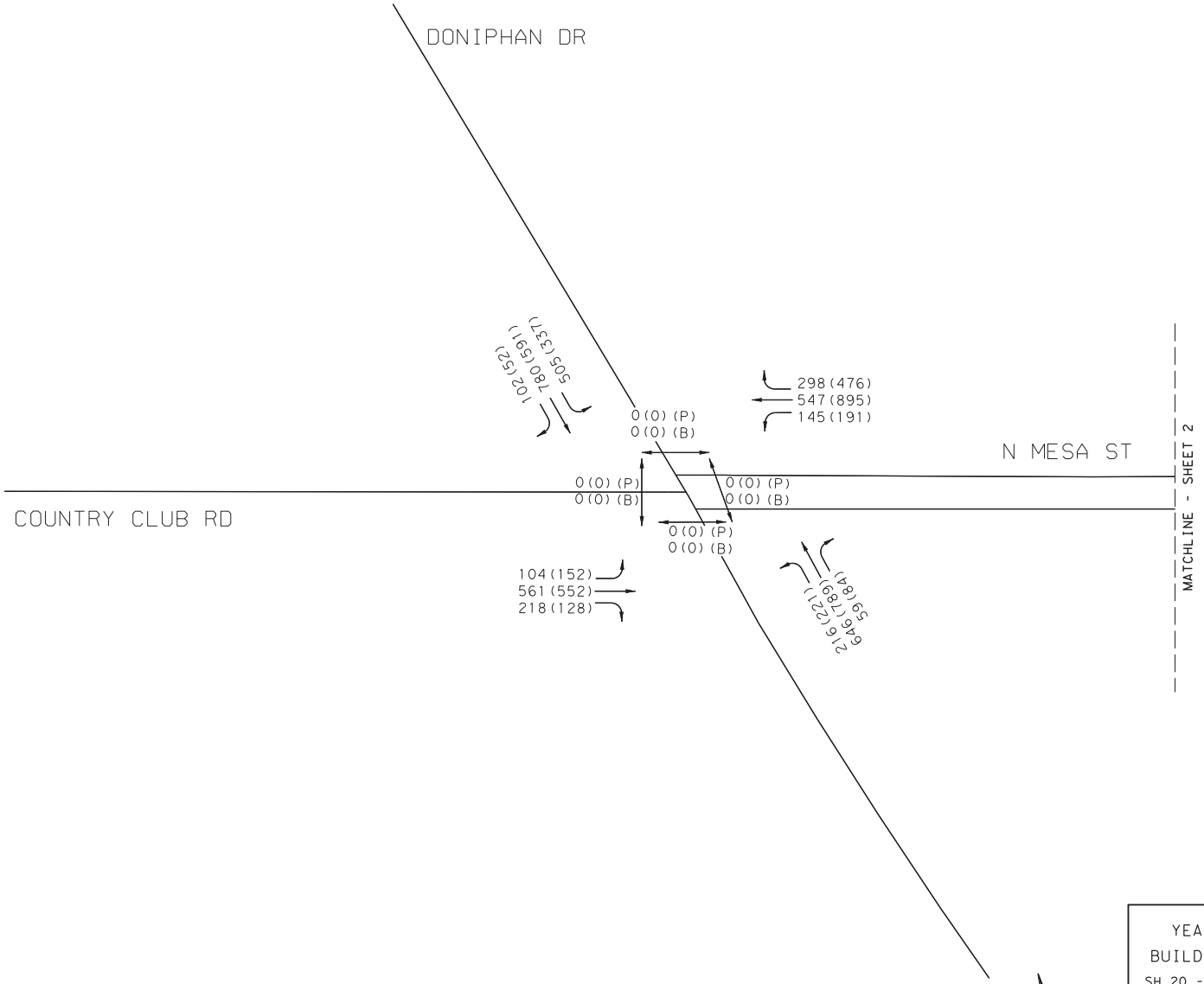
2040 BUILD PEAK HOUR

(Section 1 – Doniphan Dr to Texas Ave)



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
DONIPHAN DR

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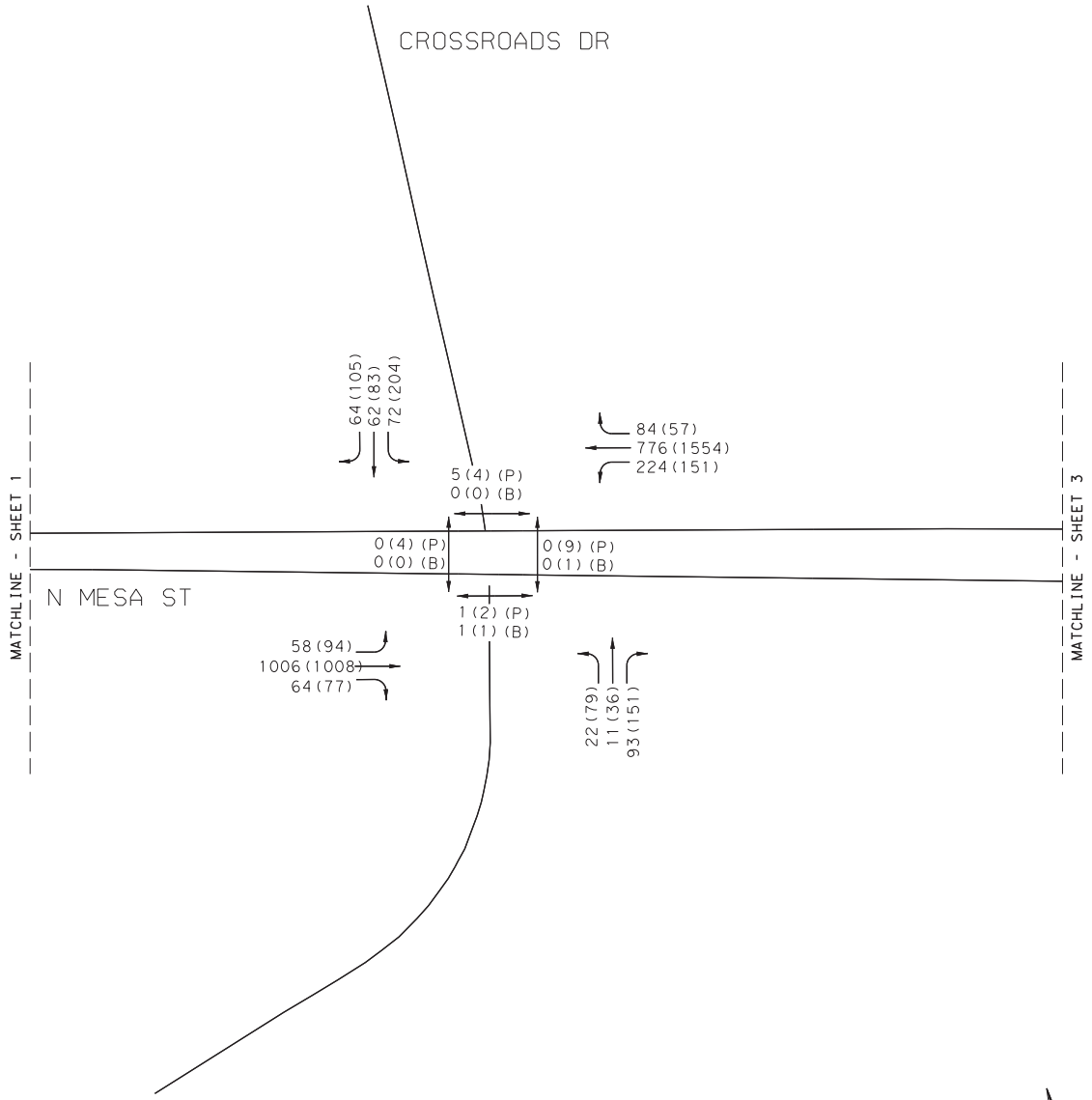

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
CROSSROADS DR

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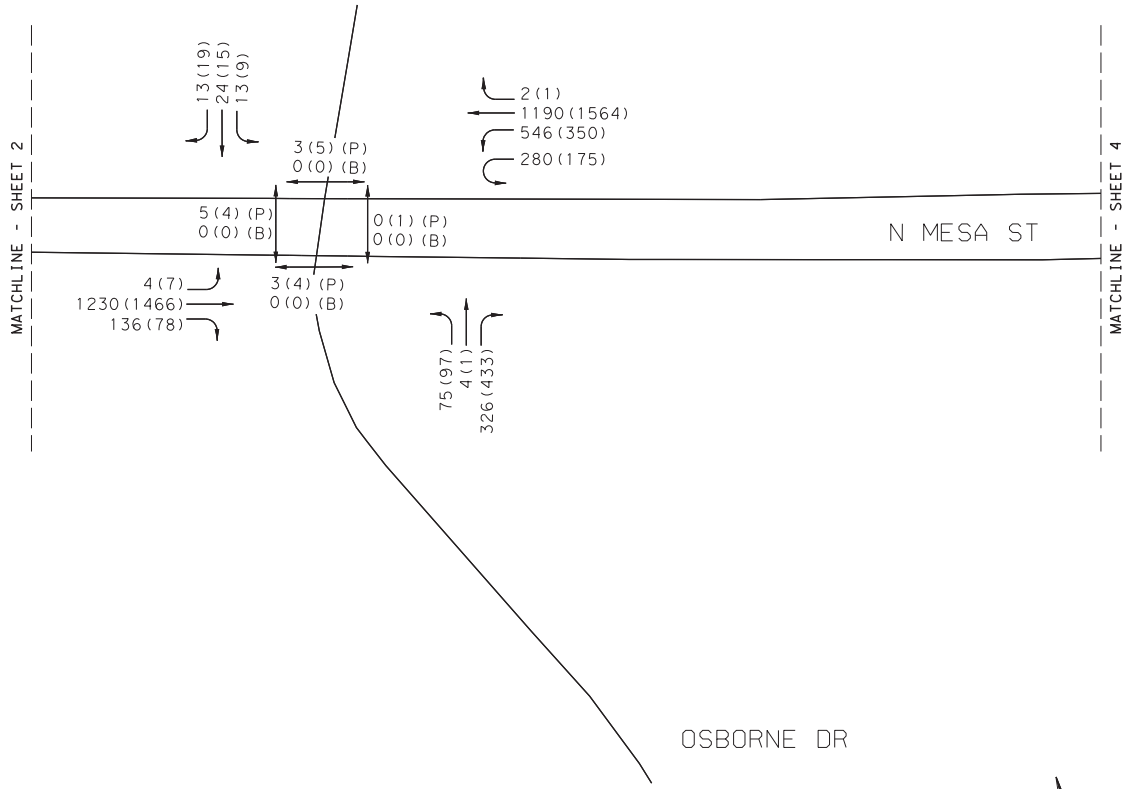

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
OSBORNE DR

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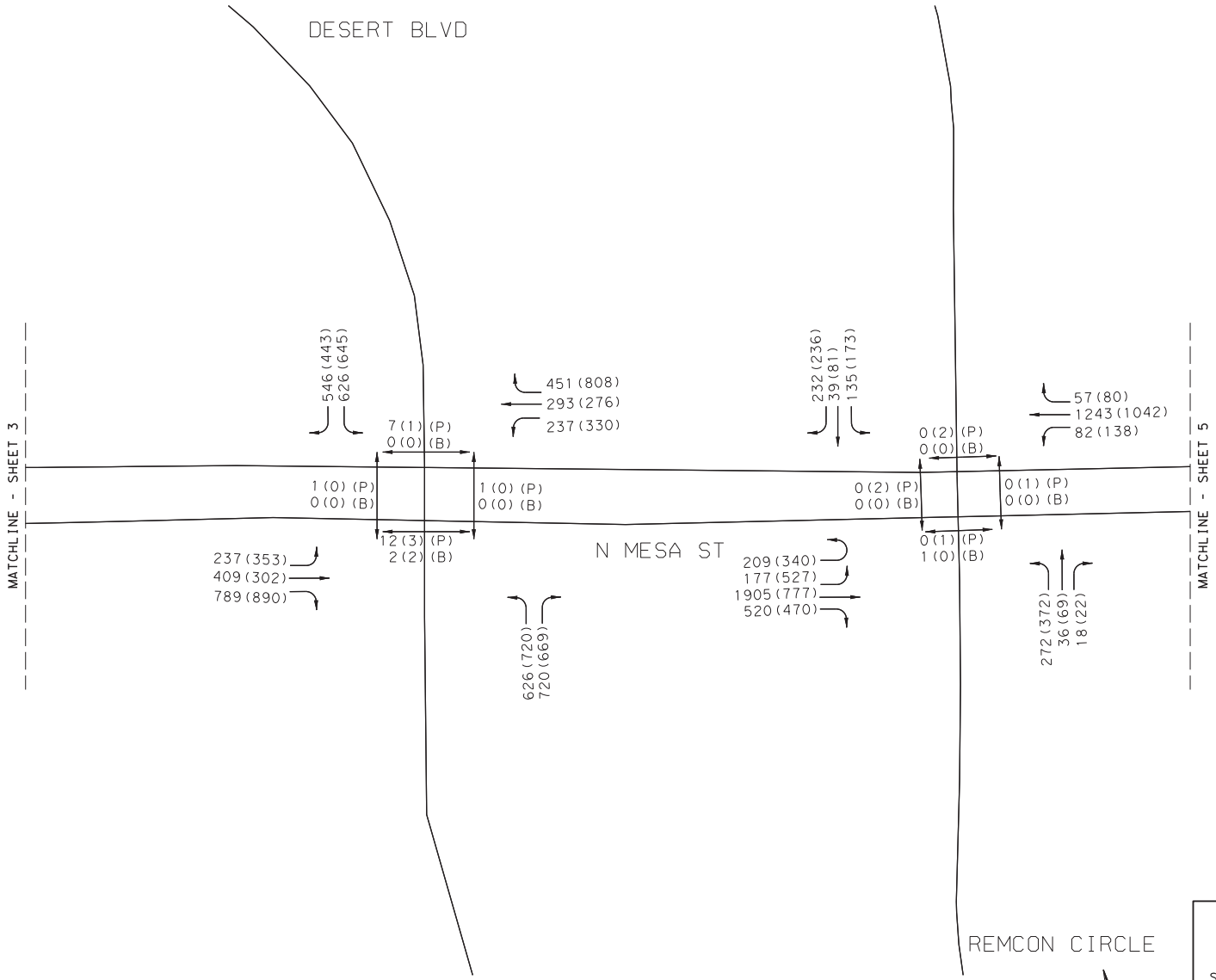

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
DESERT BLVD TO REMCON CIR

Kimley»Horn F-928

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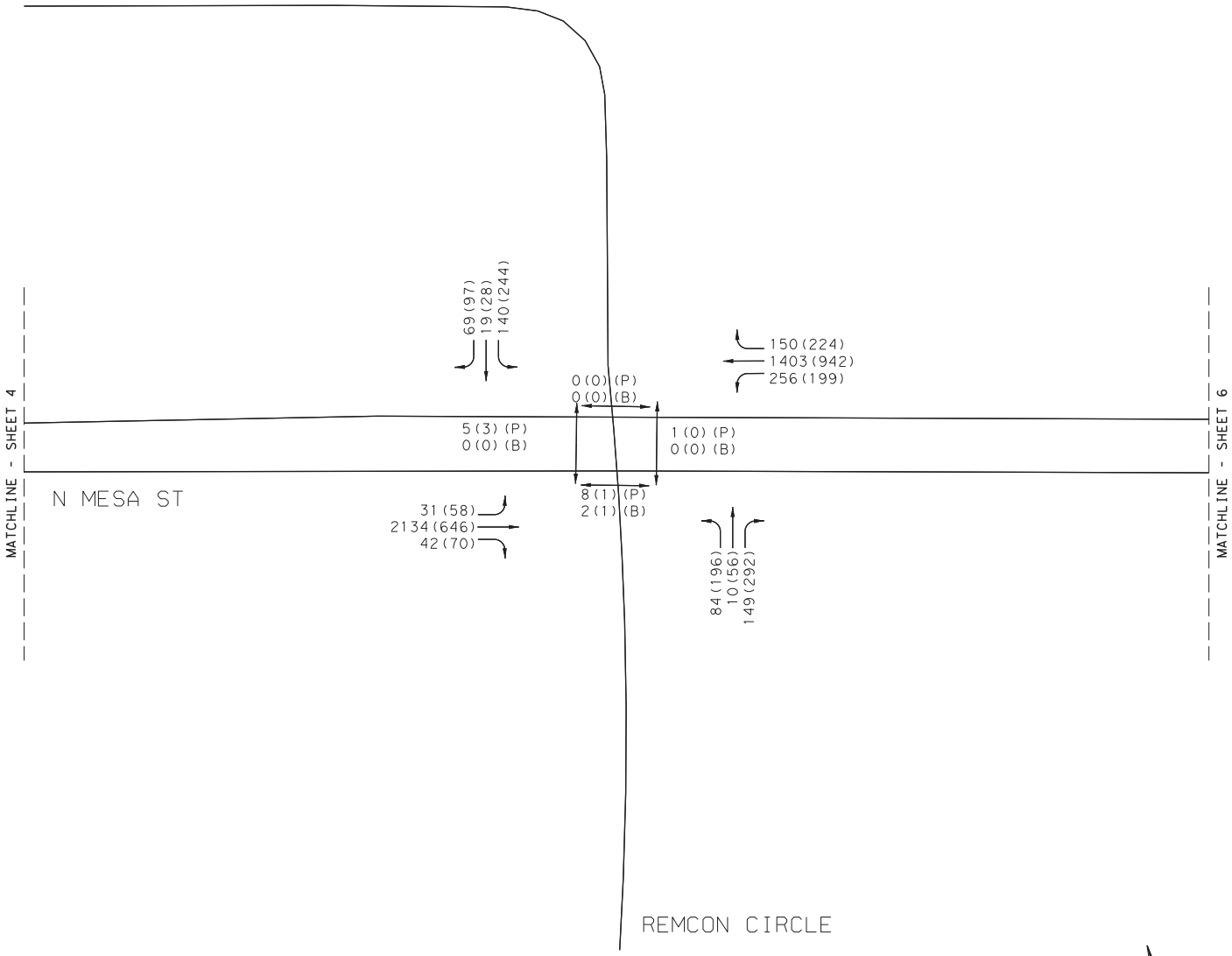

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
REMCON CIR

Kimley»Horn F-928

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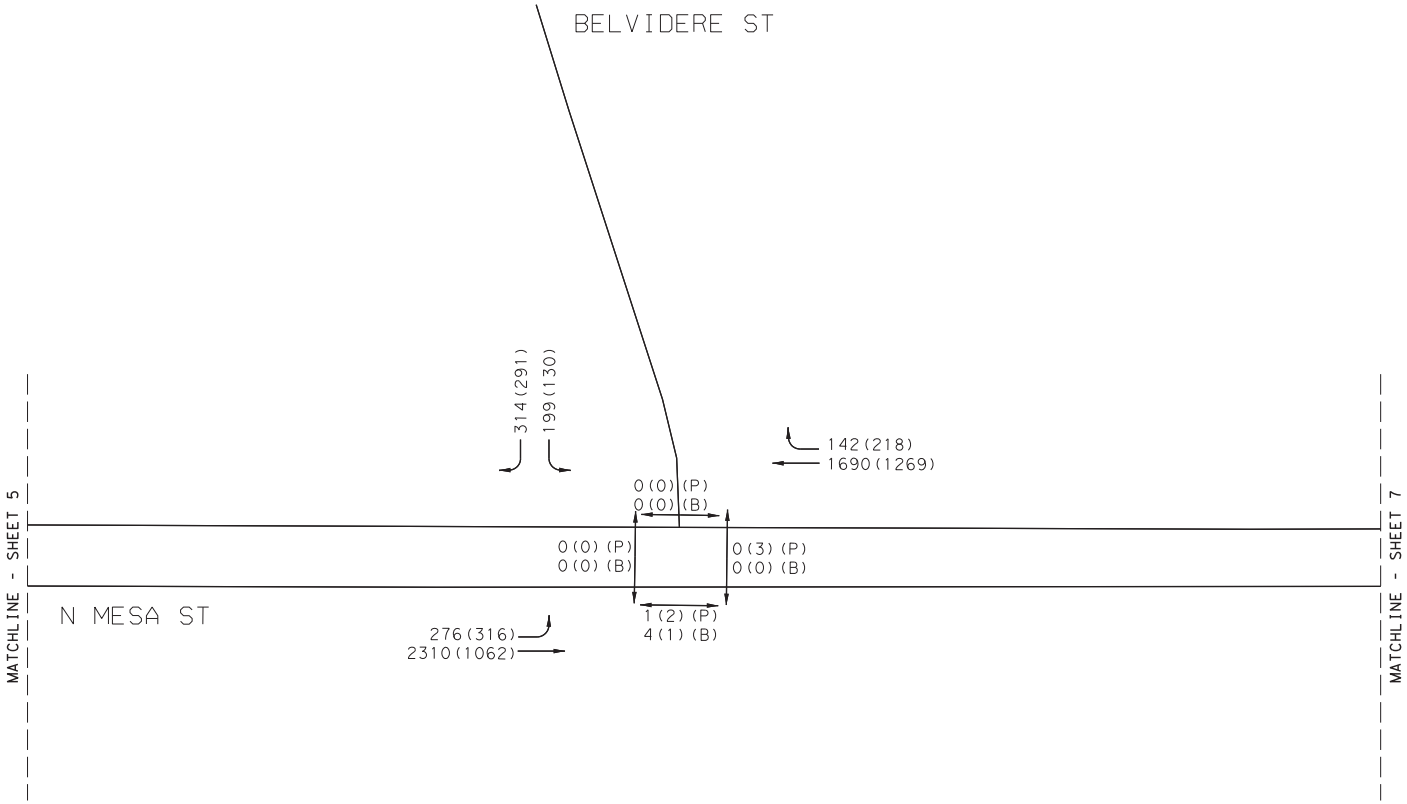

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
BELVIDERE ST

Kimley»Horn F-928

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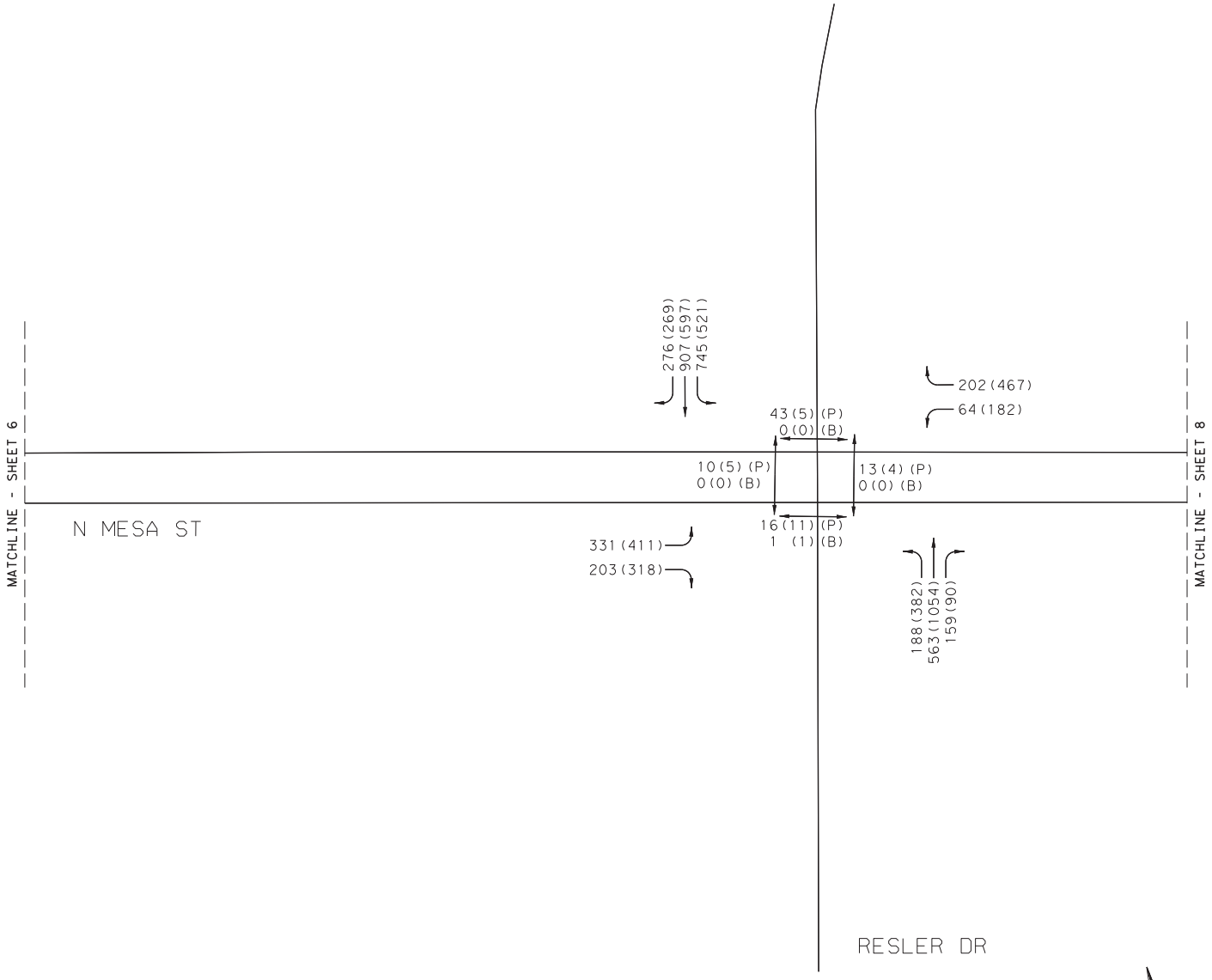

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
RESLER DR

Kimley»Horn F-928

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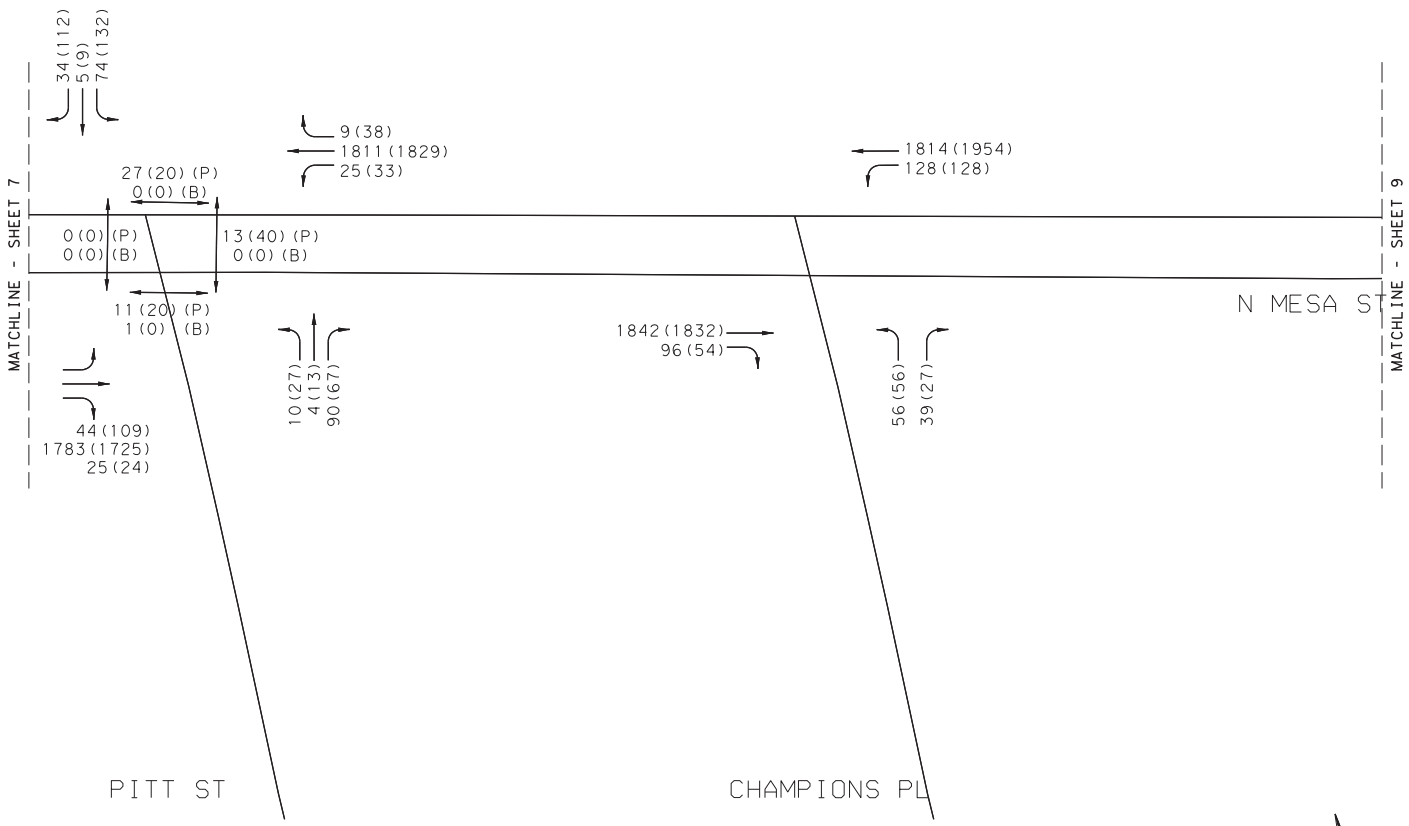

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
PITT ST

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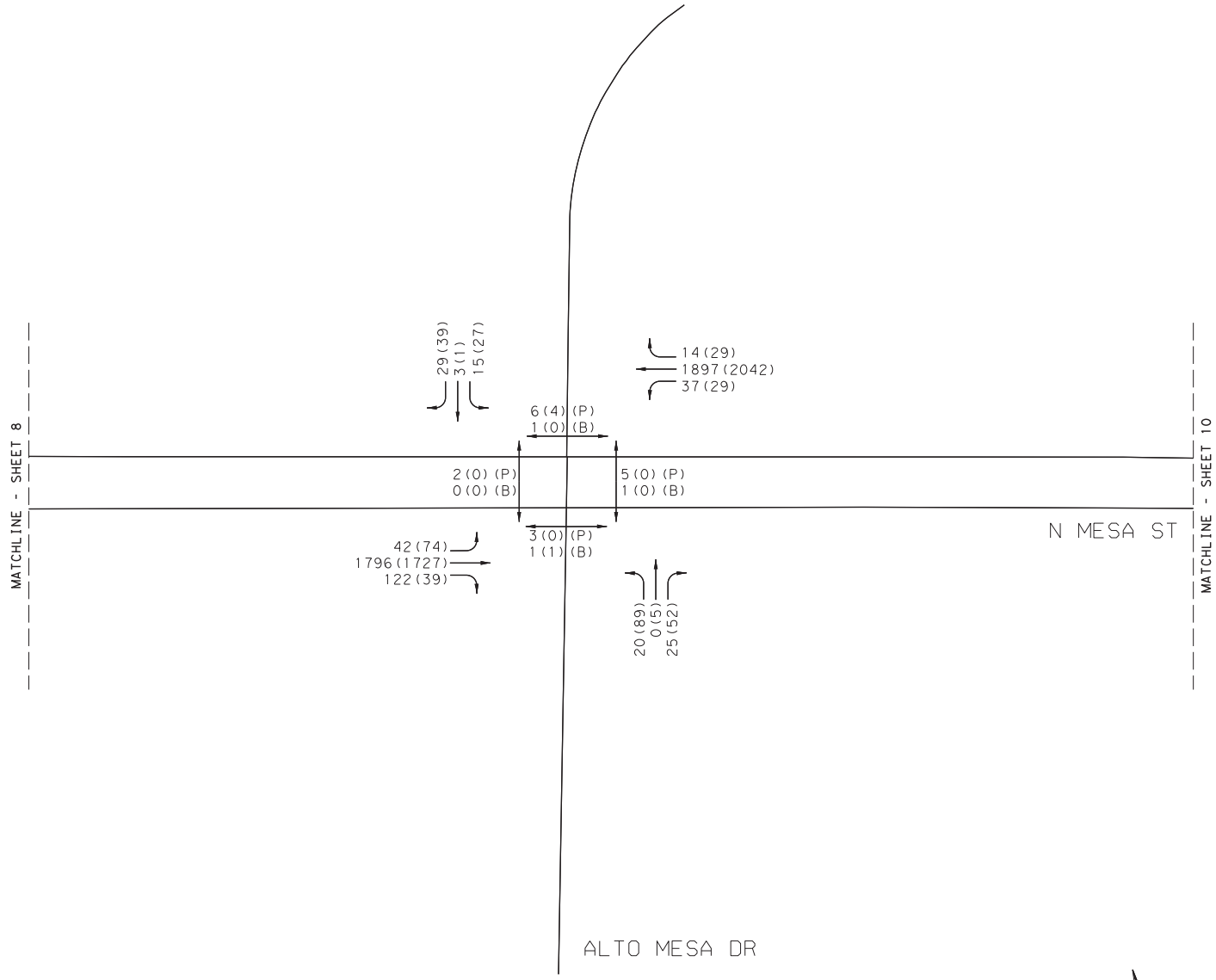

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
ALTO MESA DR

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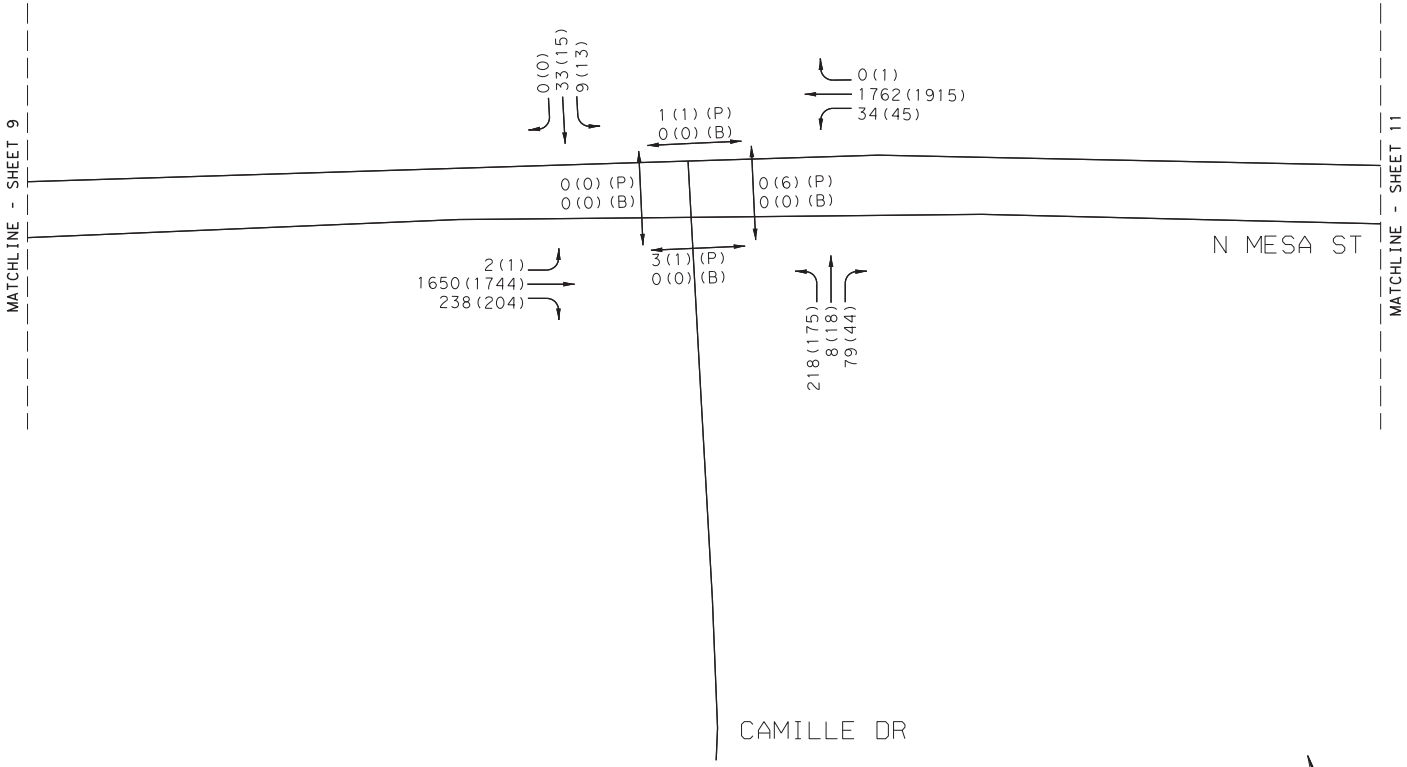

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
CAMILLE DR

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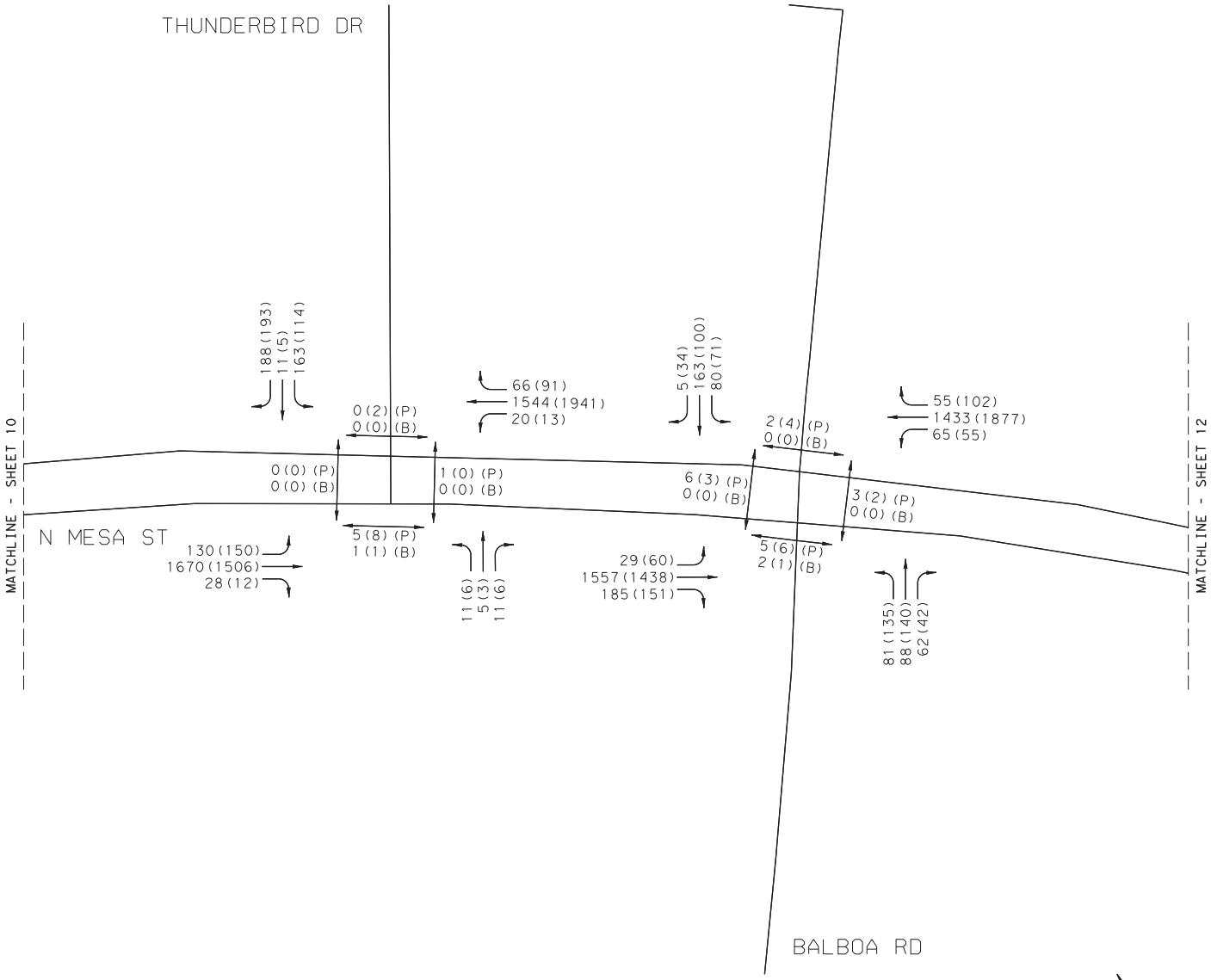

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
THUNDERBIRD DR TO BALBOA RD

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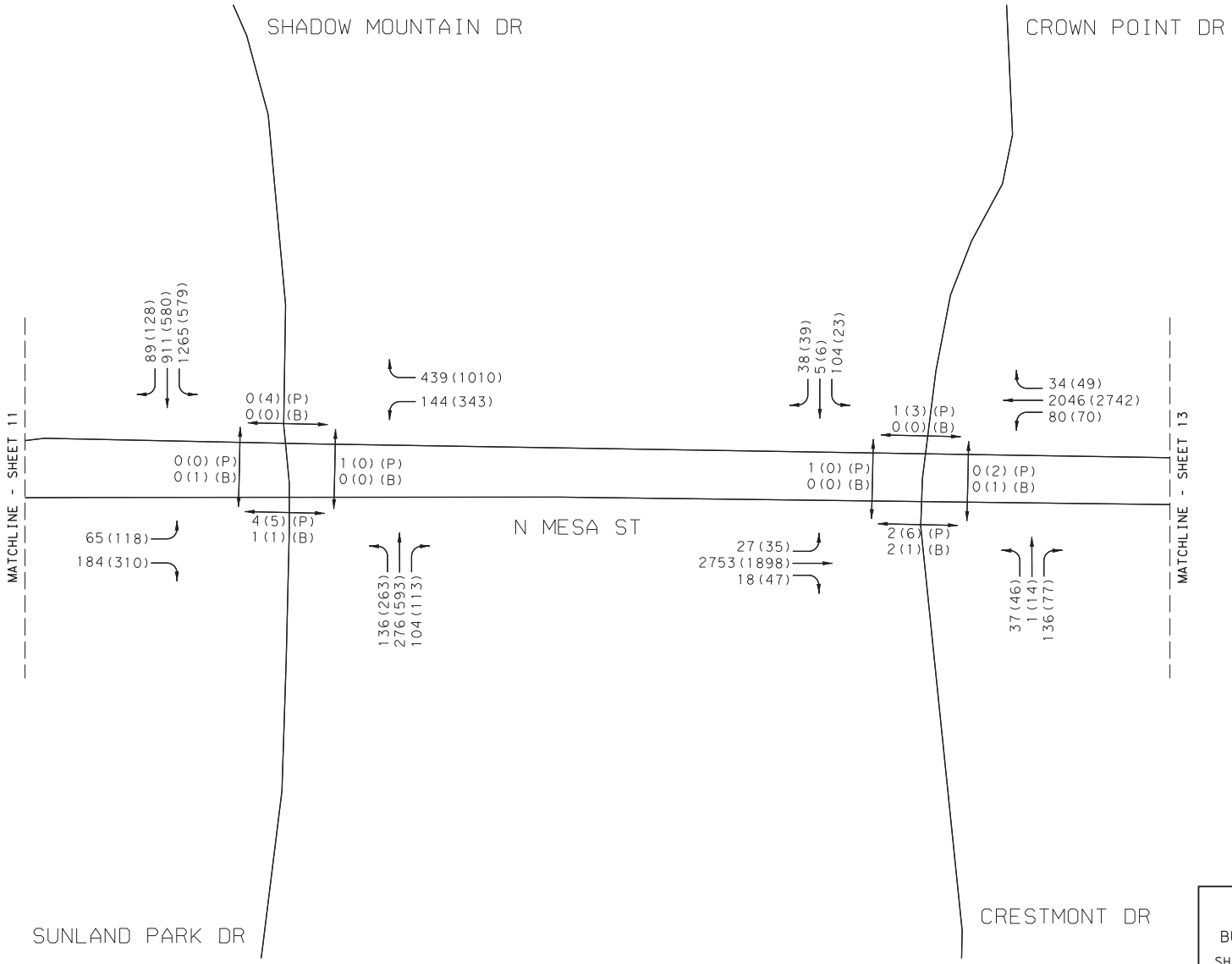

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
SUNLAND PARK DR TO CRESTMONT DR

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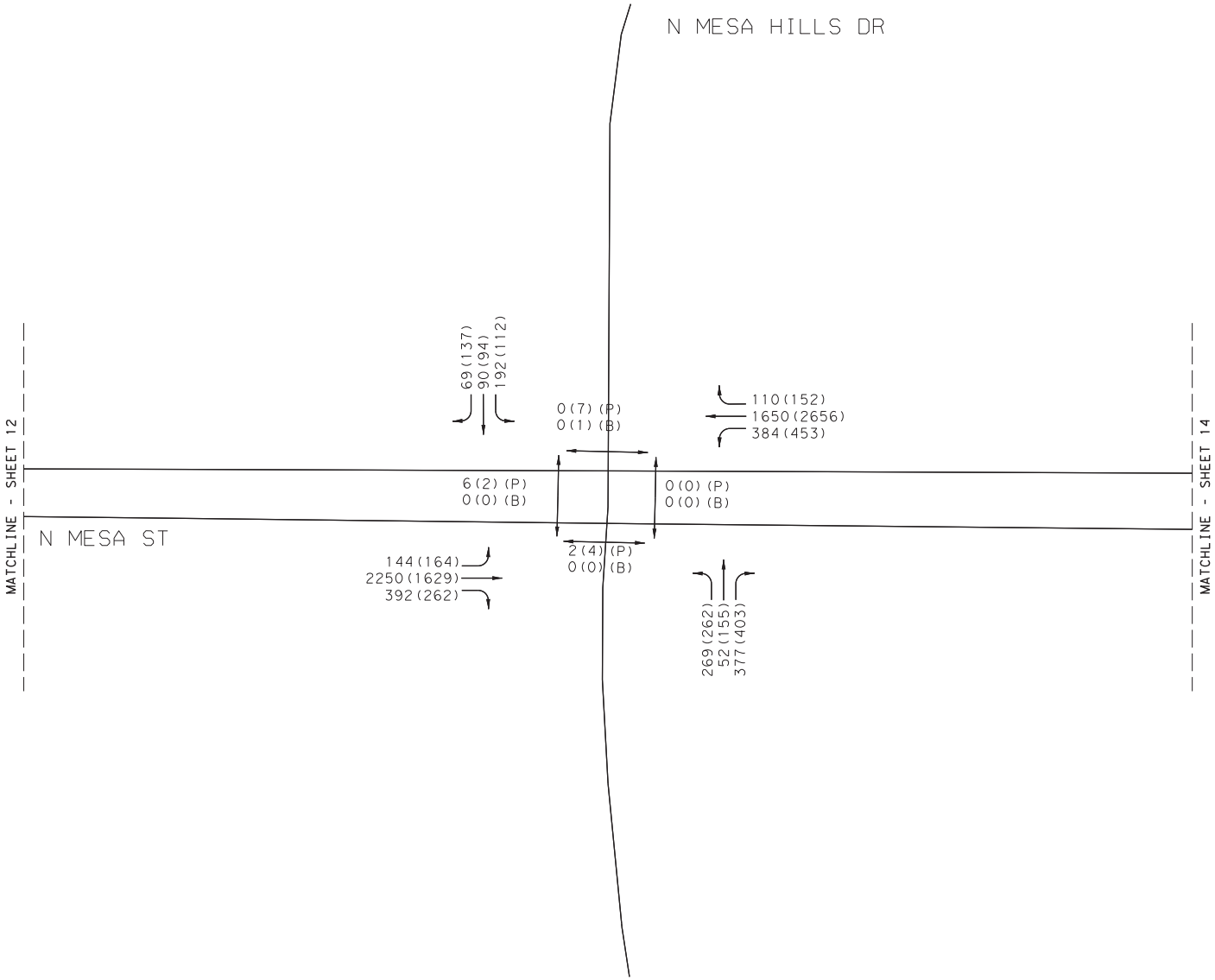

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
N MESA HILLS DR

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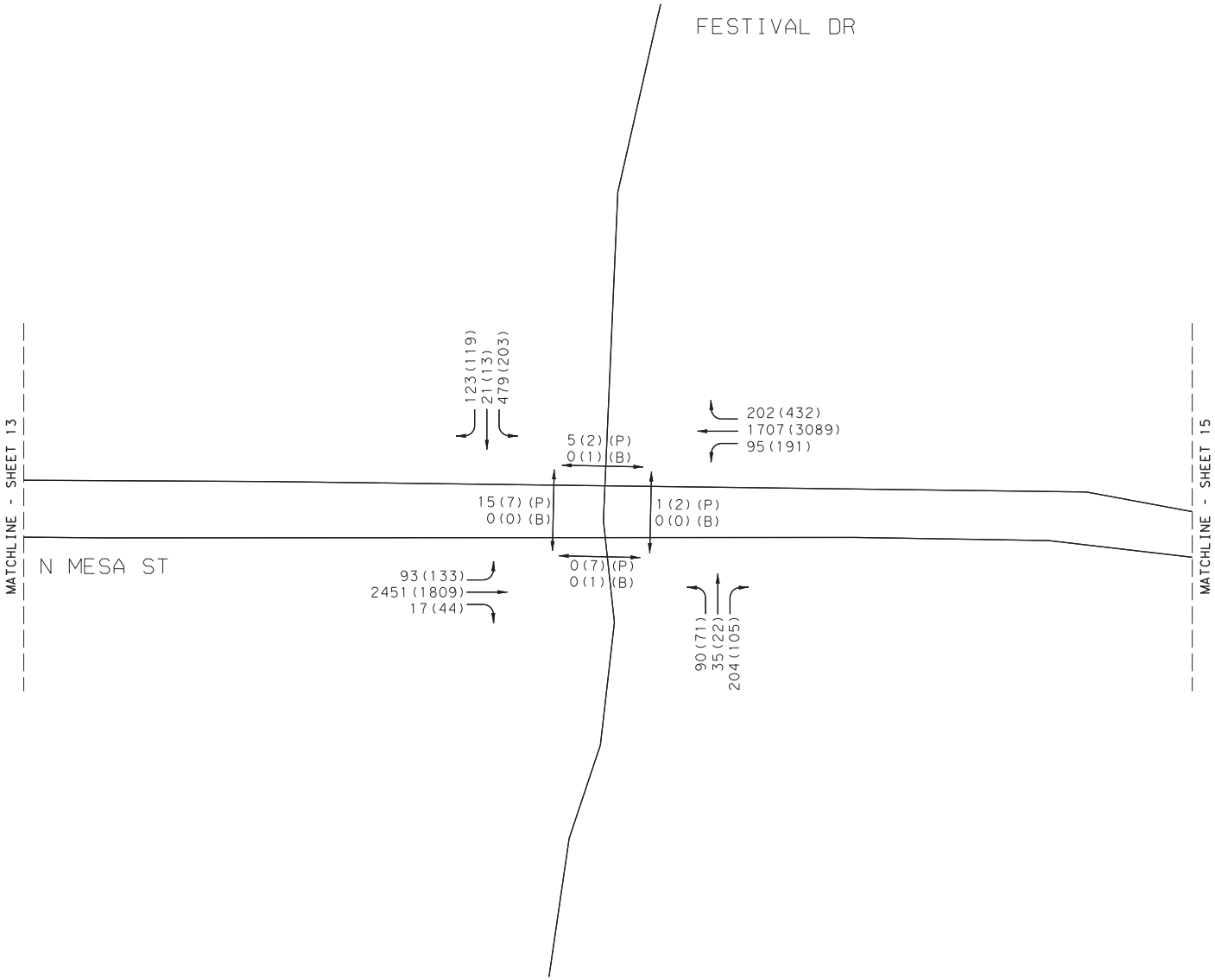

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
FESTIVAL DR

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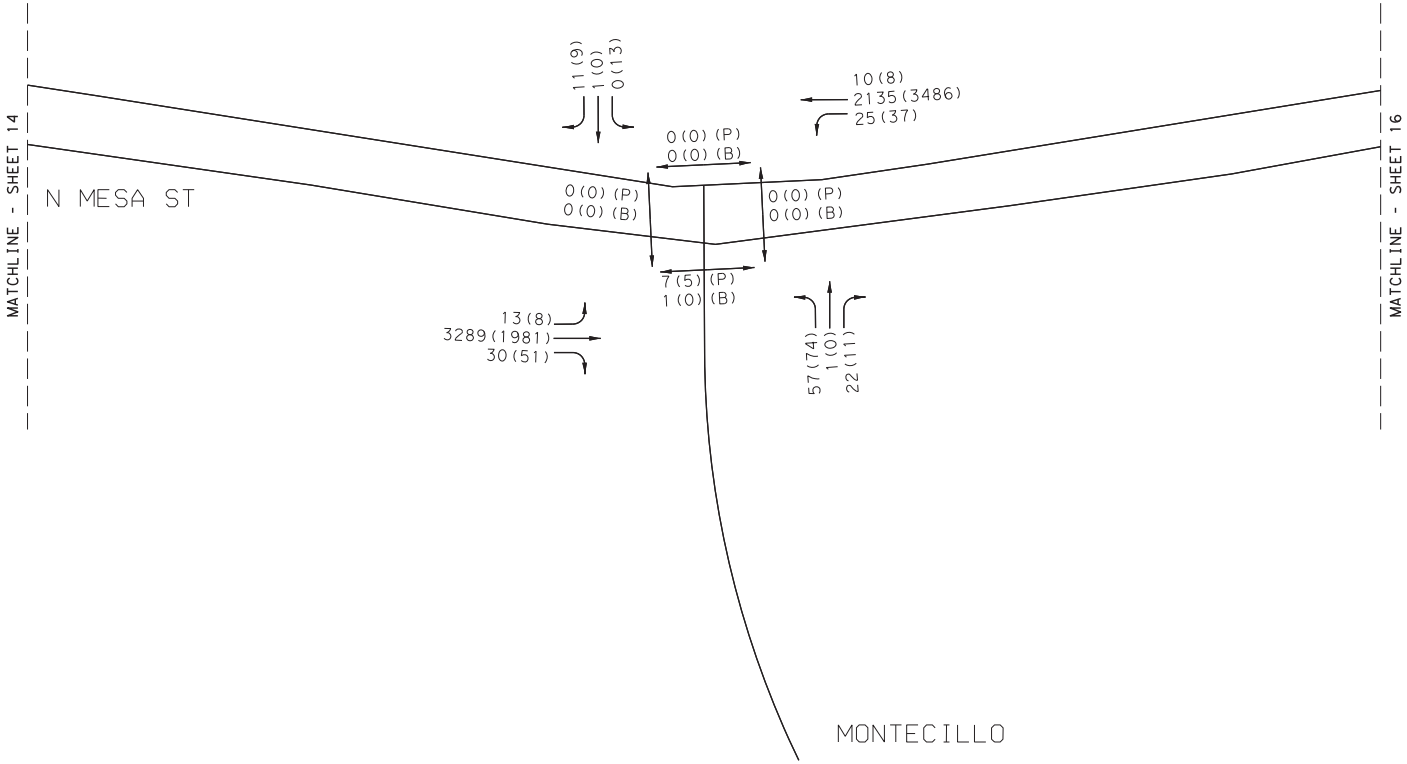

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
MONTECILLO

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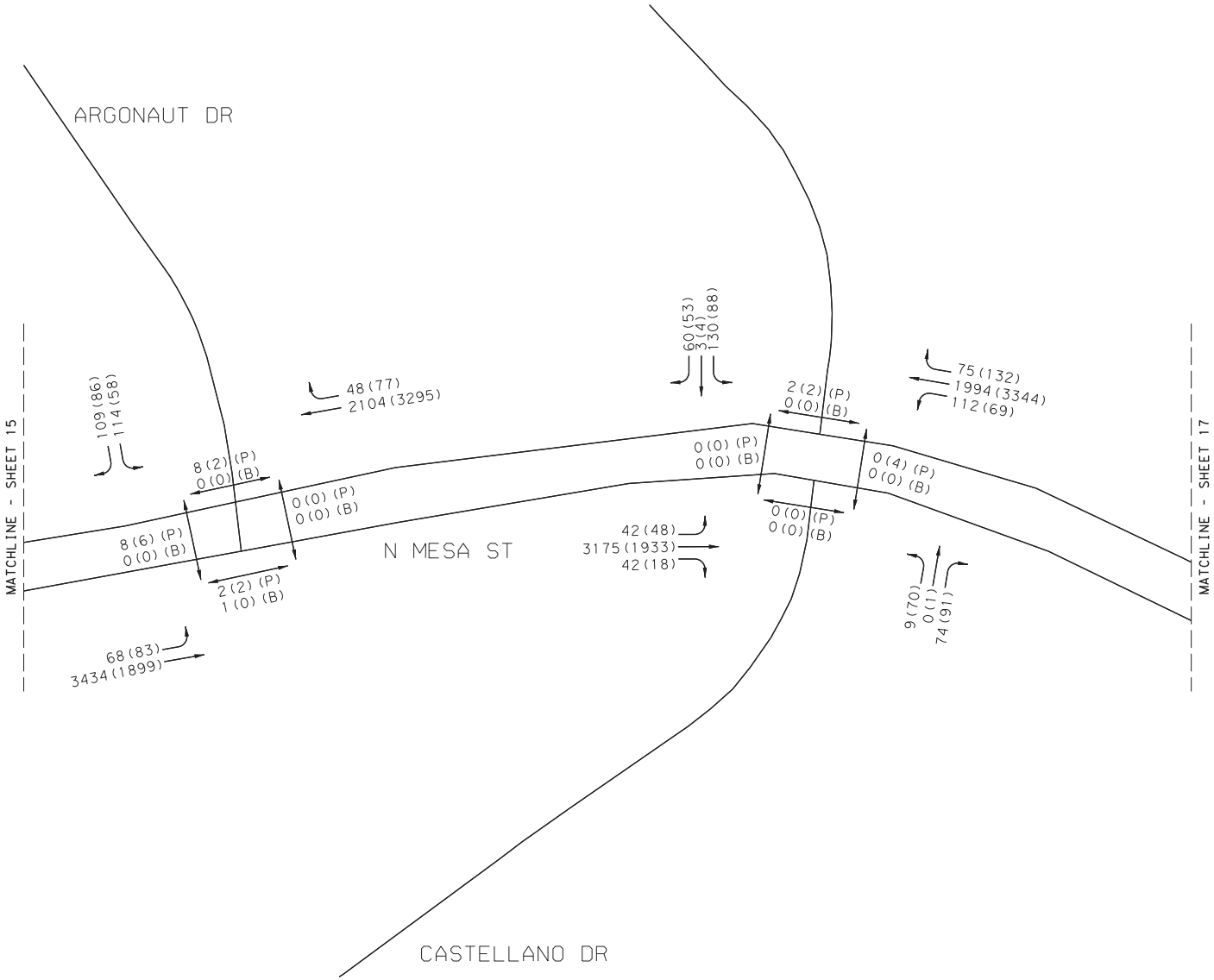

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
ARGONAUT DR TO CASTELLANO DR

Kimley»Horn F-928

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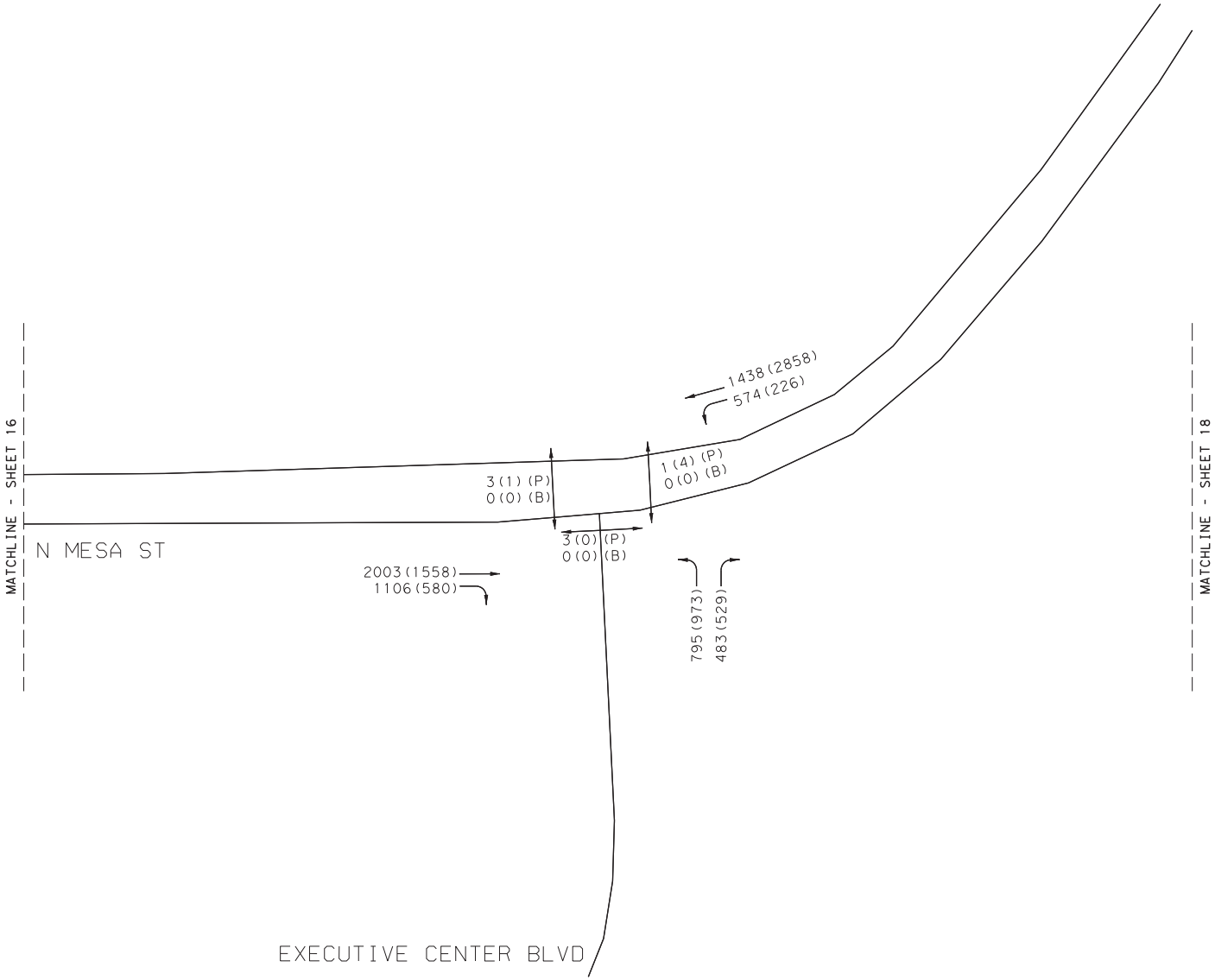

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
EXECUTIVE CENTER BLVD

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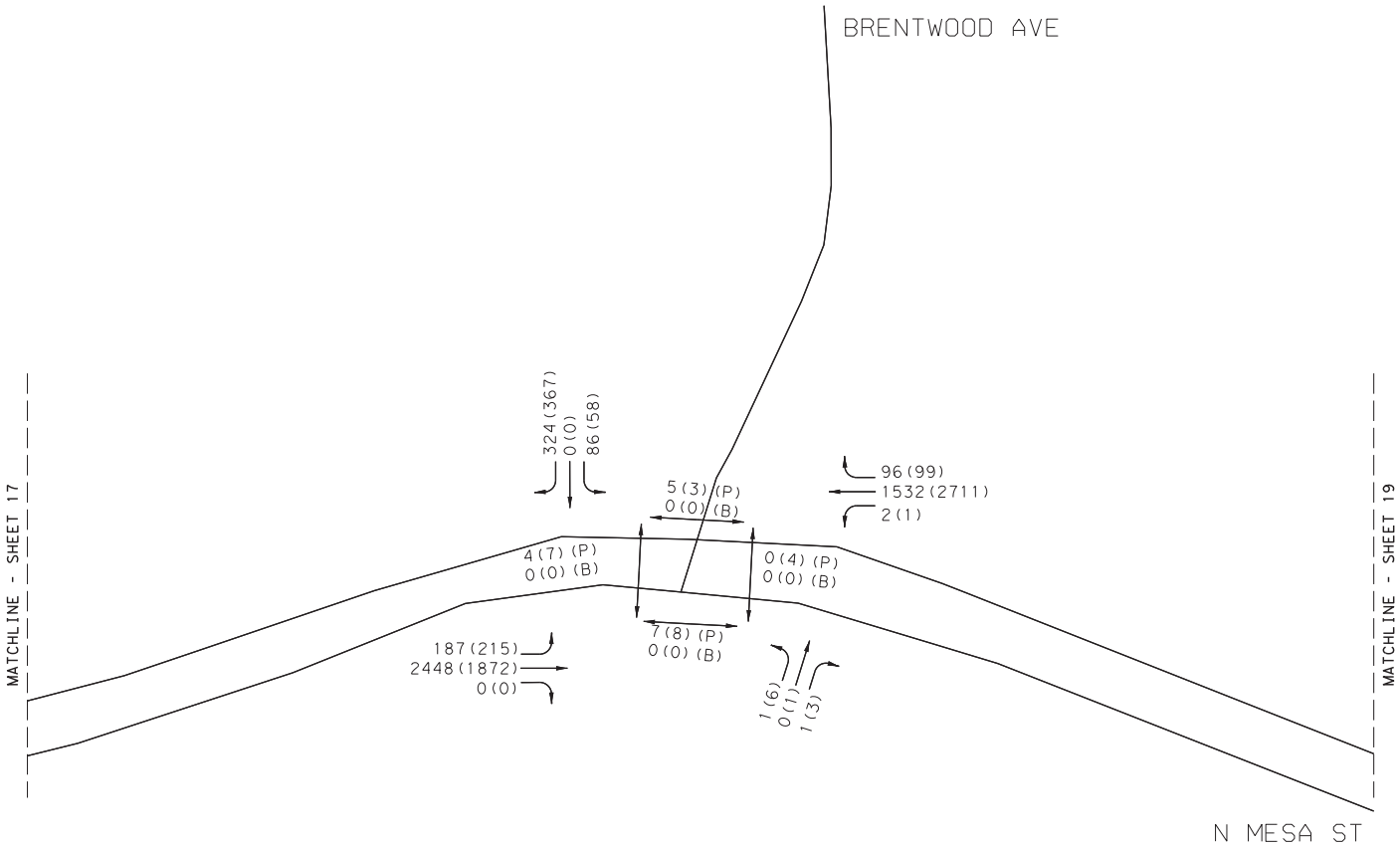

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
BRENTWOOD AVE

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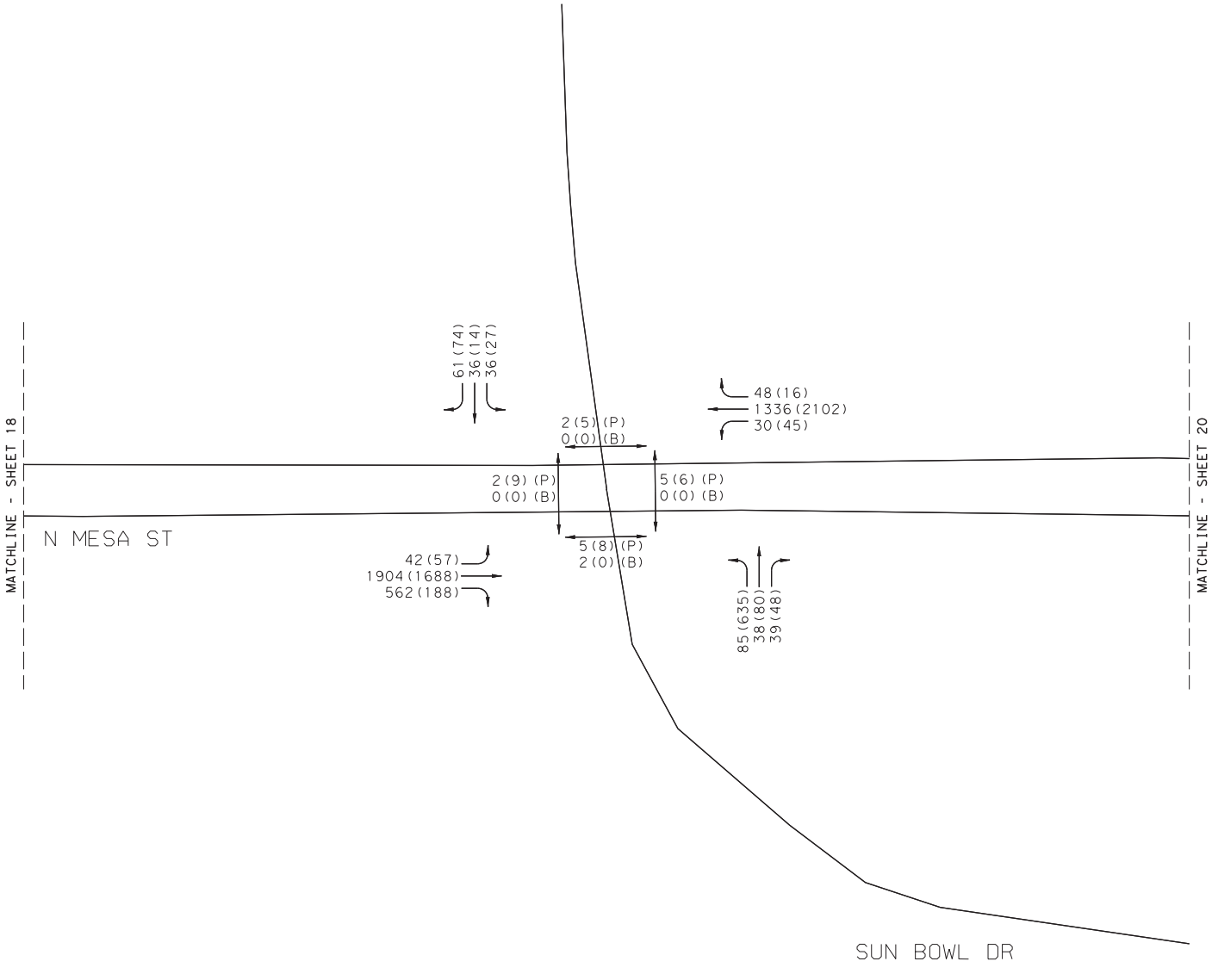

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
SUN BOWL DR

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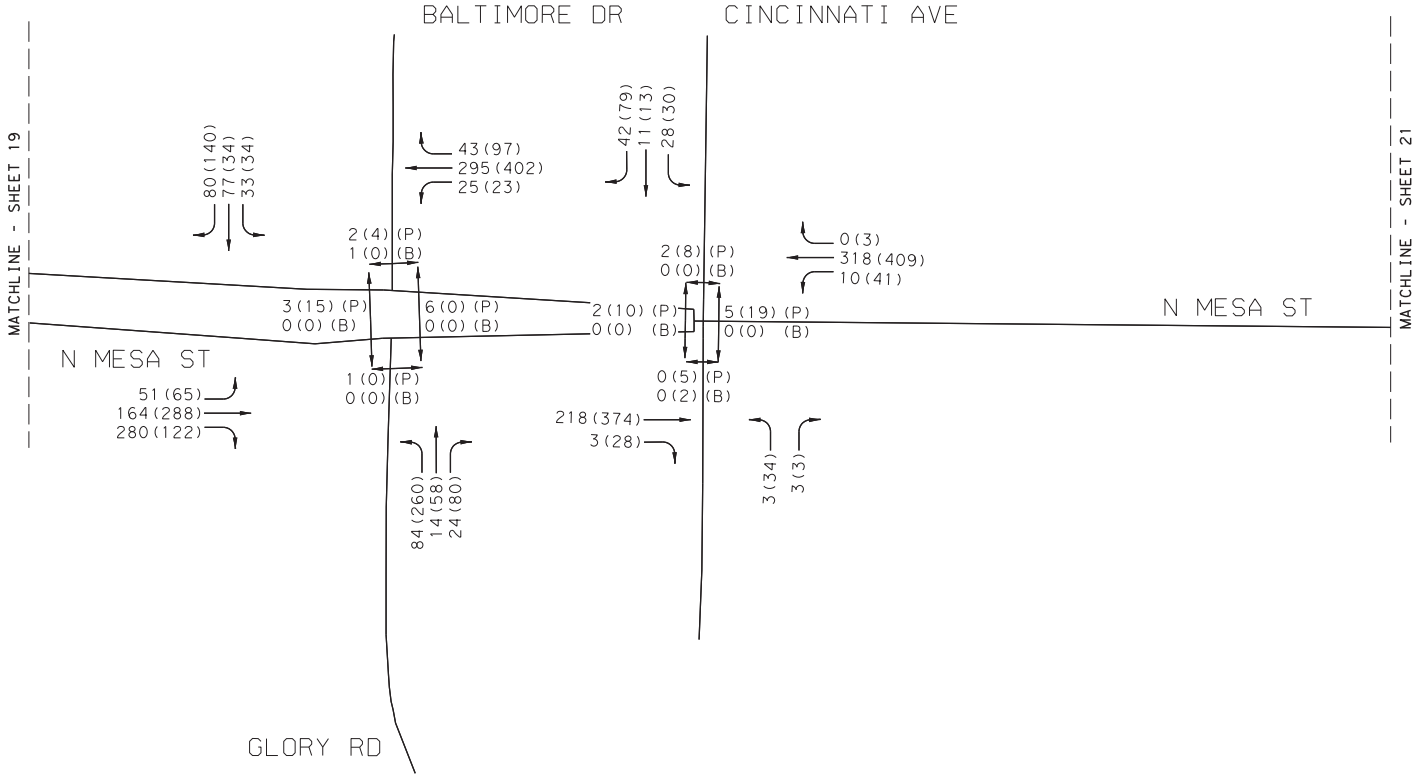

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
GLORY RD TO CINCINNATI AVE

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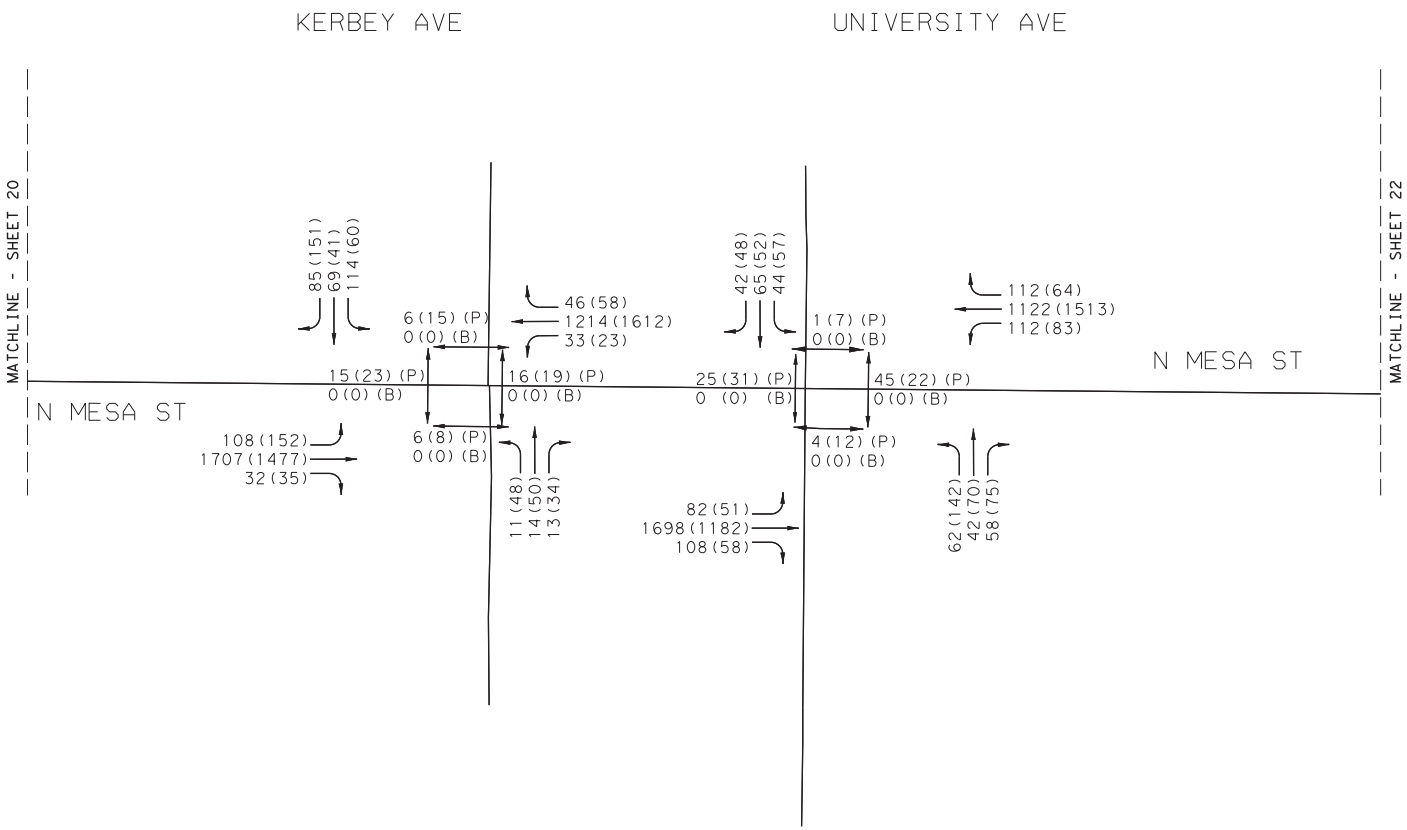

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
KERBEY AVE TO UNIVERSITY AVE

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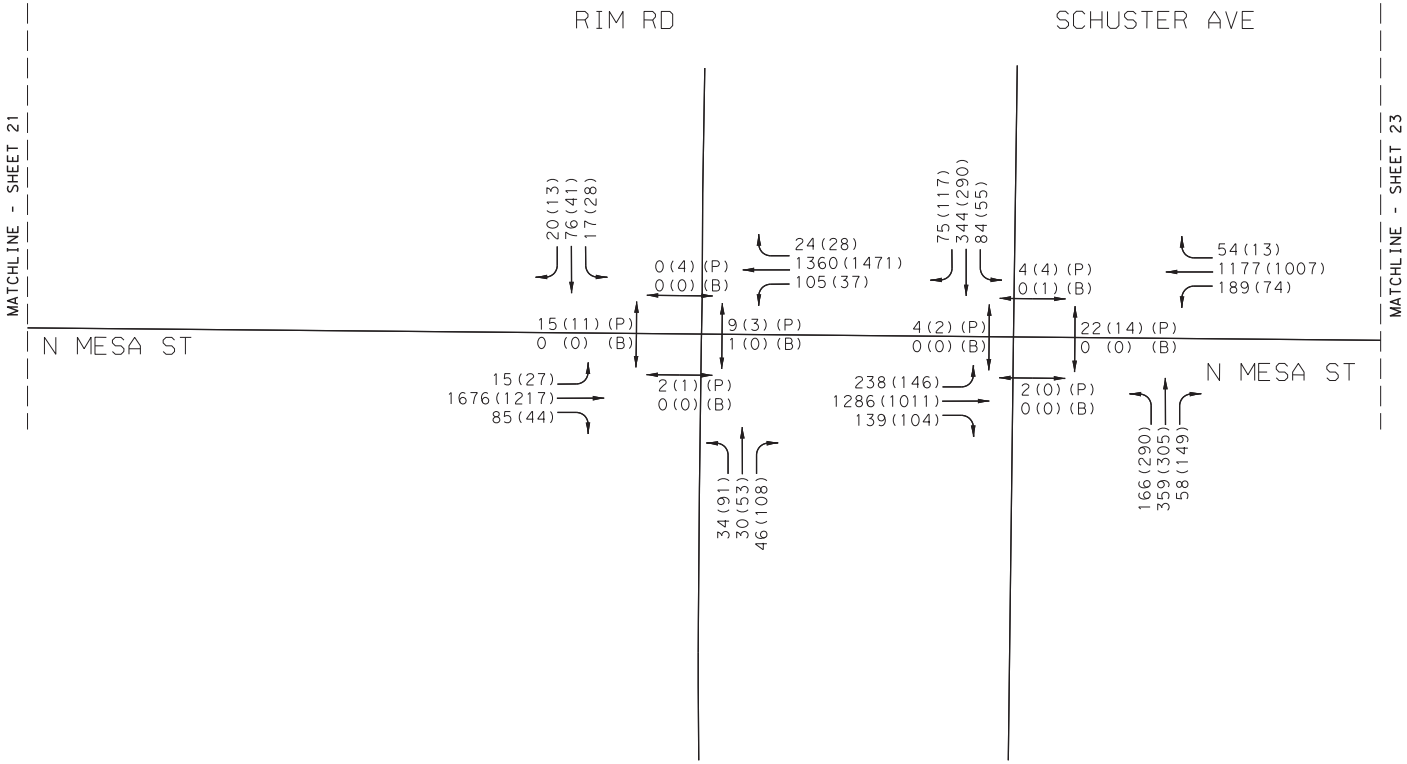

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
RIM RD TO SCHUSTER AVE

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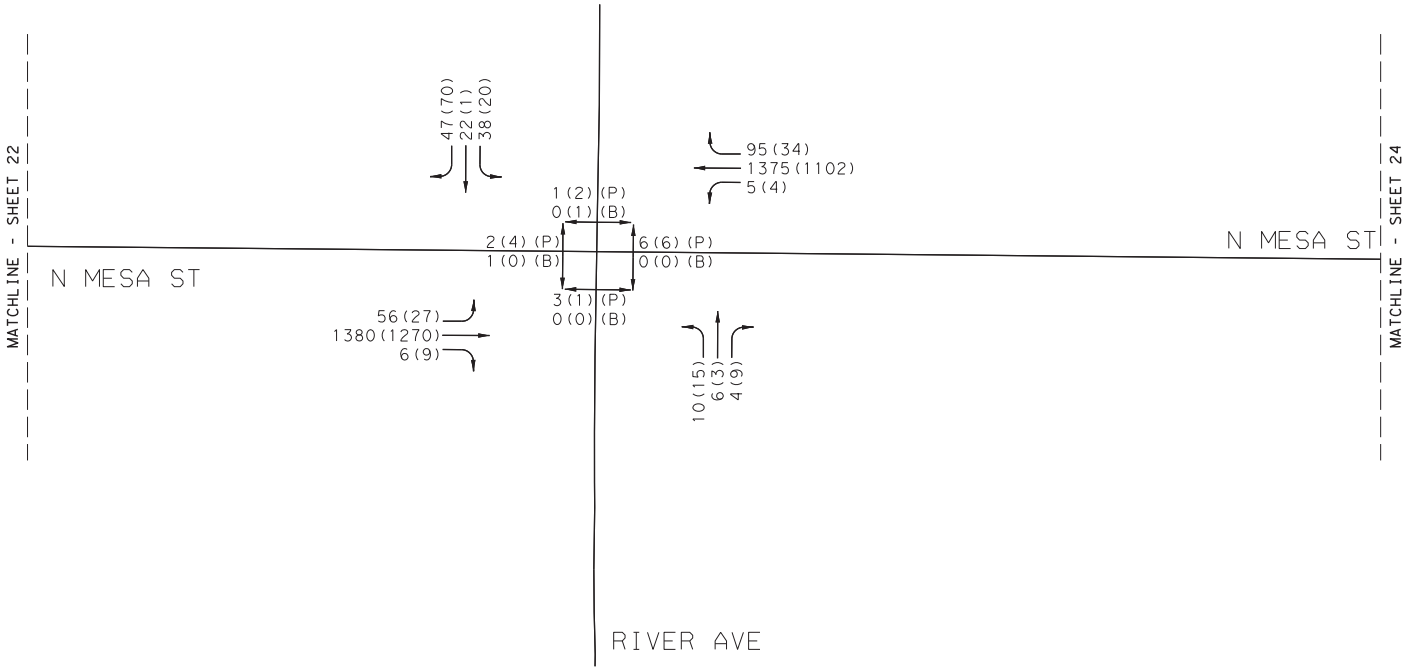

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
RIVER AVE

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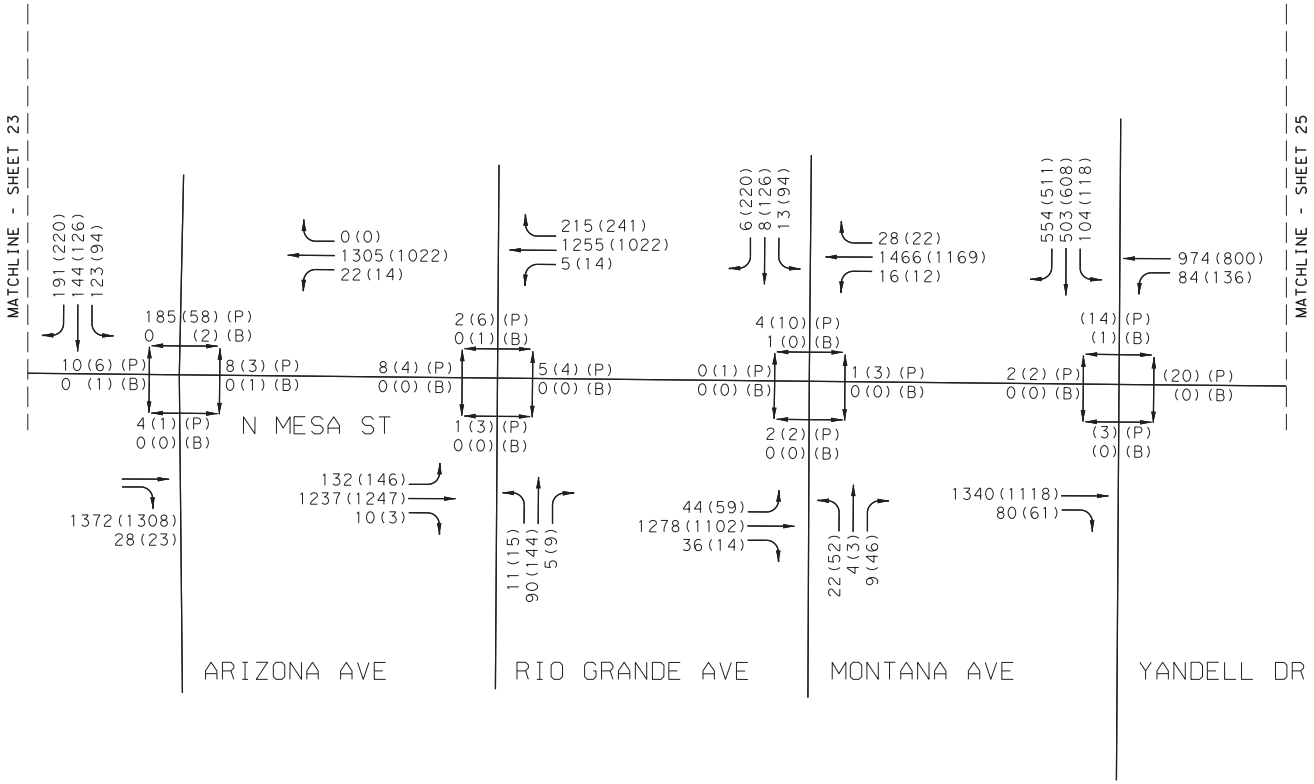

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
ARIZONA AVE TO YANDELL DR

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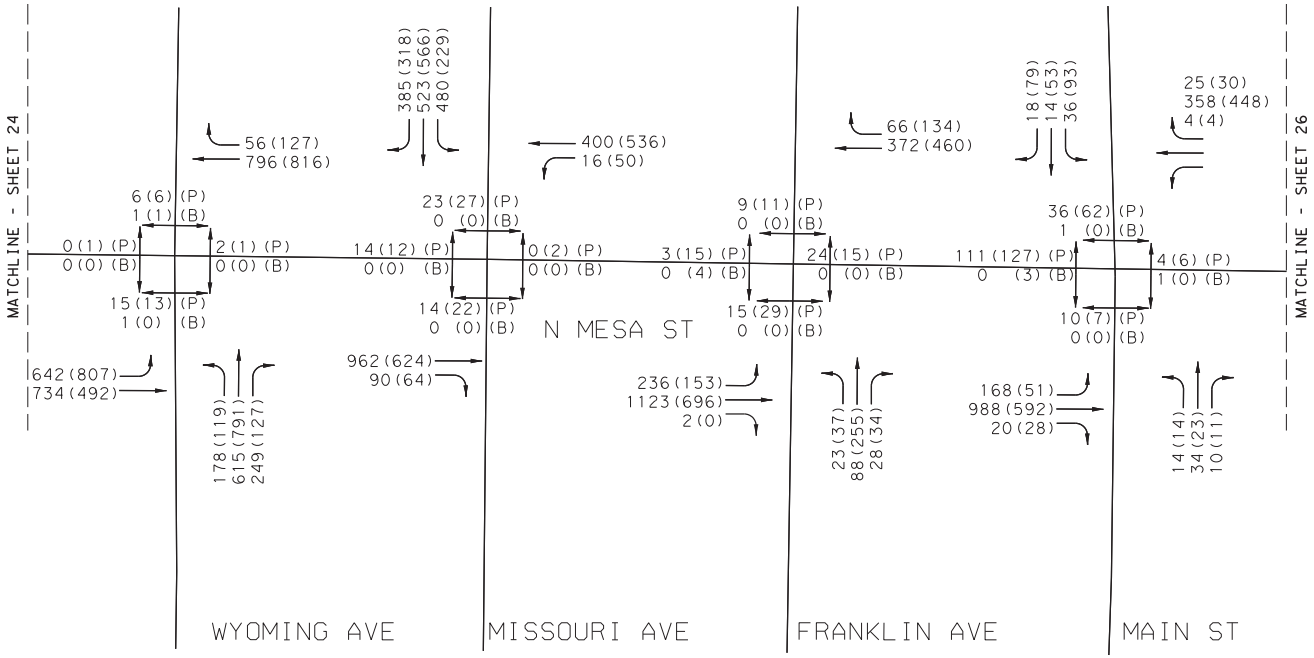

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM) (P) PED COUNT
AM(PM) (B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
WYOMING AVE TO MAIN ST

Kimley»Horn F-928

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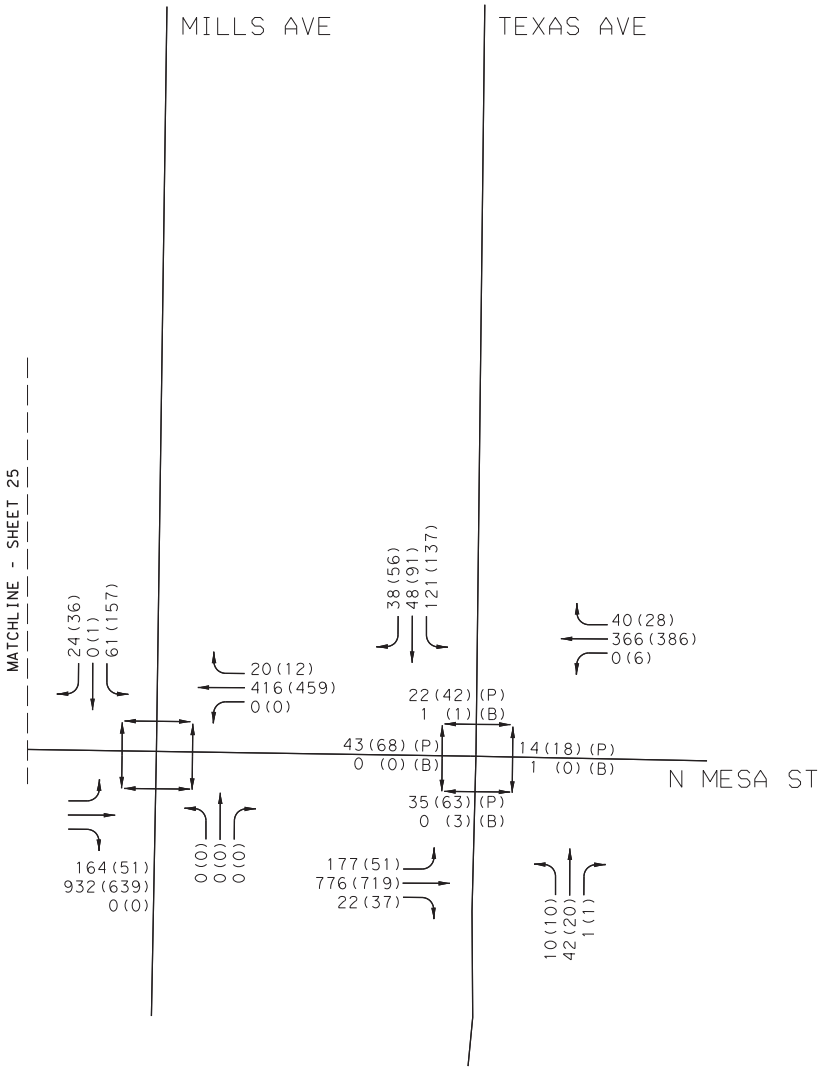

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
MILLS AVE TO TEXAS AVE

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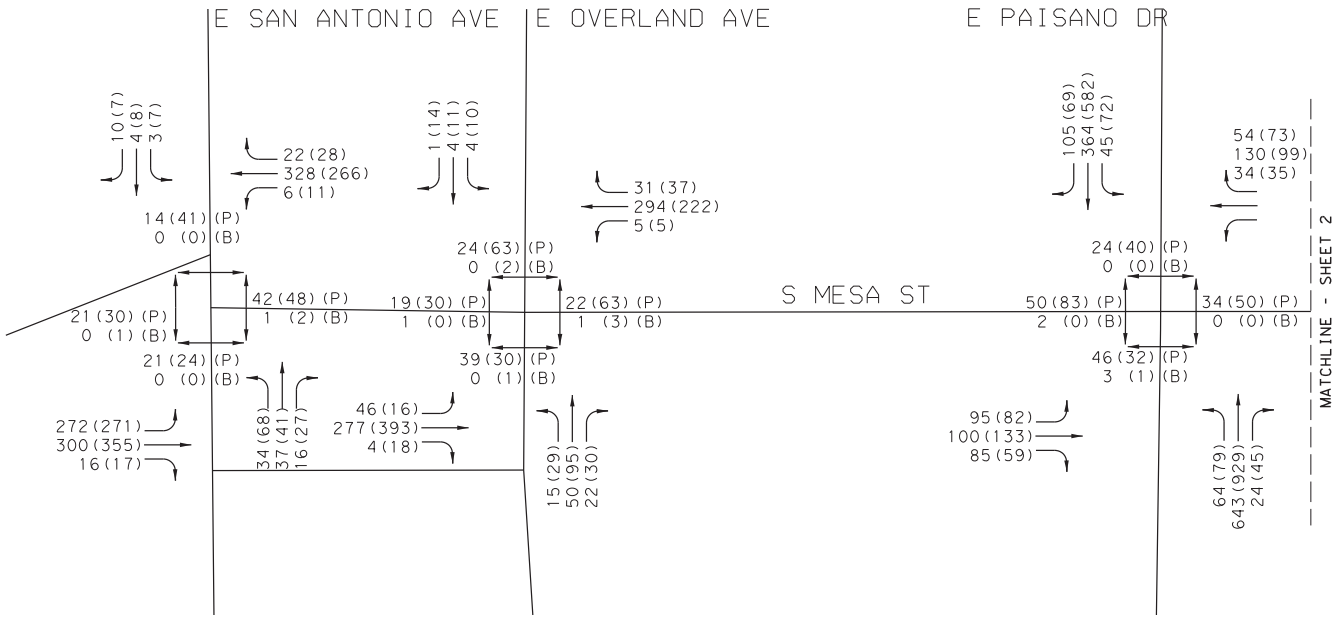
2040 BUILD PEAK HOUR

(Section 2 – San Antonio Ave to LP 375)



LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD -TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
SAN ANTONIO AVE TO PAISANO DR

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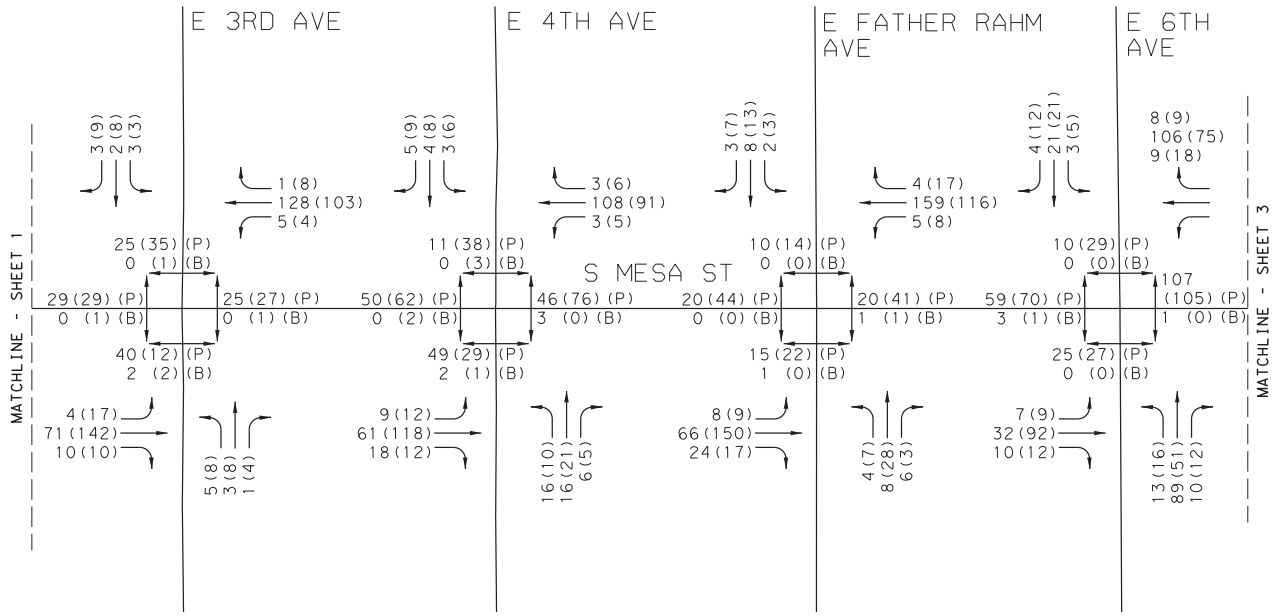

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD -TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
3RD AVE TO 6TH AVE

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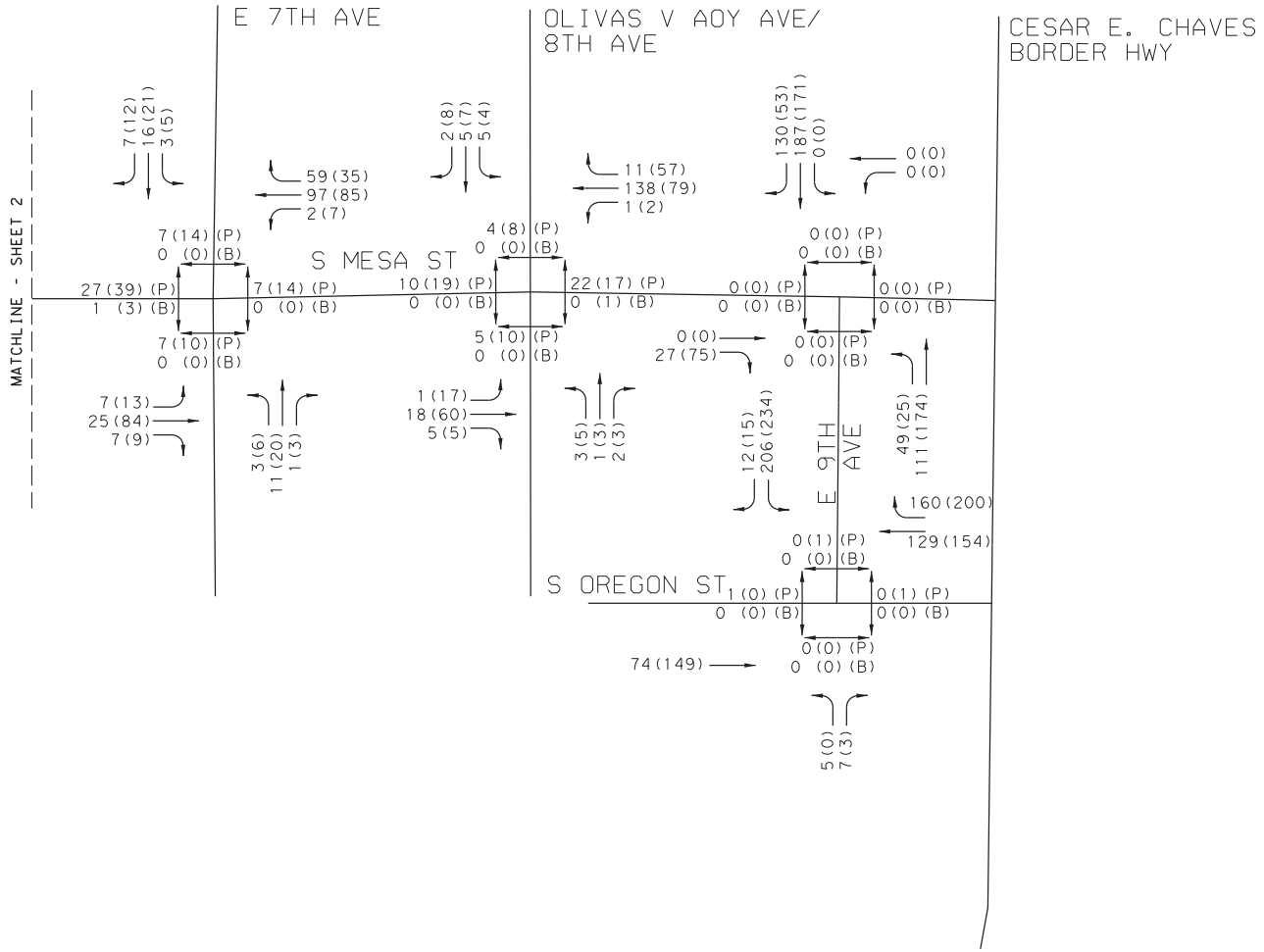

LEGEND
AM(PM) PEAK VEHICLES PER HOUR
AM(PM)(P) PED COUNT
AM(PM)(B) BIKE COUNT

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD -TRAFFIC VOLUMES
SH 20 - MESA ST CORRIDOR STUDY
7TH AVE TO BORDER HWY

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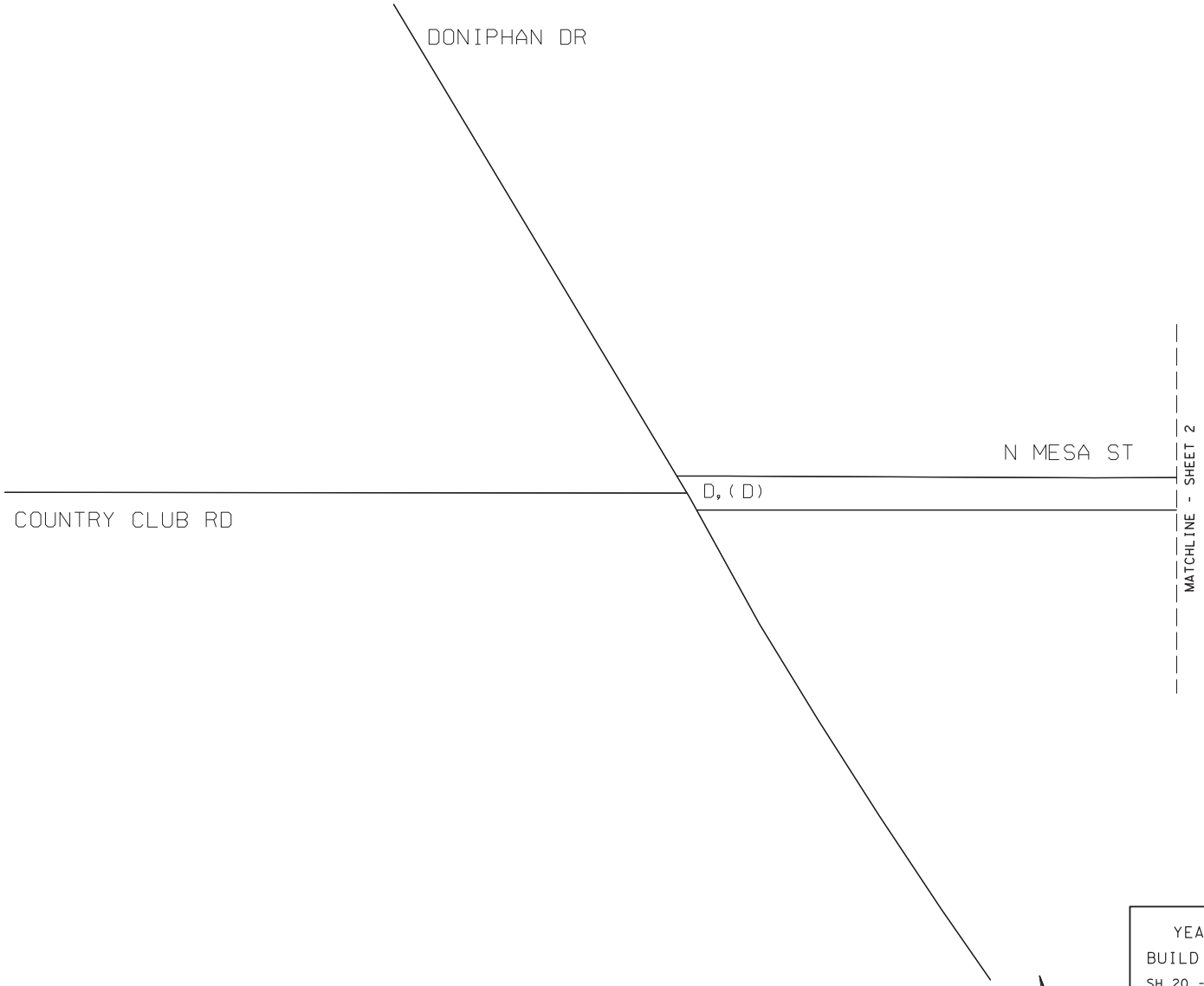
2040 BUILD PEAK HOUR INTERSECTION LOS

(Section 1 – Doniphan Dr to Texas Ave)



LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
DONIPHAN DR

Kimley»Horn F-928

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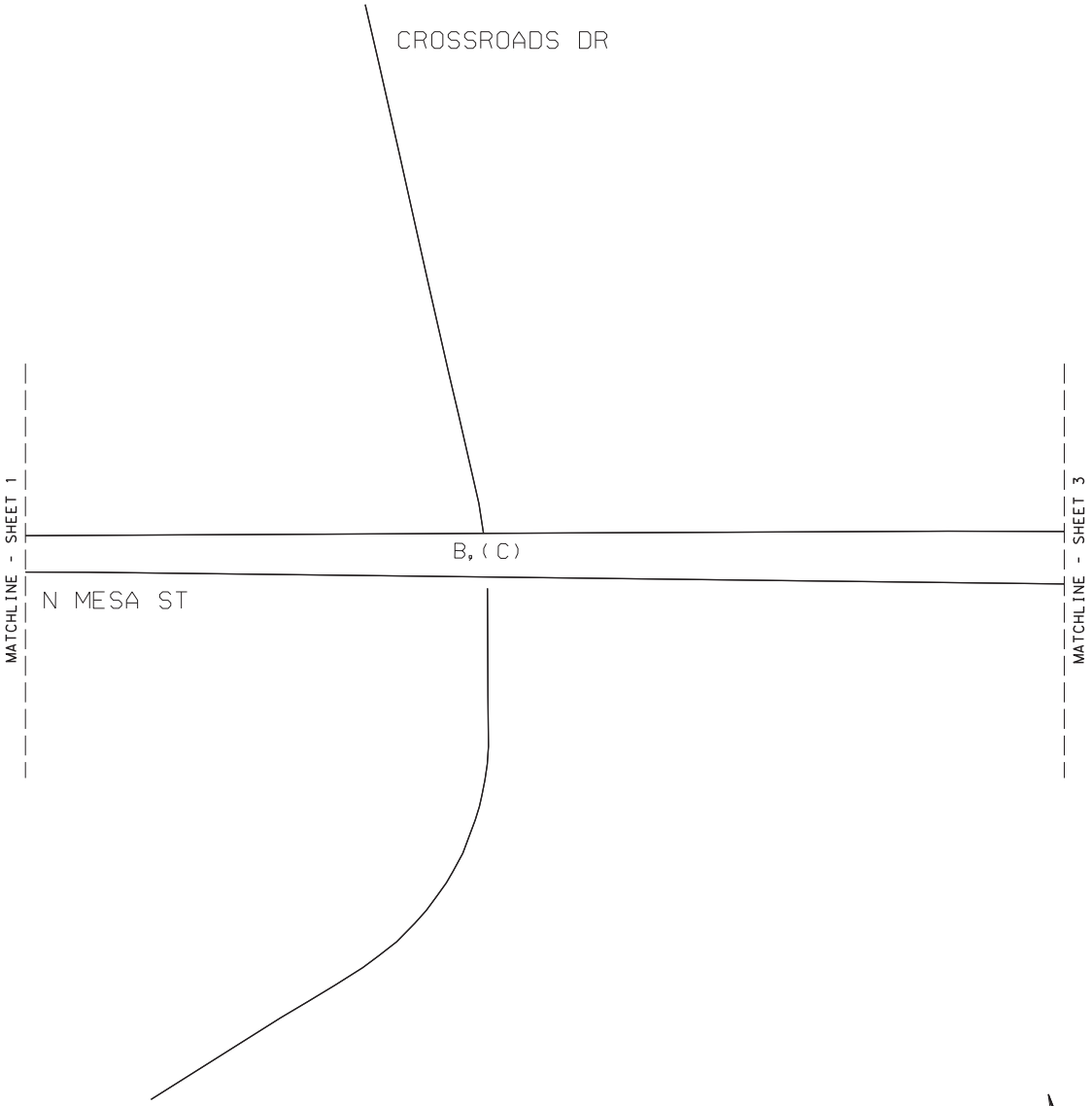

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
CROSSROADS DR

Kimley»Horn F-928

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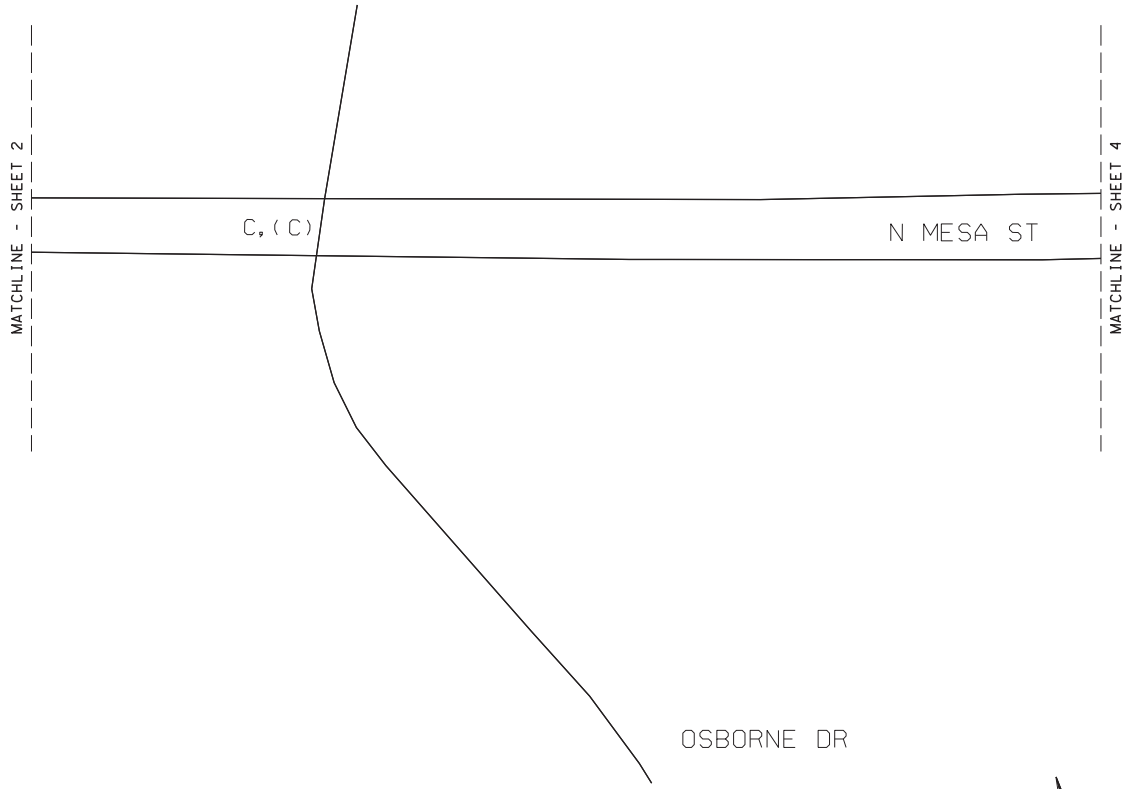

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
OSBORNE DR

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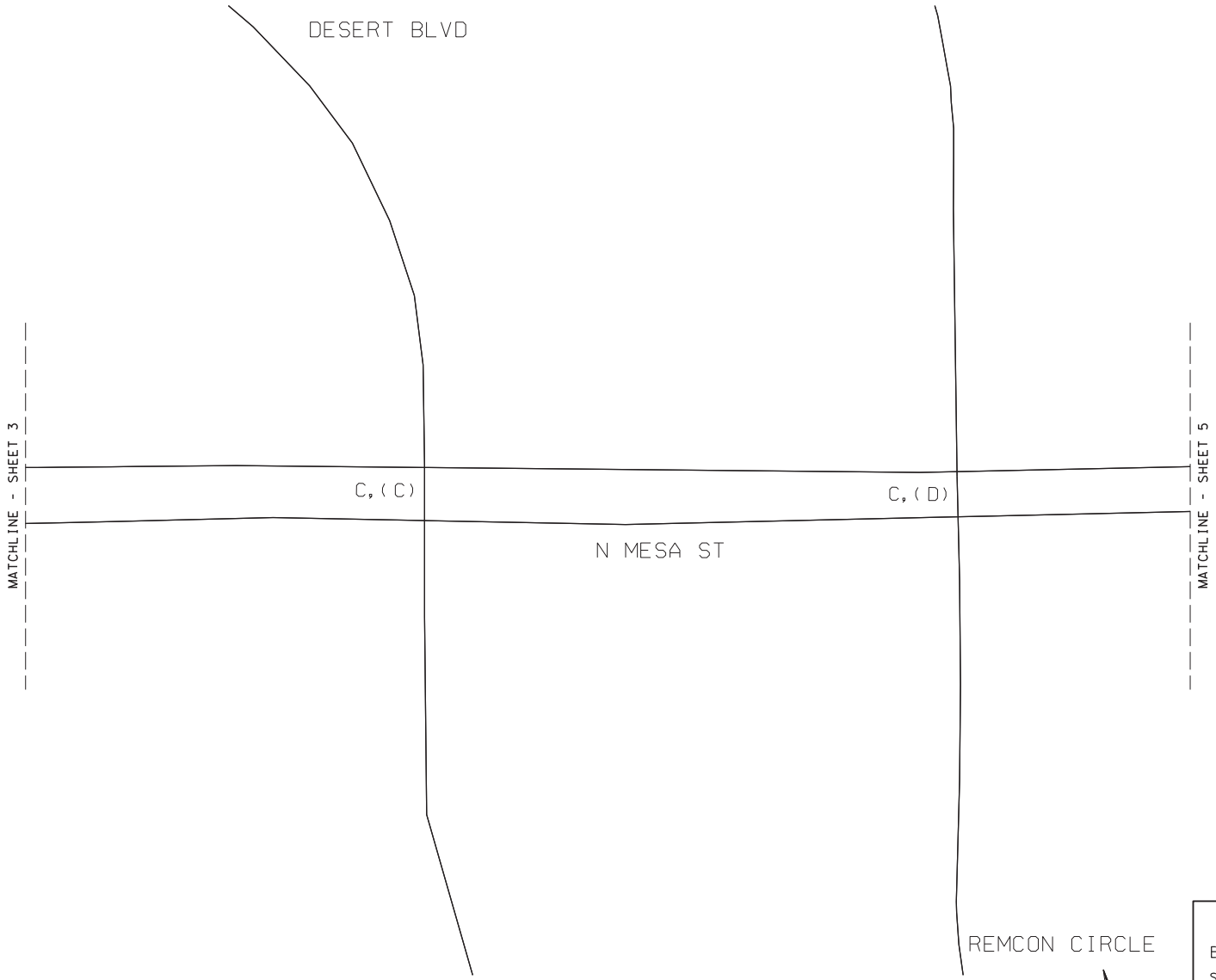

NOT TO SCALE

LEGEND	
AM, (PM)	LOS

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
DESERT BLVD TO REMCON CIR

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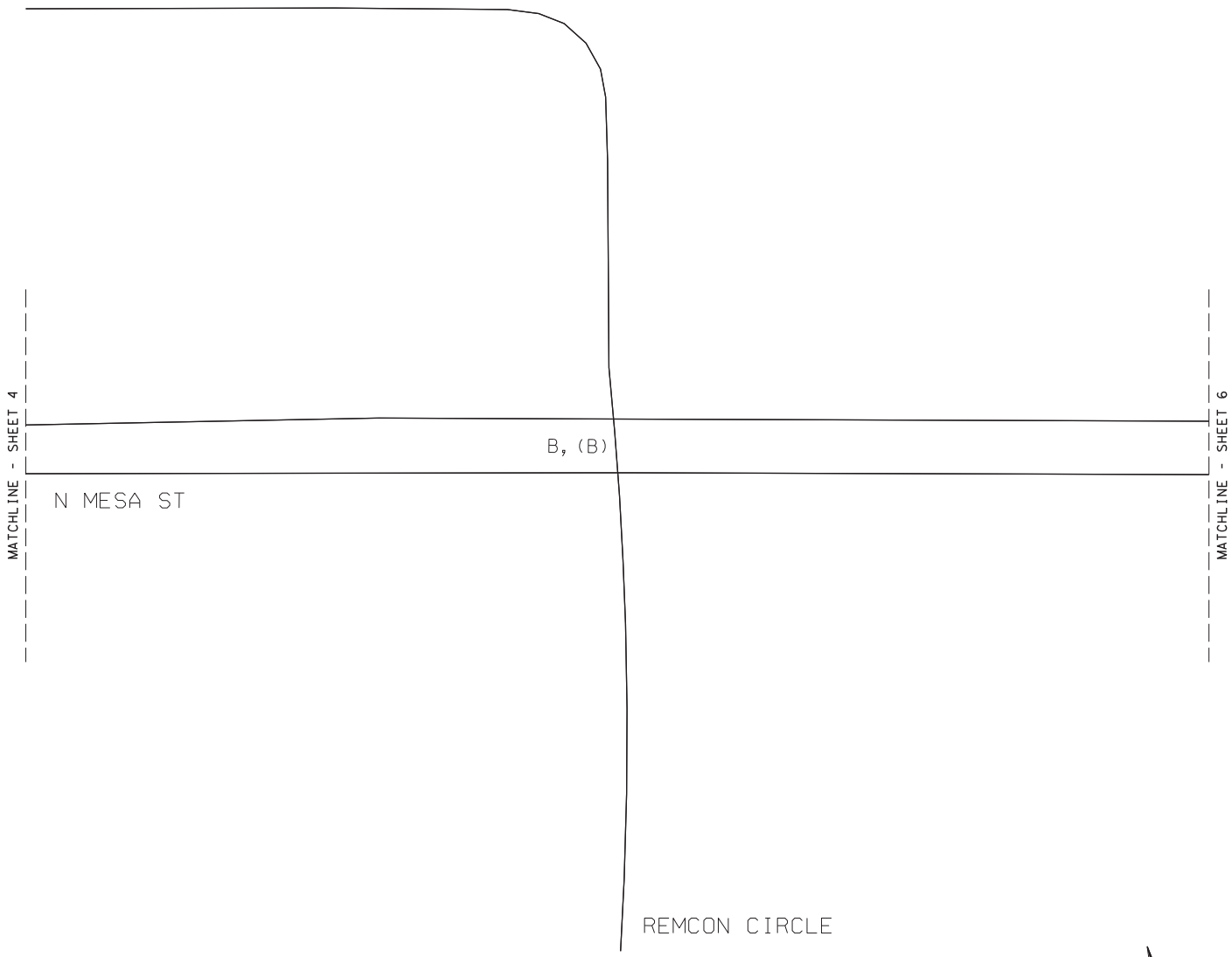

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
REMCON CIR

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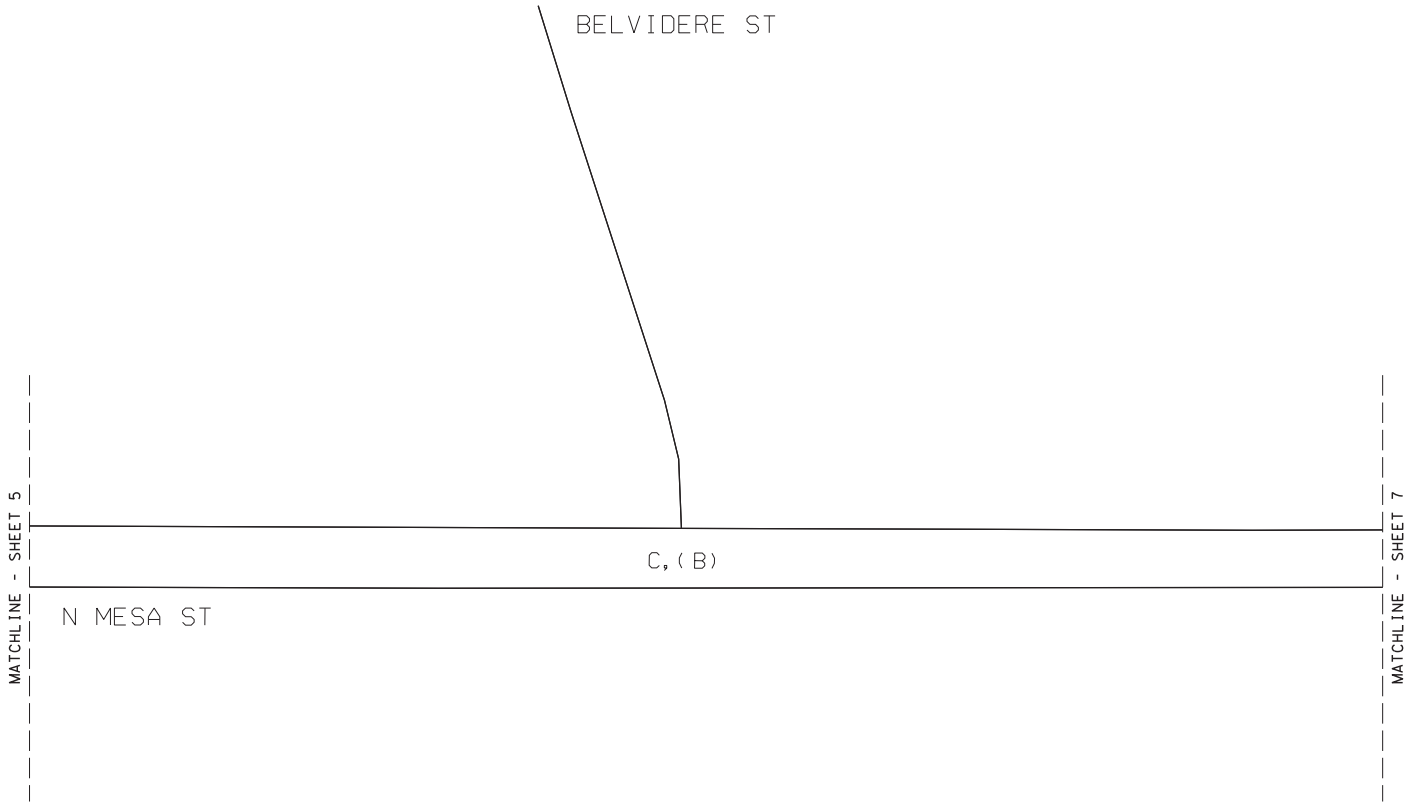

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
BELVIDERE ST

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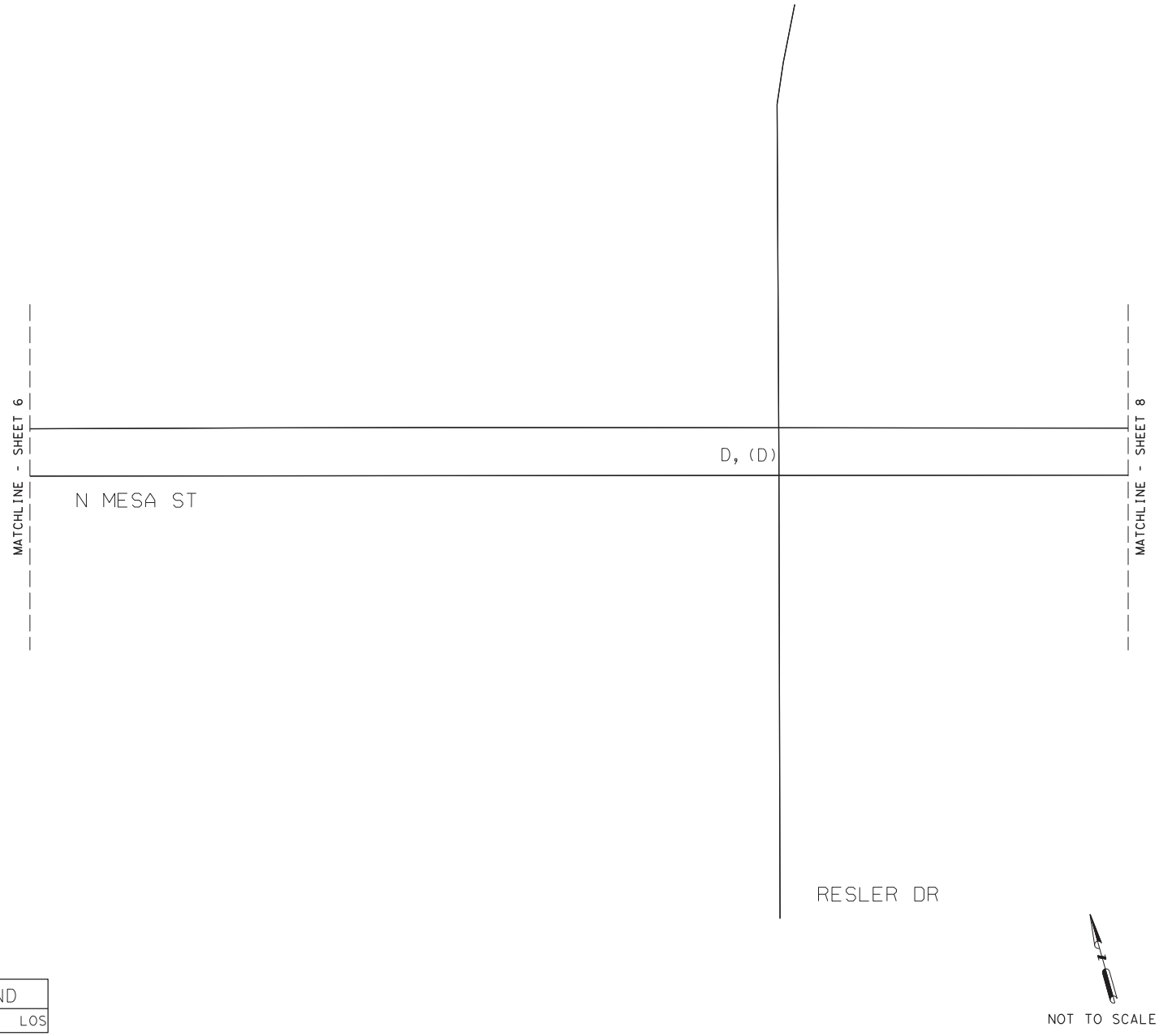

LEGEND	
AM, (PM)	LOS

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
RESLER DR

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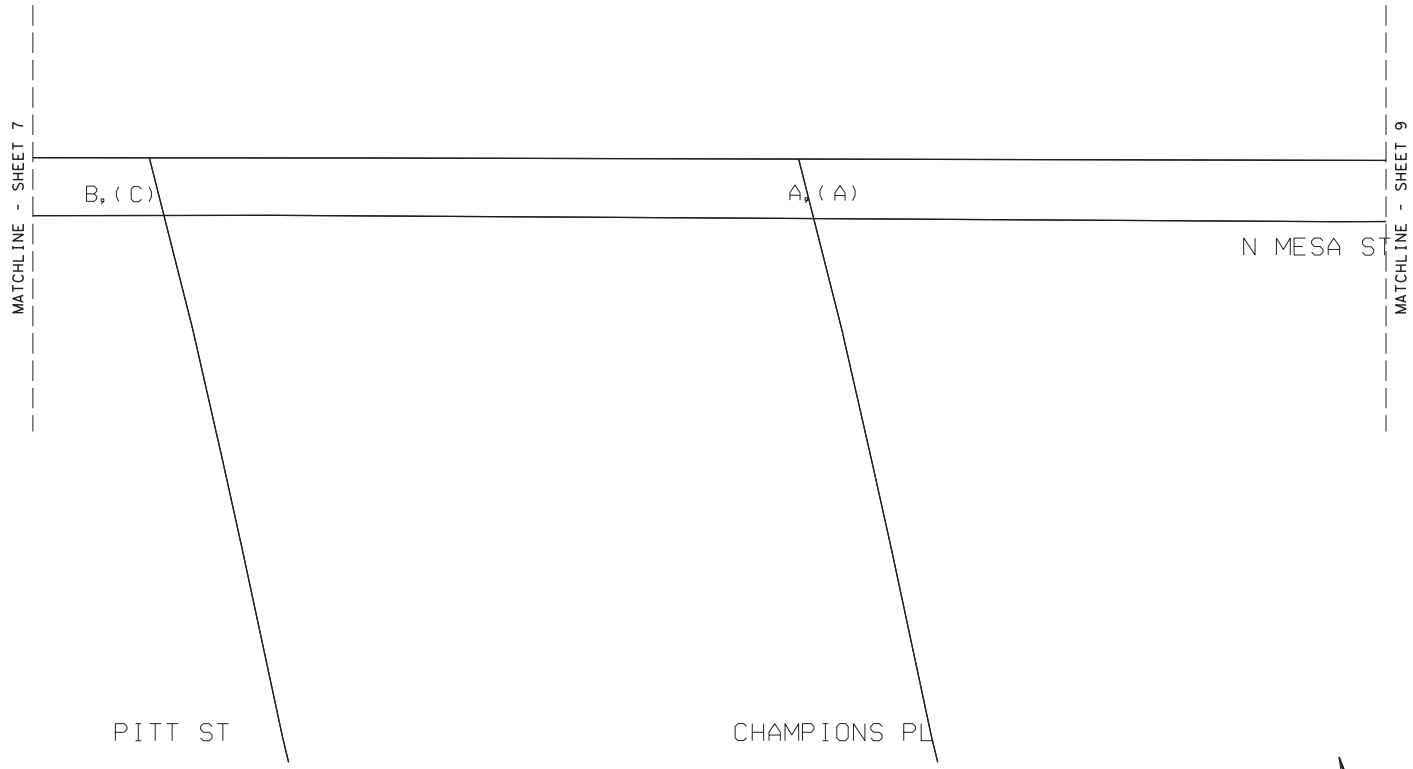

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
PITT ST

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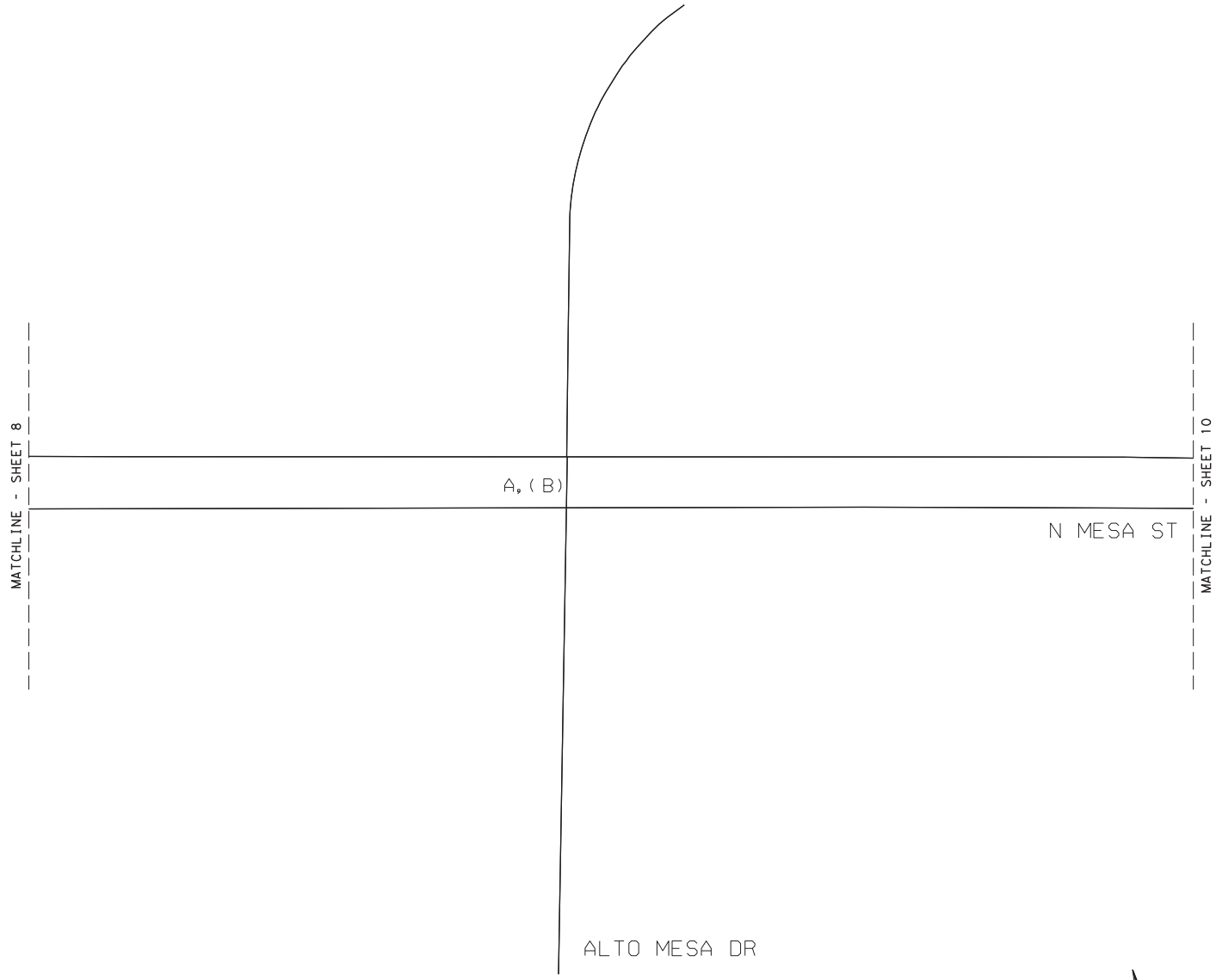

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
ALTO MESA DR

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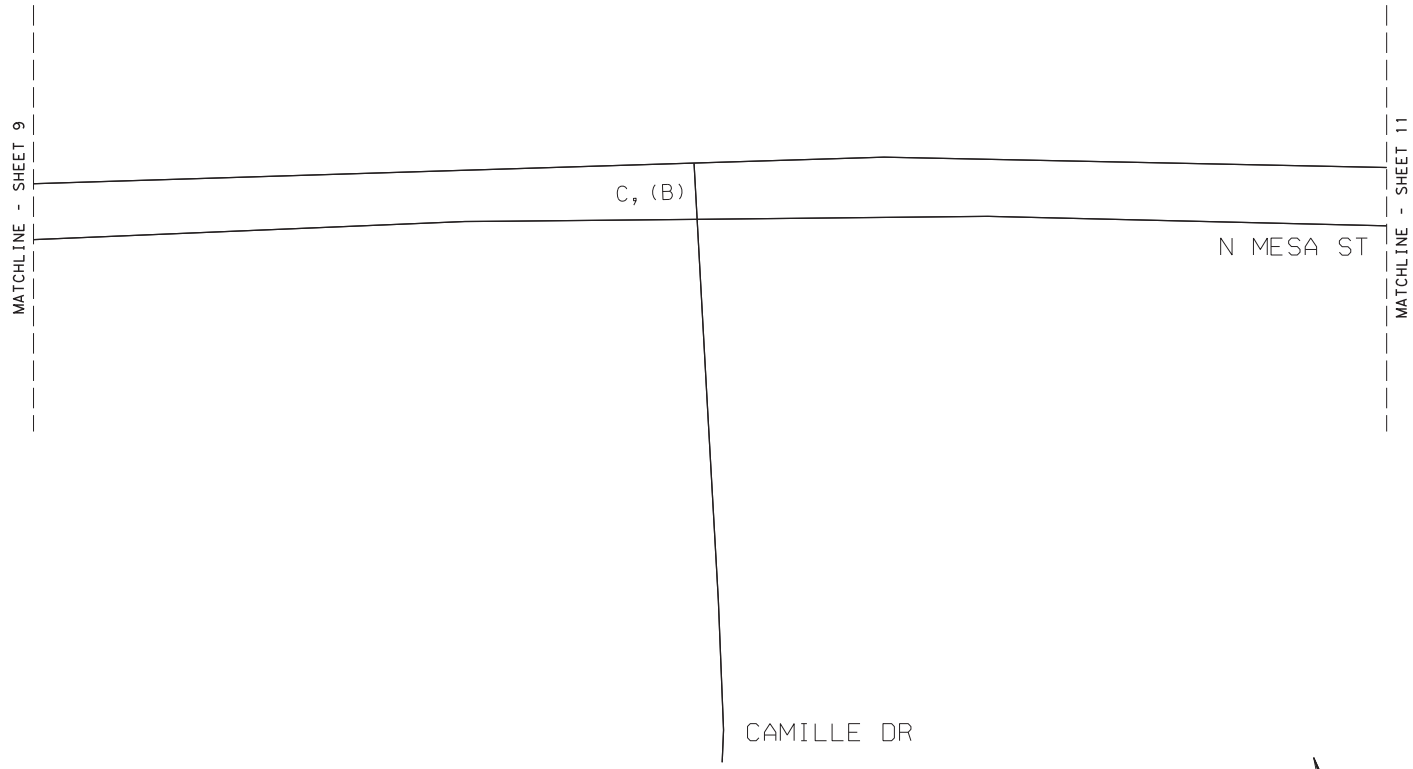

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
CAMILLE DR

Kimley»Horn F-928

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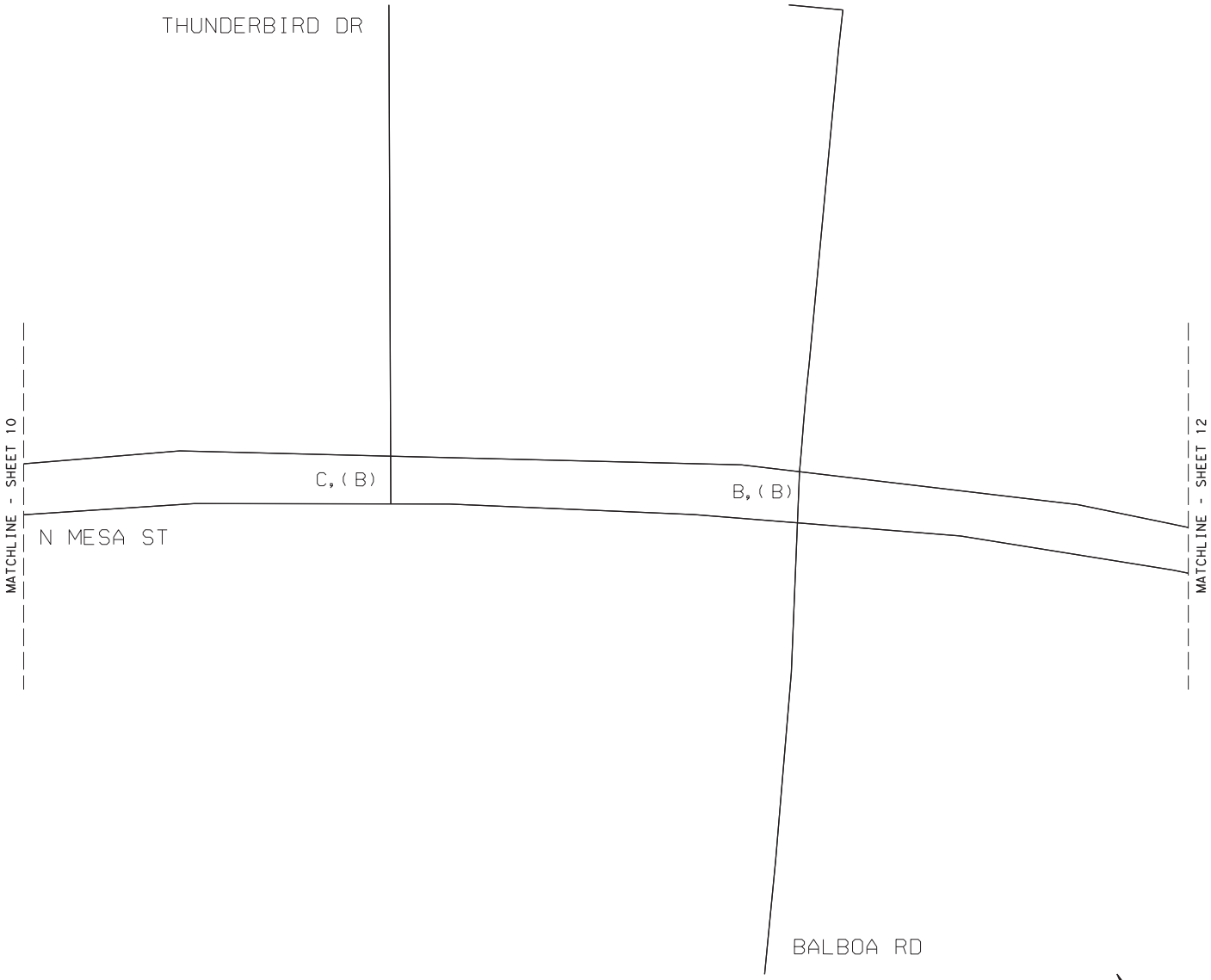

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
THUNDERBIRD DR TO BALBOA RD

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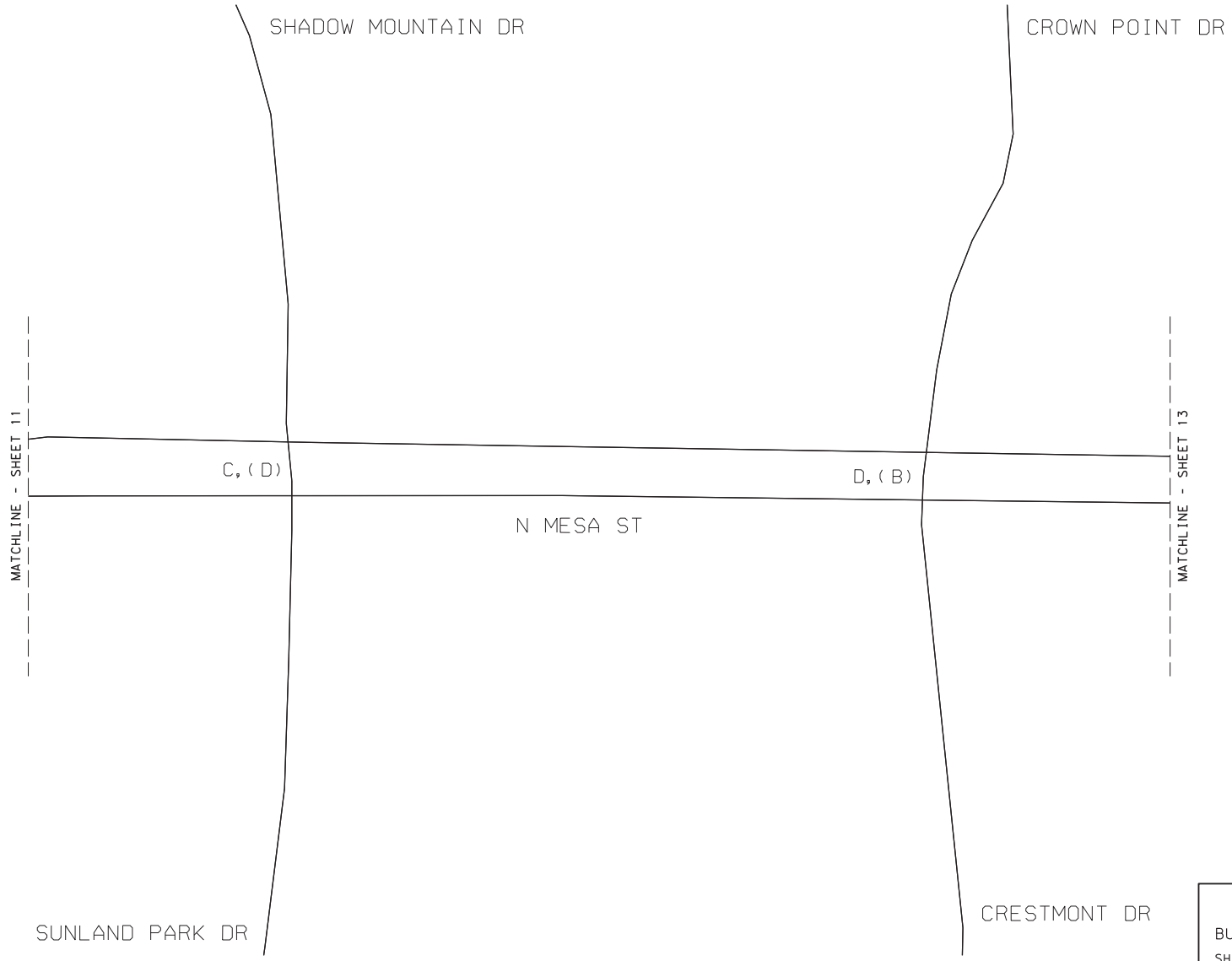

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
SUNLAND PARK DR TO CRESTMONT DR

Kimley»Horn F-928

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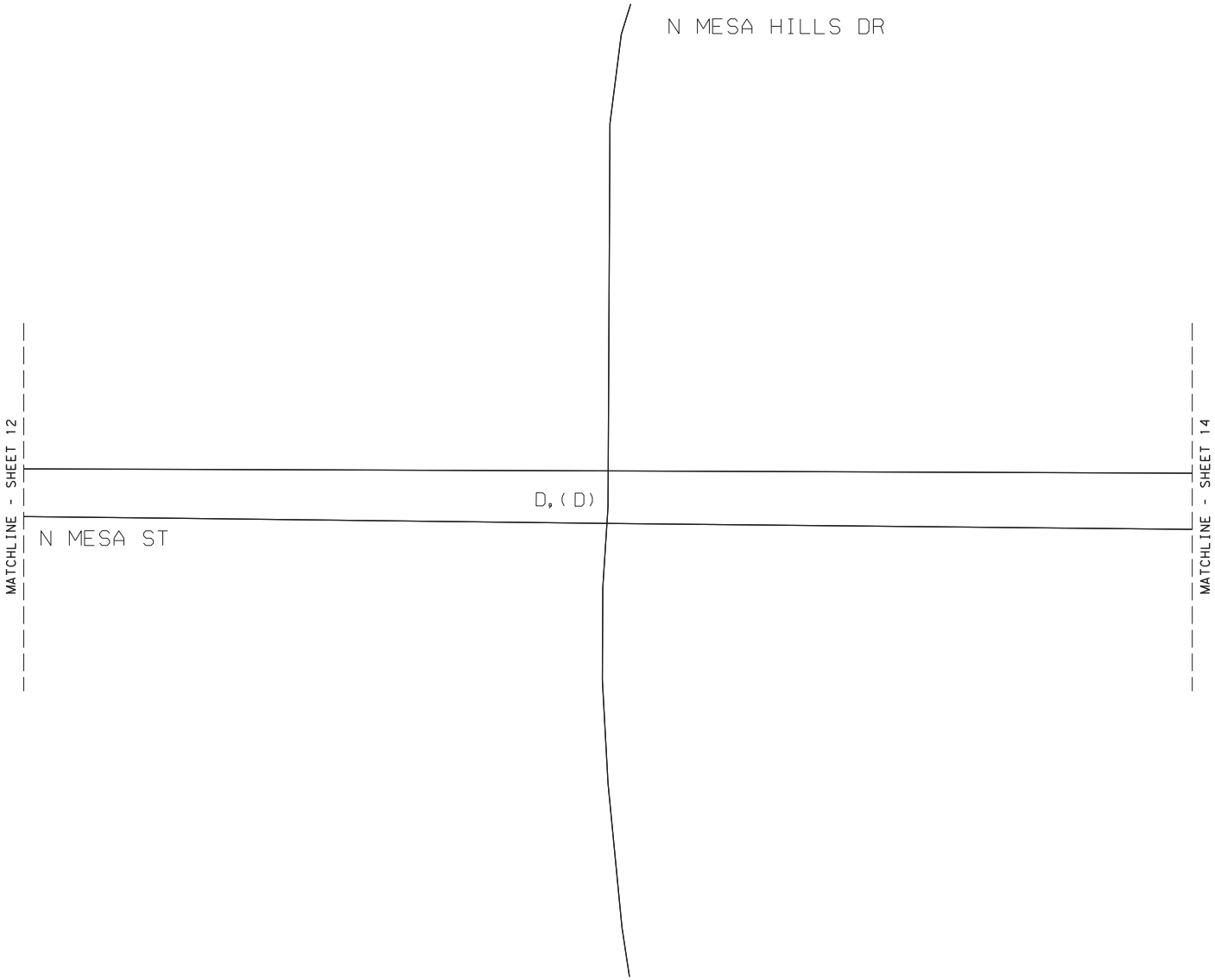

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
N MESA HILLS DR

Kimley»Horn F-928

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LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
FESTIVAL DR

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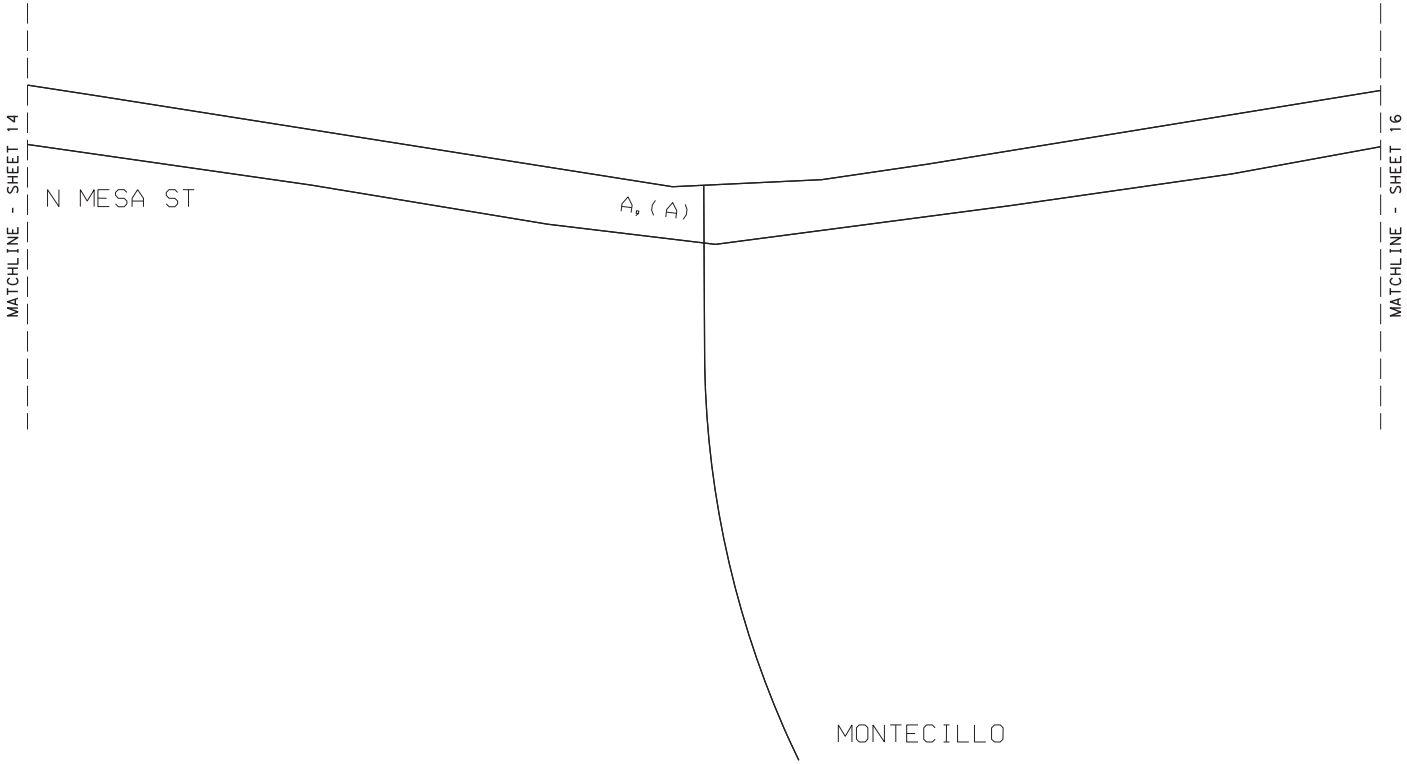

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
MONTECILLO

Kimley»Horn F-928

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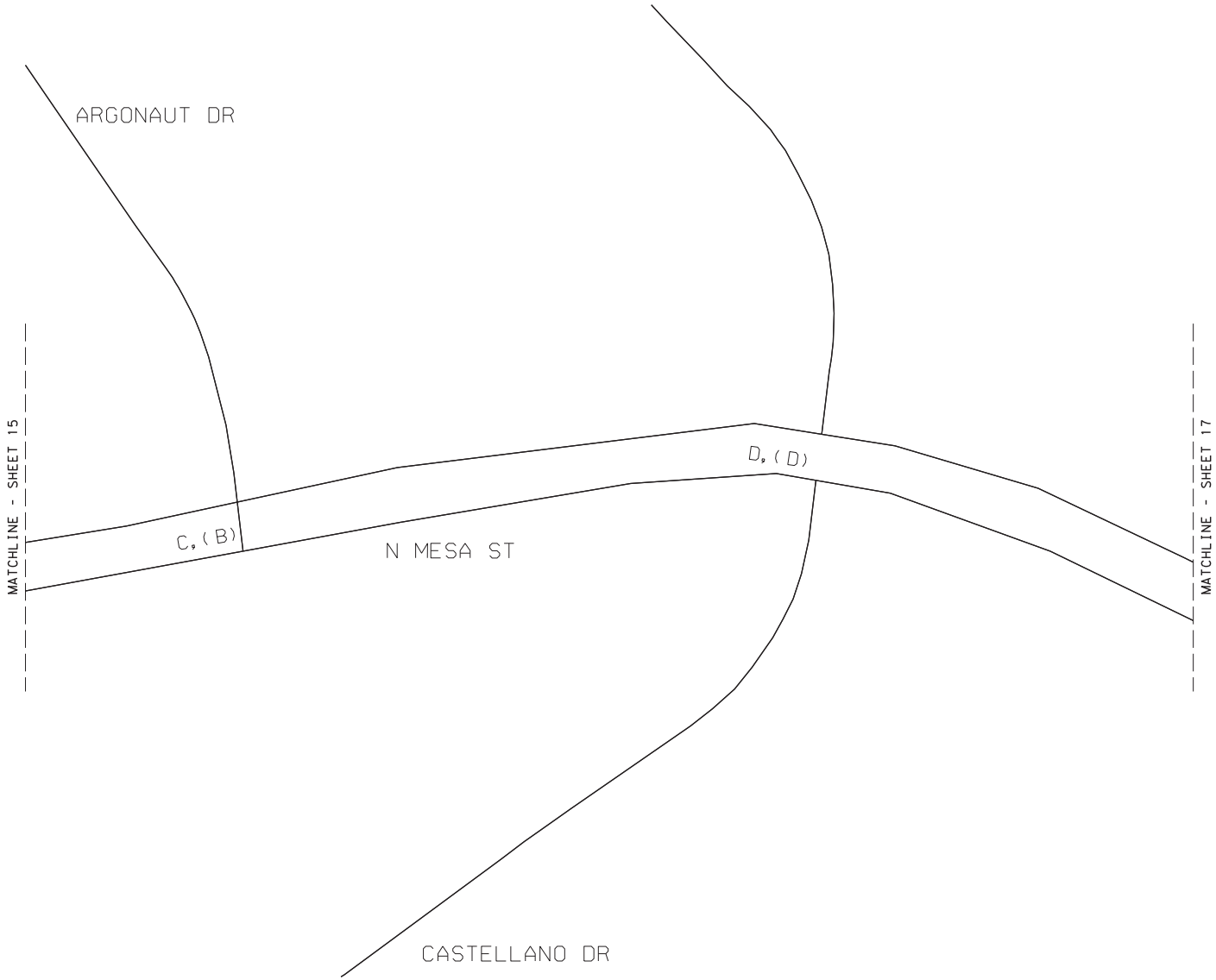

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
ARGONAUT DR TO CASTELLANO DR

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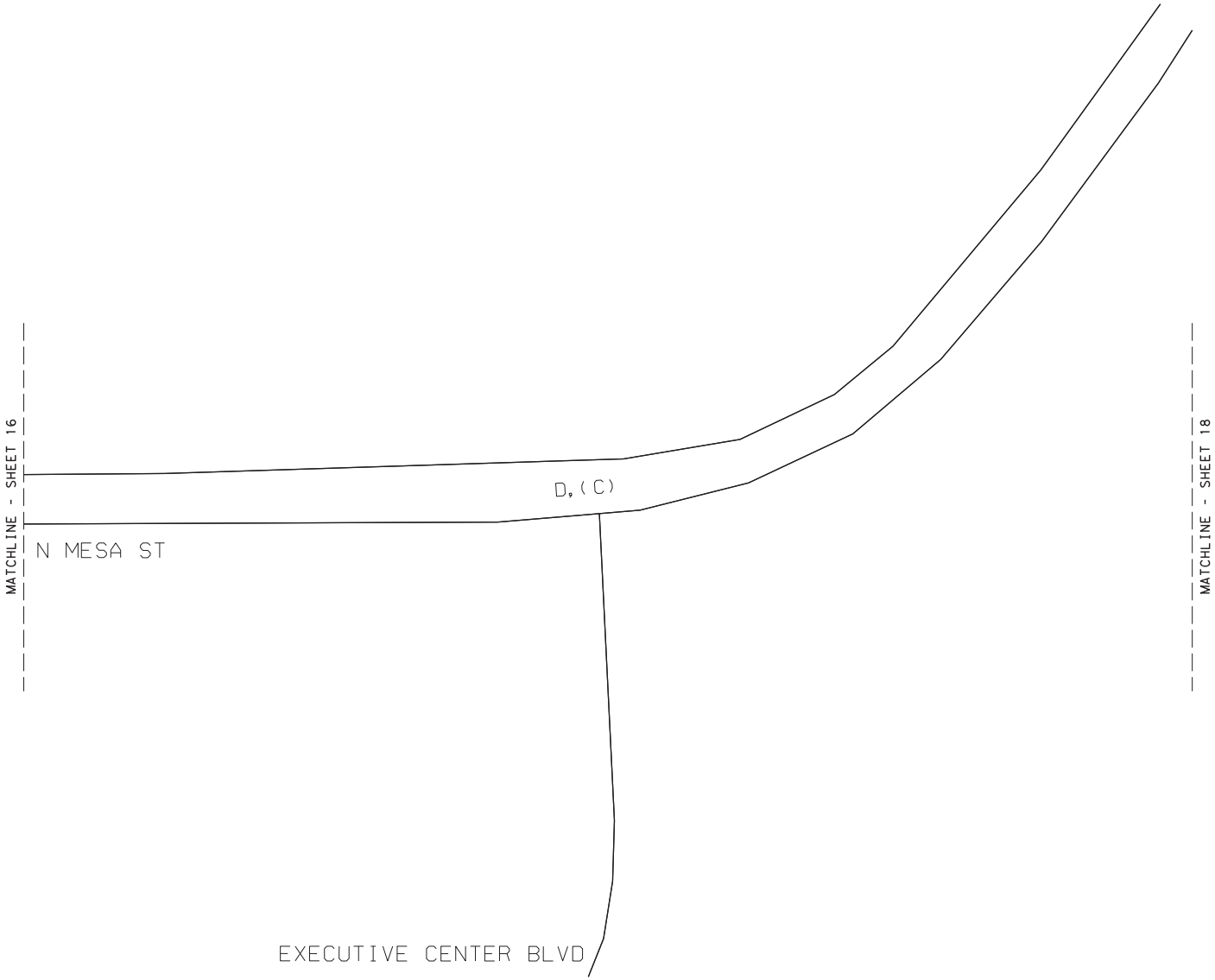

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
EXECUTIVE CENTER BLVD

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LEGEND
AM, (PM) LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
BRENTWOOD AVE

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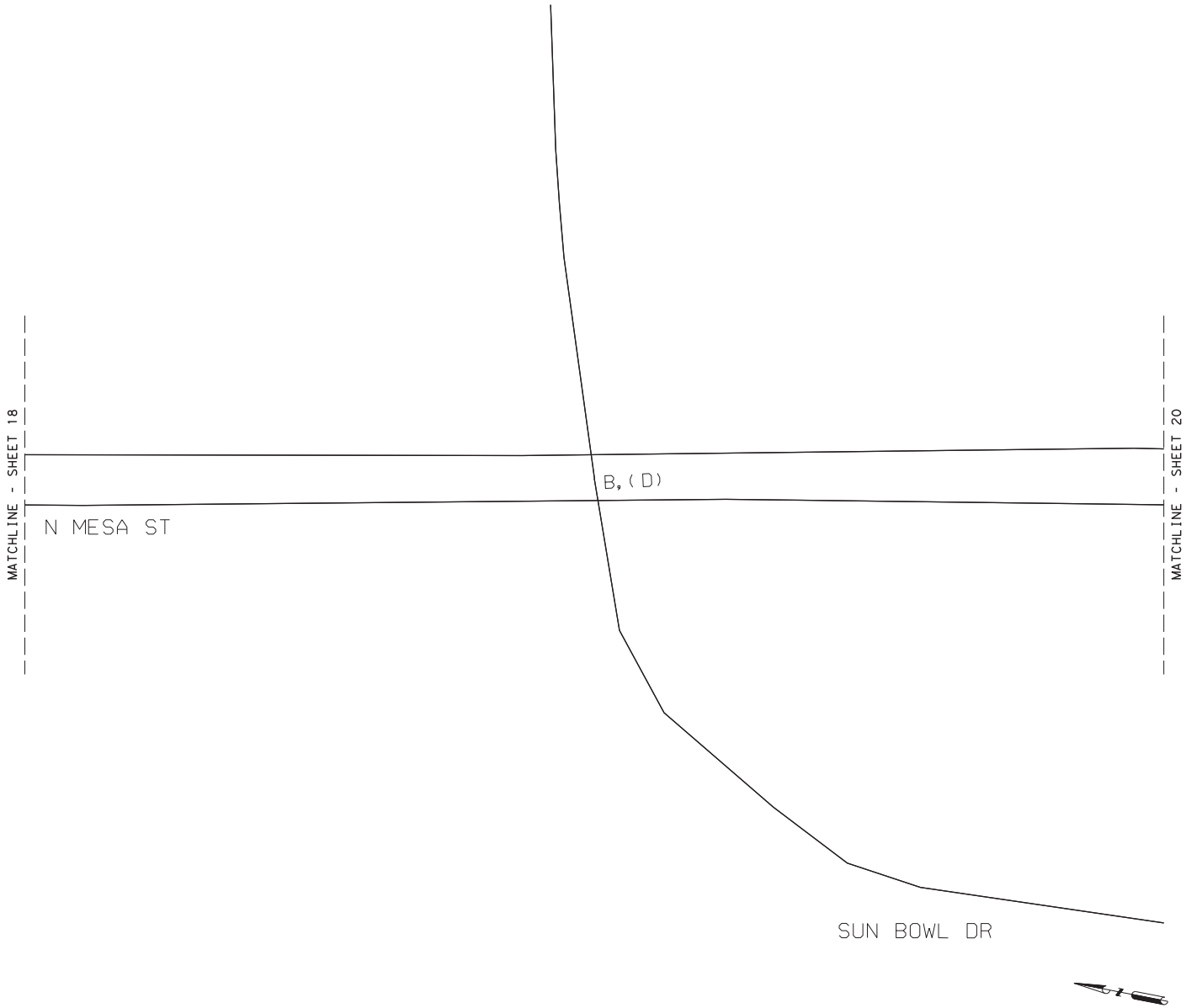

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
SUN BOWL DR

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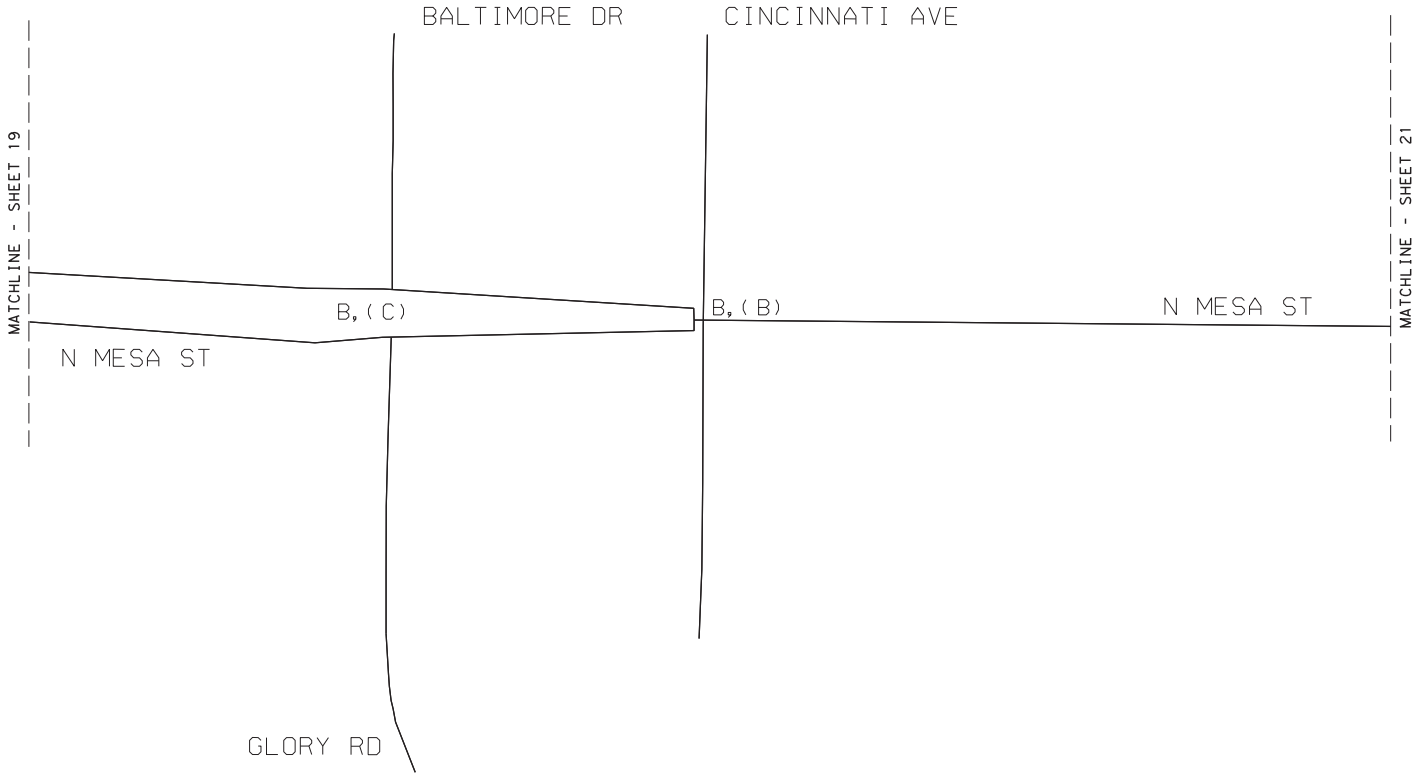

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
GLORY RD TO CINCINNATI AVE

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LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
KERBEY AVE TO UNIVERSITY AVE

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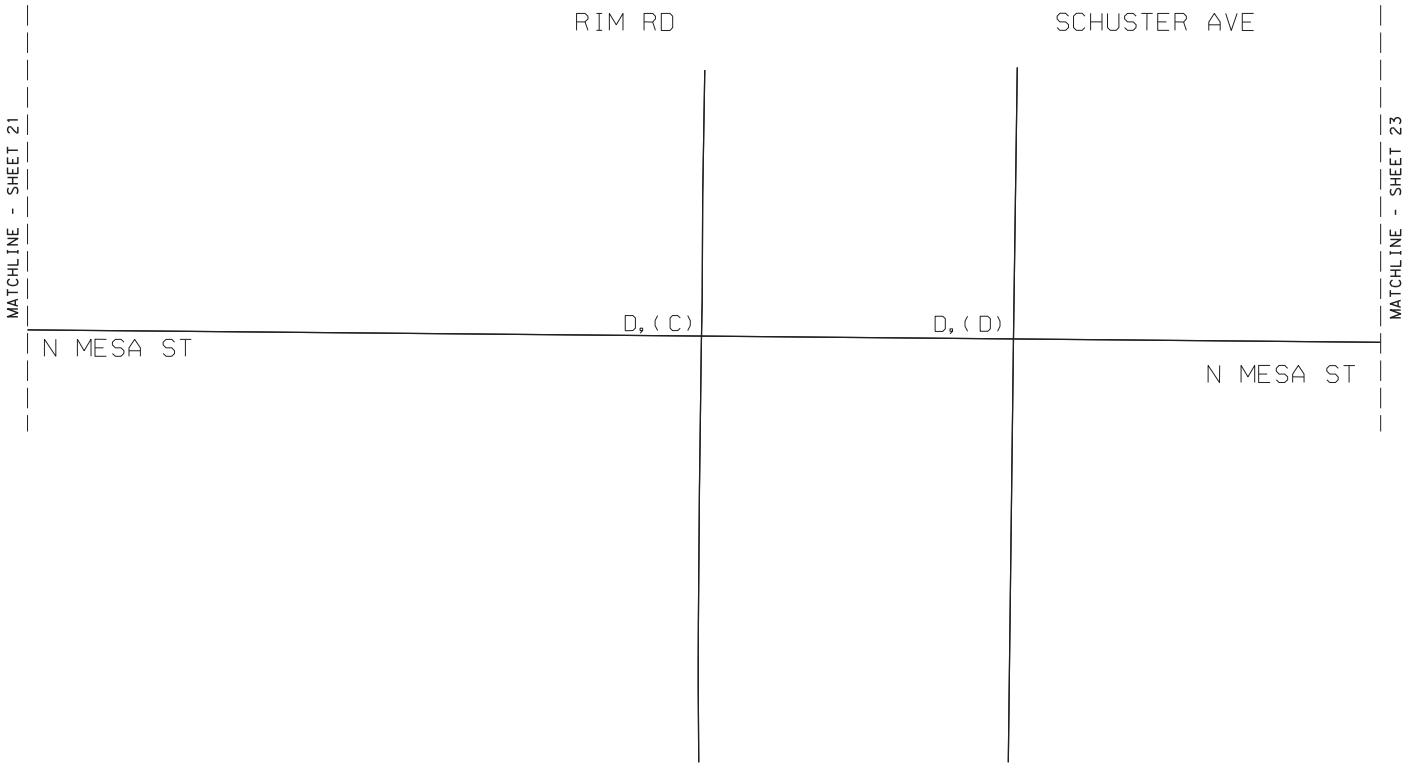

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
RIM RD TO SCHUSTER AVE

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LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
RIVER AVE

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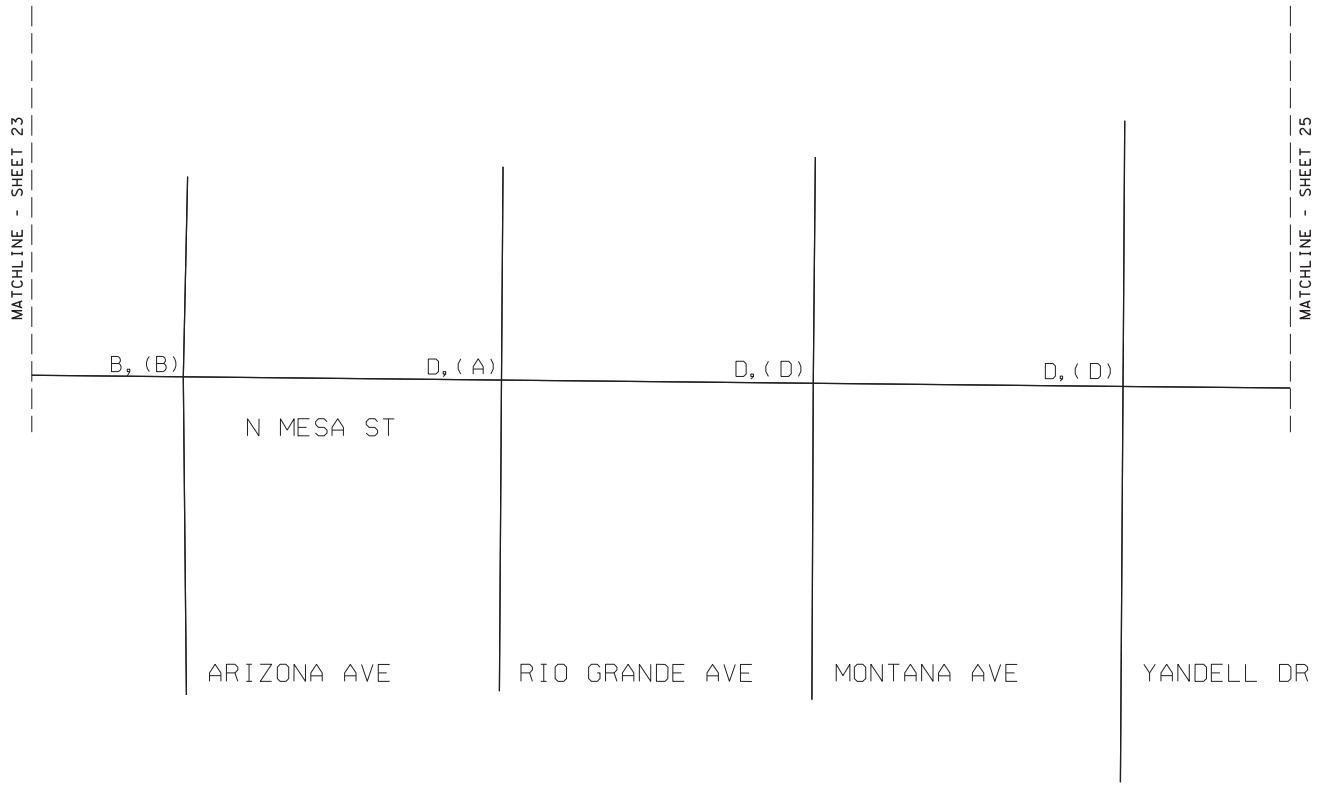

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
ARIZONA AVE TO YANDELL DR

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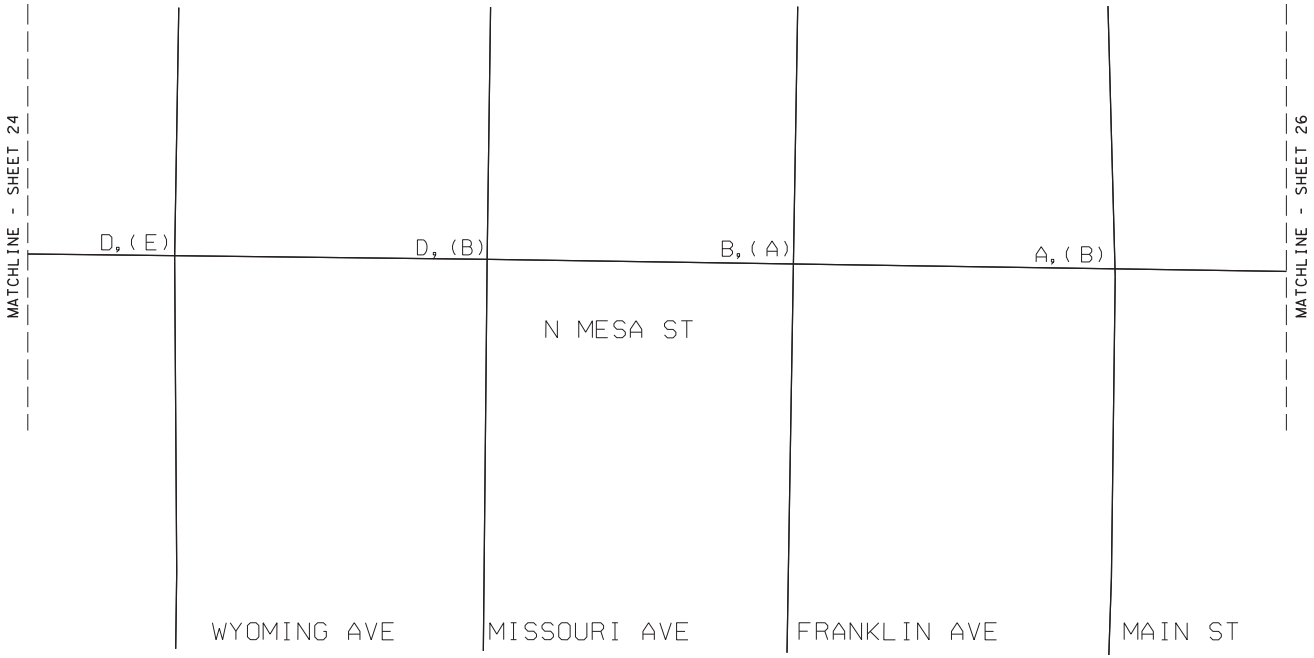

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
WYOMING AVE TO MAIN ST

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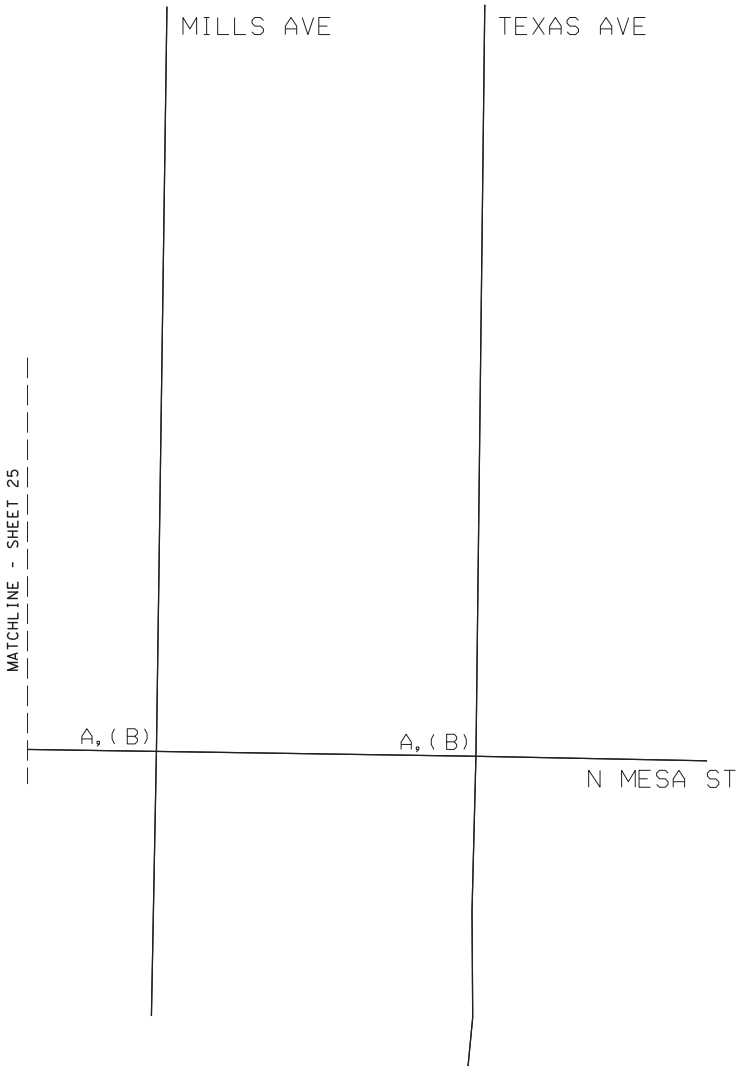

LEGEND	
AM, (PM)	LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
MILLS AVE TO TEXAS AVE

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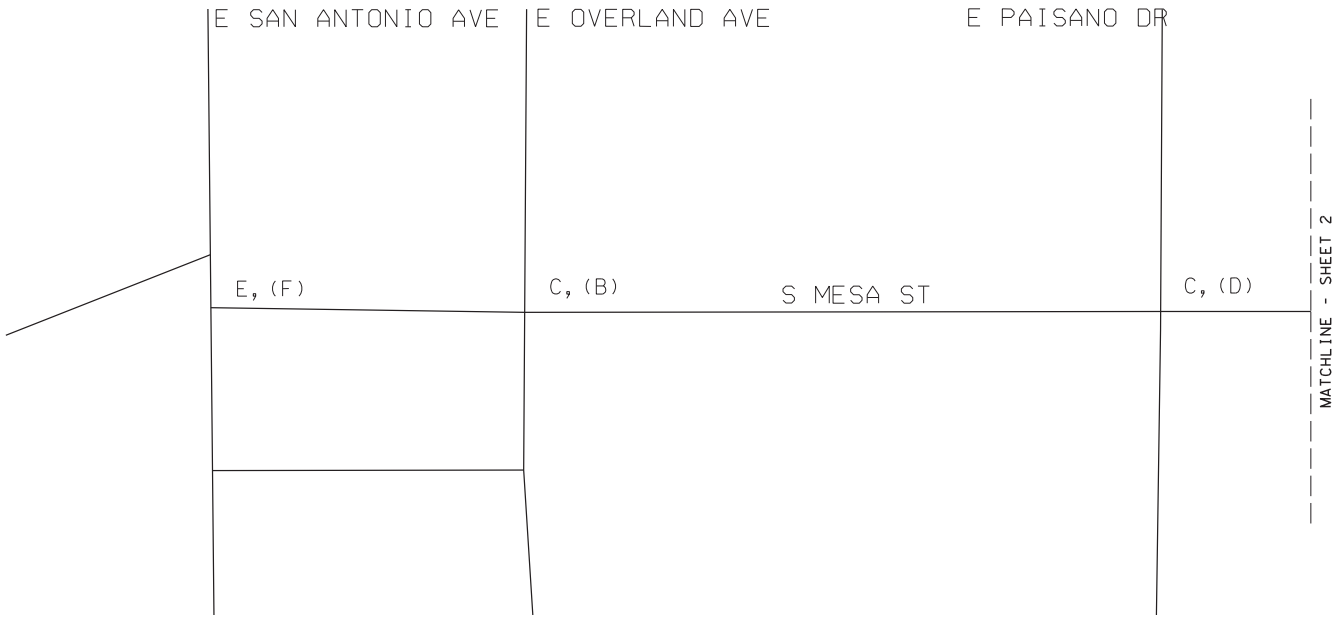
2040 BUILD PEAK HOUR INTERSECTION LOS

(Section 2 – San Antonio Ave to LP 375)



LEGEND
AM, (PM) LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
SAN ANTONIO AVE TO PAISANO DR

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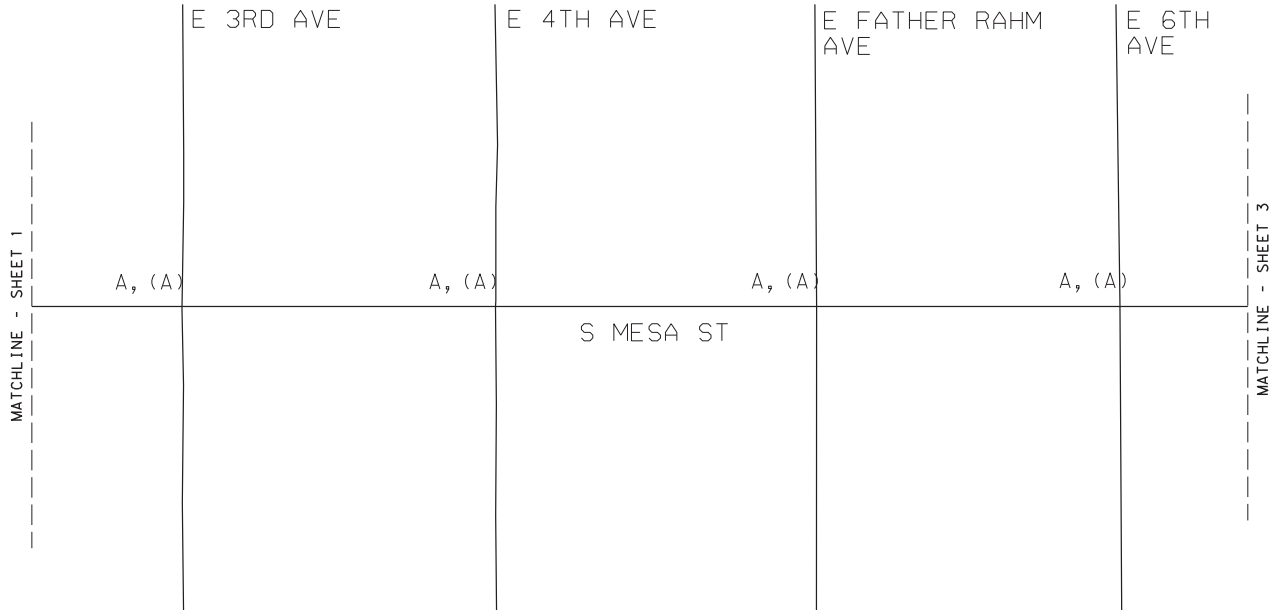

LEGEND
AM, (PM) LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
3RD AVE TO 6TH AVE

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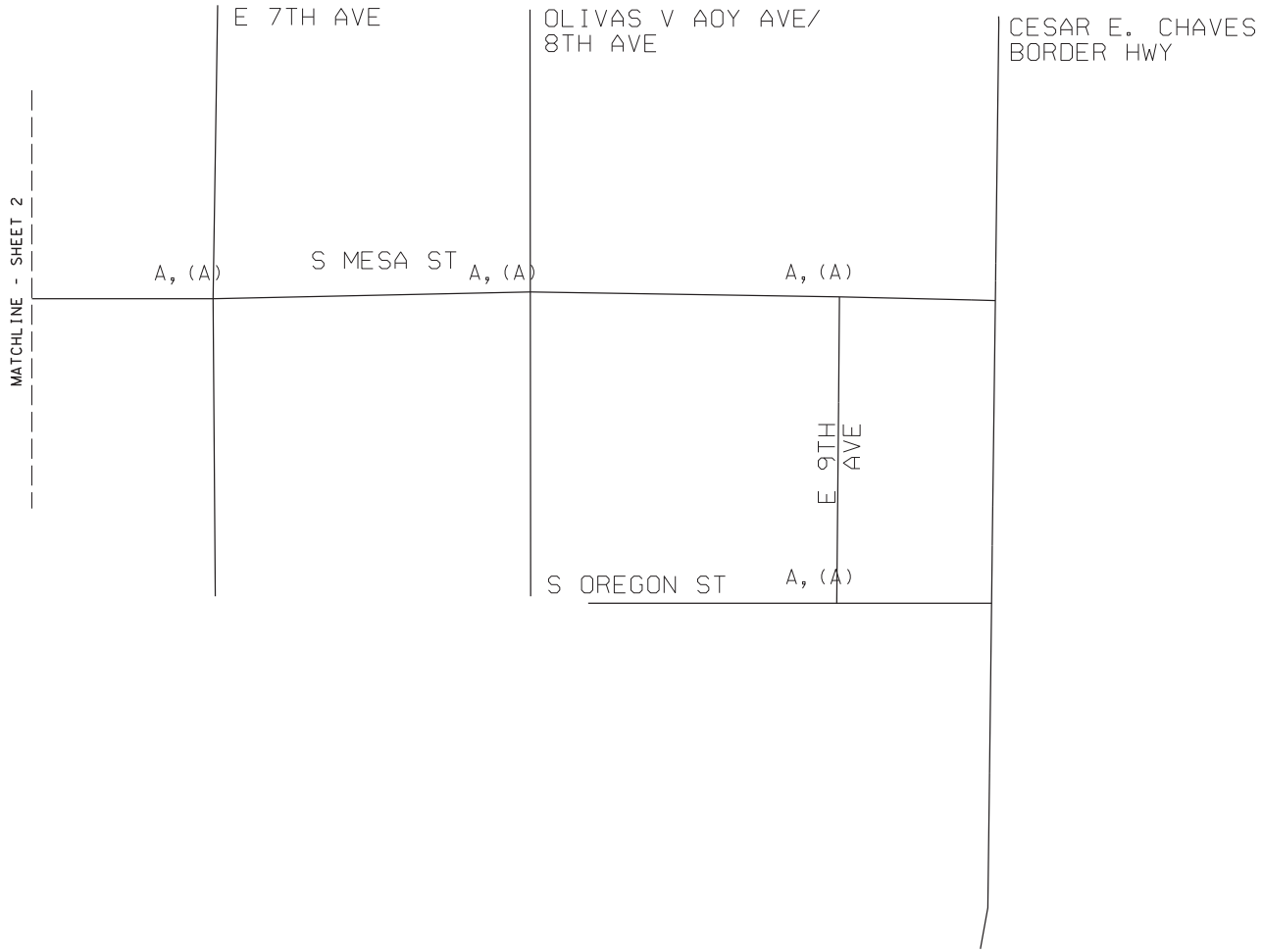

LEGEND
AM, (PM) LOS

NOT TO SCALE

YEAR 2040 PEAK HOUR
BUILD - INTERSECTION LOS
SH 20 - MESA ST CORRIDOR STUDY
7TH AVE TO BORDER HWY

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