

Technical Appendices



Transportation Needs for the Foothills and Mesa Del Sol Areas Yuma County, AZ



ADOT Planning Assistance for Rural Areas

ADOT Project MPD 14-11(D)

Appendix A
Arizona Game and Fish Department
Special Status Species List for Yuma County

**Arizona Game and Fish Department
Special Status Species List for Yuma County**

Scientific Name	Common Name	ESA	Critical Habitat	USFS	WSCA	NPL	NESL	Taxonomic Group
Ardea alba	Great Egret			S	WC			Bird
Coccyzus americanus occidentalis	Western Yellow-Billed Cuckoo			S	WC		4	Bird
Egretta thula	Snowy Egret			S	WC			Bird
Empidonax traillii extimus	Southwestern Willow Flycatcher	LE	Y		WC		2	Bird
Glaucidium brasilianum cactorum	Cactus Ferruginous Pygmy-Owl	LE	P	S	WC			Bird
Himantopus mexicanus	Black-Necked Stilt			S				Bird
Laterallus jamaicensis coturniculus	California Black Rail	SC			WC			Bird
Rallus longirostris yumanensis	Yuma Clapper Rail	LE		S	WC			Bird
Anodonta californiensis	California Floater	SC						Invertebrate
Euderma maculatum	Spotted Bat	SC		S	WC			Mammal
Eumops perotis californicus	Great Western Mastiff Bat	SC		S				Mammal
Macrotus californicus	California Leaf-Nosed Bat	SC		S	WC			Mammal
Myotis yumanensis	Yuma Myotis	SC		S				Mammal
Peromyscus eremicuspapensis	see: Peromyscuseremicus eremicus	SC						Mammal
Plecotus townsendii pallescens	Pale Townsend's Big-Eared Bat	SC						Mammal
Sigmodon	Yuma Hispid	SC						Mammal

Scientific Name	Common Name	ESA	Critical Habitat	USFS	WSCA	NPL	NESL	Taxonomic Group
hispidus eremicus	Cotton Rat							
Allium parishii	Parish Onion	SC						Plant
Chamaesyce platysperma	Dune Spurge	SC						Plant
Colubrina californica	California Snakewood			S				Plant
Cryptantha ganderi	Gander's Cryptantha	SC						Plant
Helianthus niveus ssp tephrodes	Dune Sunflower	SC						Plant
Lophocereus schottii	Senita					SR		Plant
Opuntia wigginsii	Wiggin's Cholla					SR		Plant
Pholisma sonorae	Sand Food	SC				HS		Plant
Rhus kearneyi	Kearny Sumac					SR		Plant
Triteleiopsis palmeri	Blue Sand Lily					SR		Plant
Washingtonia filifera	California Fan Palm					SR		Plant
Charina trivirgata gracia	Desert Rosy Boa	SC						Reptile
Gopherus agassizii (sonoran population)	Sonoran Desert Tortoise	SC		S	WC			Reptile
Heloderma suspectum	Gila Monster	SC		S				Reptile
Phrynosoma mcalli	Flat-tailed Horned Lizard	SC		S	WC			Reptile
Thamnophis eques megalops	Mexican Garter Snake	SC		S	WC			Reptile
Uma notata rufopunctata	Cowels Fringe-toed Lizard	SC			WC			Reptile
Xyrauchen	Razorback sucker	LE		Y	WC		2	Fish

Scientific Name	Common Name	ESA	Critical Habitat	USFS	WSCA	NPL	NESL	Taxonomic Group
texanus								
Myotis Yumanensis	Yuma Myotis	SC						Mammal
Antilocapra Americana sonoriensis	Sonoran Pronghorn	SC		S	WC			Mammal

Legend:

ESA - Endangered Species Act; **LE** - Listed Endangered, imminent jeopardy of extinction; **SC** - Species of Concern; **USFS**; **S** - Sensitive, those taxa occurring on National Forests in Arizona which are considered sensitive by the Regional Forester; **WSCA** - Wildlife of Special Concern in Arizona, if a "y" is indicated, critical habitat has been designated or proposed for the species; **NPL** - Native Plant Law; **SR**-Salvage Restricted collection only with permit; **NESL** - Navajo Endangered Species List Group.

Appendix B

Detailed Crash Data for Key Roadway Segments

North Frontage Road, Ave 10E – Ave 11E (Fortuna Road)

ACCIDENT MANNER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Angle		1		1	1		3
Headon							0
Leftturn		1	1	2			4
Other		1					1
Rear End		3	1		1		5
Rear to Side							0
Sideswipe Opposite Direction				1			1
Sideswipe Same Direction		1					1
Single Vehicle	1	1	3		1		6
Total	1	8	5	4	3	0	21
ACCIDENT SEVERITY	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
No Injury	0	6	4	3	2	0	15
Incapacitating Injury							0
Non_Incapacitating Injury	1	1			1		3
Possible Injury		1	1	1			3
Total	1	8	5	4	3	0	21
ACCIDENT LIGHTING	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Dark_Lighted							0
Dark_Not Lighted					1		1
Dark_Unknown Lighting		1	2				3
Dawn				1			1
Daylight	1	6	3	3	2		15
Dusk							0
Not Reported		1					1
Total	1	8	5	4	3	0	21
ACCIDENT WEATHER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Blowing Sand Soil Dirt							0
Clear	1	6	5	3	3		18
Cloudy		1					1
Rain				1			1
Severe Crosswinds							0
Unkown		1					1
Total	1	8	5	4	3	0	21

North Frontage Road, Ave 11E – Ave 13E (Foothills Blvd)

ACCIDENT MANNER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Angle							0
Headon							0
Leftturn	1	1	1	1			4
Other							0
Rear End	1	4	1	1			7
Rear to Side							0
Sideswipe Opposite Direction			1				1
Sideswipe Same Direction		1				1	2
Single Vehicle		3	2	2			7
Total	2	9	5	4	0	1	21
ACCIDENT SEVERITY							
ACCIDENT SEVERITY	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
No Injury	2	6	3	3		1	15
Incapacitating Injury		1	2	1			4
Non_Incapacitating Injury		1					1
Possible Injury		1					1
Total	2	9	5	4	0	1	21
ACCIDENT LIGHTING							
ACCIDENT LIGHTING	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Dark_Lighted						1	1
Dark_Not Lighted							0
Dark_Unknown Lighting		2	2	1			5
Dawn							0
Daylight	2	7	3	3			15
Dusk							0
Not Reported							0
Total	2	9	5	4	0	1	21
ACCIDENT WEATHER							
ACCIDENT WEATHER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Blowing Sand Soil Dirt							0
Clear	2	9	3	4		1	19
Cloudy			2				2
Rain							0
Severe Crosswinds							0
Unkown							0
Total	2	9	5	4	0	1	21

North Frontage Road, Ave 13E – Ave 15E

ACCIDENT MANNER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Angle		1			1	1	3
Headon							0
Leftturn							0
Other			1				1
Rear End							0
Rear to Side							0
Sideswipe Opposite Direction							0
Sideswipe Same Direction							0
Single Vehicle	1		1	2		2	6
Total	1	1	2	2	1	3	10

ACCIDENT SEVERITY	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
No Injury	1	1	1	1	1	2	7
Incapacitating Injury				1		1	2
Non_Incapacitating Injury							0
Possible Injury			1				1
Total	1	1	2	2	1	3	10

ACCIDENT LIGHTING	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Dark_Lighted							0
Dark_Not Lighted							0
Dark_Unknown Lighting	1			2			3
Dawn			1				1
Daylight		1	1		1	2	5
Dusk						1	1
Not Reported							0
Total	1	1	2	2	1	3	10

ACCIDENT WEATHER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Blowing Sand Soil Dirt							0
Clear	1	1	2	2	1	3	10
Cloudy							0
Rain							0
Severe Crosswinds							0
Unkown							0
Total	1	1	2	2	1	3	10

South Frontage Road, Ave 10E – Ave 11E (Fortuna Road)

ACCIDENT MANNER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Angle		6	5	4	2	1	18
Headon		1				1	2
Leftturn	2	8		2			12
Other			1				1
Rear End	3	6	2	5		1	17
Rear to Side		1					1
Sideswipe Opposite Direction				1			1
Sideswipe Same Direction				2	1	1	4
Single Vehicle		3	4	1	6	1	15
Total	5	25	12	15	9	5	71
ACCIDENT SEVERITY	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
No Injury	3	21	7	11	7	3	52
Incapacitating Injury		1	1	1		1	4
Non_Incapacitating Injury	1		2	1	2		6
Possible Injury	1	3	1	2		1	8
Fatal			1				1
Total	5	25	12	15	9	5	71
ACCIDENT LIGHTING	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Dark_Lighted					1	2	3
Dark_Not Lighted					1		1
Dark_Unknown Lighting		3	4	1			8
Dawn							0
Daylight	5	21	8	14	6	3	57
Dusk					1		1
Not Reported		1					1
Total	5	25	12	15	9	5	71
ACCIDENT WEATHER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Blowing Sand Soil Dirt							0
Clear	5	23	11	15	8	5	67
Cloudy		1	1		1		3
Rain		1					1
Severe Crosswinds							0
Unkown							0
Total	5	25	12	15	9	5	71

South Frontage Road, Ave 11E – Ave 13E (Foothills Blvd)

ACCIDENT MANNER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Angle	1	4	1	1			7
Headon	1						1
Leftturn		1	1	1			3
Other							0
Rear End	2	1		3	1	1	8
Rear to Side							0
Sideswipe Opposite Direction							0
Sideswipe Same Direction				1		1	2
Single Vehicle	1		2	2		1	6
Total	5	6	4	8	1	3	27
ACCIDENT SEVERITY	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
No Injury	4	6	3	7	1	3	24
Incapacitating Injury							0
Non_Incapacitating Injury				1			1
Possible Injury	1		1				2
Fatal							
Total	5	6	4	8	1	3	27
ACCIDENT LIGHTING	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Dark_Lighted							0
Dark_Not Lighted							0
Dark_Unknown Lighting	1		3	2			6
Dawn				1			1
Daylight	4	6	1	5	1	3	20
Dusk							0
Not Reported							0
Total	5	6	4	8	1	3	27
ACCIDENT WEATHER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Blowing Sand Soil Dirt		1					1
Clear	2	3	4	8	1	3	21
Cloudy	2	2					4
Rain							0
Severe Crosswinds							0
Unkown	1						1
Total	5	6	4	8	1	3	27

South Frontage Road, Ave 13E – Ave 15E

ACCIDENT MANNER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Angle		1					1
Headon							0
Leftturn	1						1
Other							0
Rear End						1	1
Rear to Side							0
Sideswipe Opposite Direction							0
Sideswipe Same Direction							0
Single Vehicle		1					1
Total	1	2	0	0	0	1	4
ACCIDENT SEVERITY	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
No Injury		1				1	2
Incapacitating Injury							0
Non_Incapacitating Injury	1	1					2
Possible Injury							0
Fatal							
Total	1	2	0	0	0	1	4
ACCIDENT LIGHTING	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Dark_Lighted							0
Dark_Not Lighted							0
Dark_Unknown Lighting		1					1
Dawn							0
Daylight	1	1				1	3
Dusk							0
Not Reported							0
Total	1	2	0	0	0	1	4
ACCIDENT WEATHER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Blowing Sand Soil Dirt							0
Clear	1	2				1	4
Cloudy							0
Rain							0
Severe Crosswinds							0
Unkown							0
Total	1	2	0	0	0	1	4

Fortuna Road, south of South Frontage Road							
ACCIDENT MANNER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Angle		2	5	1		1	9
Headon							0
Leftturn		1	1	1		1	4
Other		1					1
Rear End	1	5	3	2		1	12
Rear to Side							0
Sideswipe Opposite Direction							0
Sideswipe Same Direction		2	1		2	1	6
Single Vehicle							0
Total	1	11	10	4	2	4	32
ACCIDENT SEVERITY	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
No Injury	1	9	9	3	2	4	28
Incapacitating Injury		1					1
Non_Incapacitating Injury							0
Possible Injury		1	1	1			3
Fatal							0
Total	1	11	10	4	2	4	32
ACCIDENT LIGHTING	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Dark_Lighted							0
Dark_Not Lighted							0
Dark_Unknown Lighting	1	4	1				6
Dawn		1					1
Daylight		6	9	4	2	4	25
Dusk							0
Not Reported							0
Total	1	11	10	4	2	4	32
ACCIDENT WEATHER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Blowing Sand Soil Dirt							0
Clear	1	10	9	4	2	4	30
Cloudy		1	1				2
Rain							0
Severe Crosswinds							0
Unkown							0
Total	1	11	10	4	2	4	32

Fortuna Road, between North and South Frontage Roads

ACCIDENT MANNER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Angle	1	4	6	1	4	5	21
Headon					2		2
Leftturn	6	10	4	7	5	1	33
Other		1	1		1		3
Rear End	4	7	4	7	14	7	43
Rear to Side	1	2		2			5
Sideswipe Opposite Direction							0
Sideswipe Same Direction	3	4	4		5	2	18
Single Vehicle	1	1	2		1	1	6
Total	16	29	21	17	32	16	131
ACCIDENT SEVERITY	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
No Injury	14	22	16	13	25	11	101
Incapacitating Injury		1					1
Non_Incapacitating Injury	1	4	2	1	6	3	17
Possible Injury	1	2	3	3	1	2	12
Fatal							0
Total	16	29	21	17	32	16	131
ACCIDENT LIGHTING	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Dark_Lighted					5	2	7
Dark_Not Lighted					1		1
Dark_Unknown Lighting	2	7	6	3			18
Dawn		1			1		2
Daylight	14	20	15	14	22	13	98
Dusk					3	1	4
Not Reported		1					1
Total	16	29	21	17	32	16	131
ACCIDENT WEATHER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Blowing Sand Soil Dirt					1		1
Clear	16	26	19	16	30	15	122
Cloudy		2	2	1		1	6
Rain							0
Severe Crosswinds					1		1
Unkown		1					1
Total	16	29	21	17	32	16	131

Fortuna Road, north of North Frontage Road

ACCIDENT MANNER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Angle		2	2	2		2	8
Headon							0
Leftturn		1					1
Other							0
Rear End	1		2	2	1	1	7
Rear to Side							0
Sideswipe Opposite Direction							0
Sideswipe Same Direction				1	1		2
Single Vehicle	1	1			1		3
Total	2	4	4	5	3	3	21
ACCIDENT SEVERITY	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
No Injury	2	3	4	3	2	1	15
Incapacitating Injury							0
Non_Incapacitating Injury					1	2	3
Possible Injury		1		2			3
Fatal							0
Total	2	4	4	5	3	3	21
ACCIDENT LIGHTING	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Dark_Lighted							0
Dark_Not Lighted							0
Dark_Unknown Lighting	1						1
Dawn							0
Daylight	1	4	4	5	3	3	20
Dusk							0
Not Reported							0
Total	2	4	4	5	3	3	21
ACCIDENT WEATHER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Blowing Sand Soil Dirt							0
Clear	2	4	4	5	3	3	21
Cloudy							0
Rain							0
Severe Crosswinds							0
Unkown							0
Total	2	4	4	5	3	3	21

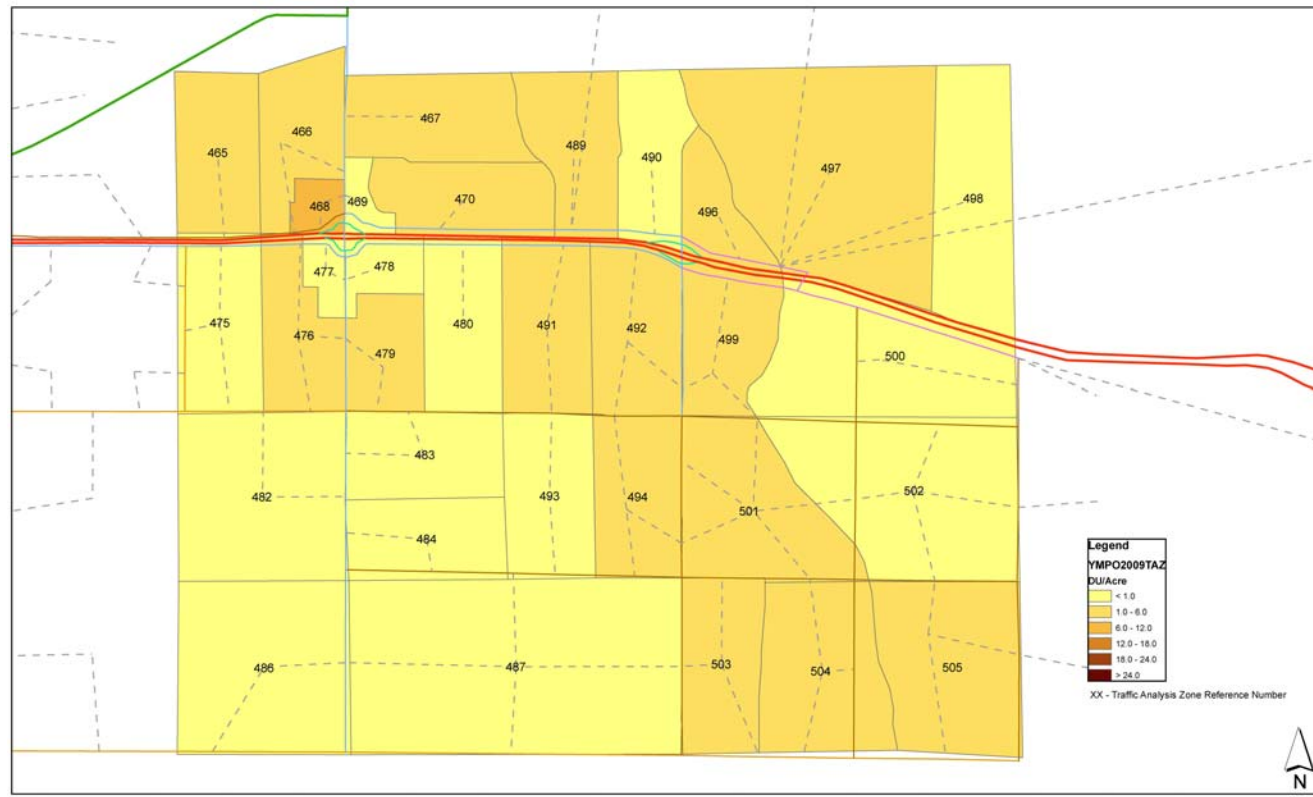
Foothills Blvd, south of South Frontage Road							
ACCIDENT MANNER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Angle		1	2	1			4
Headon				1			1
Leftturn			1	1		1	3
Other					1		1
Rear End						1	1
Rear to Side							0
Sideswipe Opposite Direction							0
Sideswipe Same Direction		1		1		1	3
Single Vehicle	1		1				2
Total	1	2	4	4	1	3	15
ACCIDENT SEVERITY	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
No Injury	1	2	4	3	1	2	13
Incapacitating Injury							0
Non_Incapacitating Injury				1		1	2
Possible Injury							0
Fatal							0
Total	1	2	4	4	1	3	15
ACCIDENT LIGHTING	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Dark_Lighted							0
Dark_Not Lighted							0
Dark_Unknown Lighting	1		1				2
Dawn			1		1		2
Daylight		2	2	4		3	11
Dusk							0
Not Reported							0
Total	1	2	4	4	1	3	15
ACCIDENT WEATHER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Blowing Sand Soil Dirt				1			1
Clear	1	2	4	3	1	3	14
Cloudy							0
Rain							0
Severe Crosswinds							0
Unkown							0
Total	1	2	4	4	1	3	15

Foothills Blvd, between North and South Frontage Roads							
ACCIDENT MANNER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Angle	1		3	4		2	10
Headon							0
Leftturn		2	1	1			4
Other							0
Rear End	1	3		1	1		6
Rear to Side		1					1
Sideswipe Opposite Direction							0
Sideswipe Same Direction				2	1		3
Single Vehicle							0
Total	2	6	4	8	2	2	24
ACCIDENT SEVERITY	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
No Injury	1	2	2	6	2		13
Incapacitating Injury						1	1
Non_Incapacitating Injury	1	2	1	1			5
Possible Injury		2	1	1		1	5
Fatal							0
Total	2	6	4	8	2	2	24
ACCIDENT LIGHTING	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Dark_Lighted							0
Dark_Not Lighted							0
Dark_Unknown Lighting			2				2
Dawn							0
Daylight	2	6	2	8	2	2	22
Dusk							0
Not Reported							0
Total	2	6	4	8	2	2	24
ACCIDENT WEATHER	YEAR 2005	YEAR 2006	YEAR 2007	YEAR 2008	YEAR 2009	YEAR 2010	TOTAL
Blowing Sand Soil Dirt							0
Clear	2	5	4	8	1	2	22
Cloudy		1			1		2
Rain							0
Severe Crosswinds							0
Unkown							0
Total	2	6	4	8	2	2	24

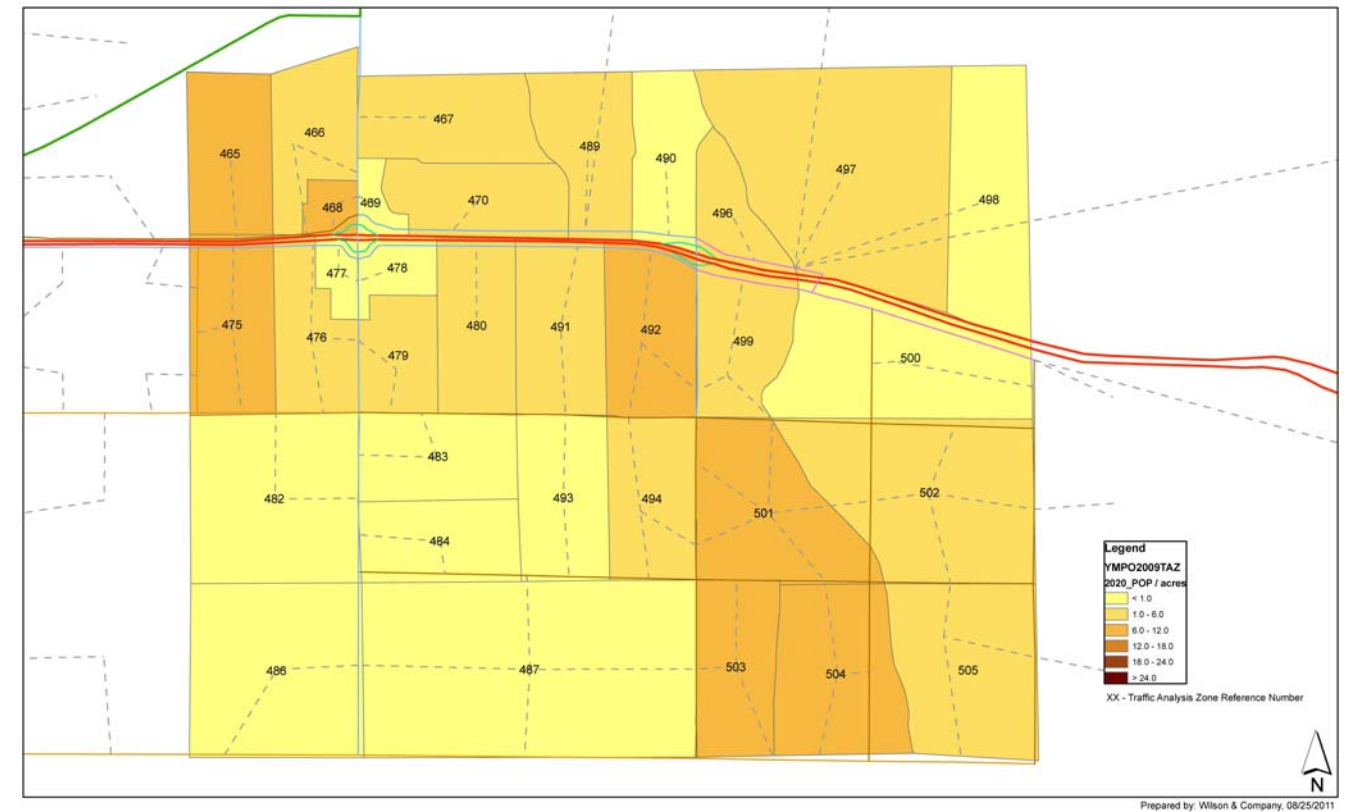
Appendix C

Projected Future Growth Patterns

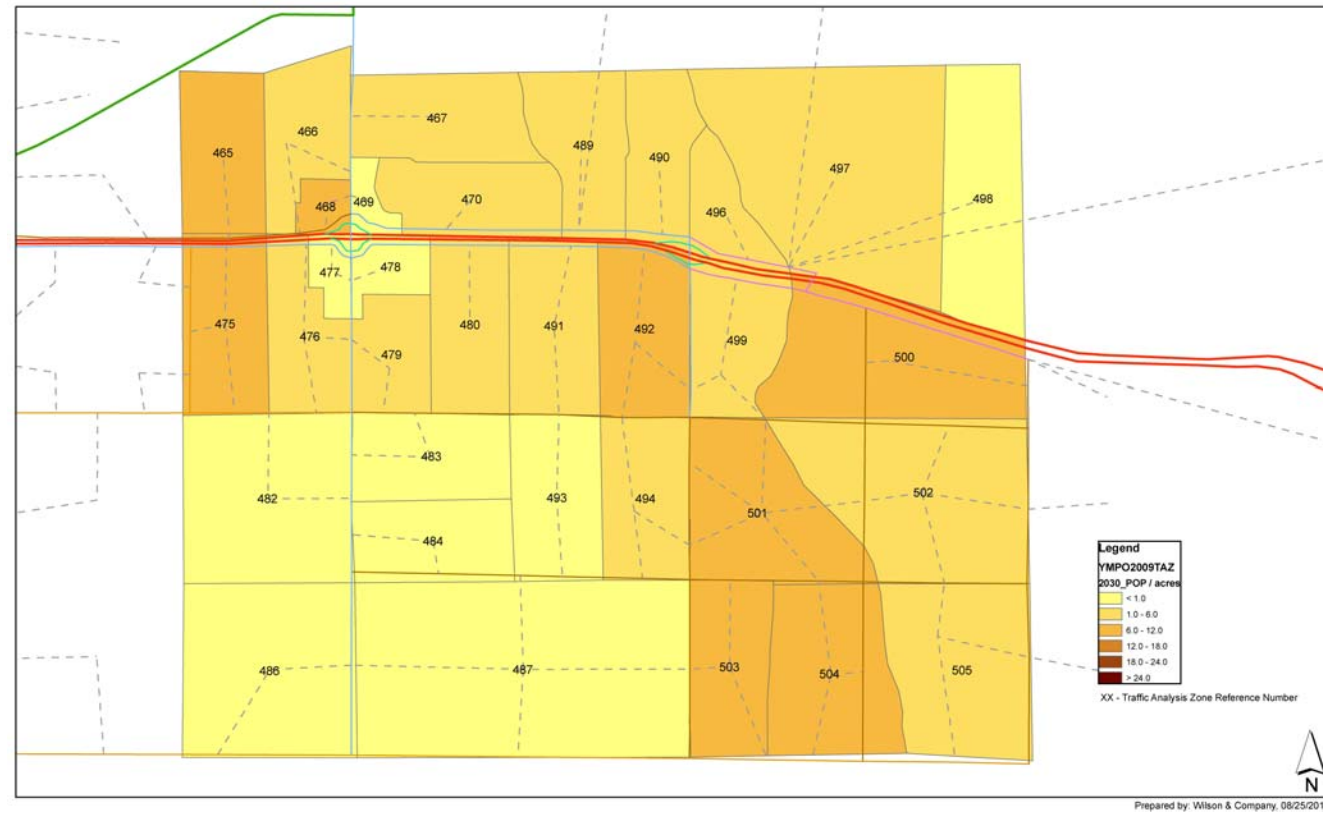
Year 2009 Dwelling Unit Density
Yuma Travel Demand Model



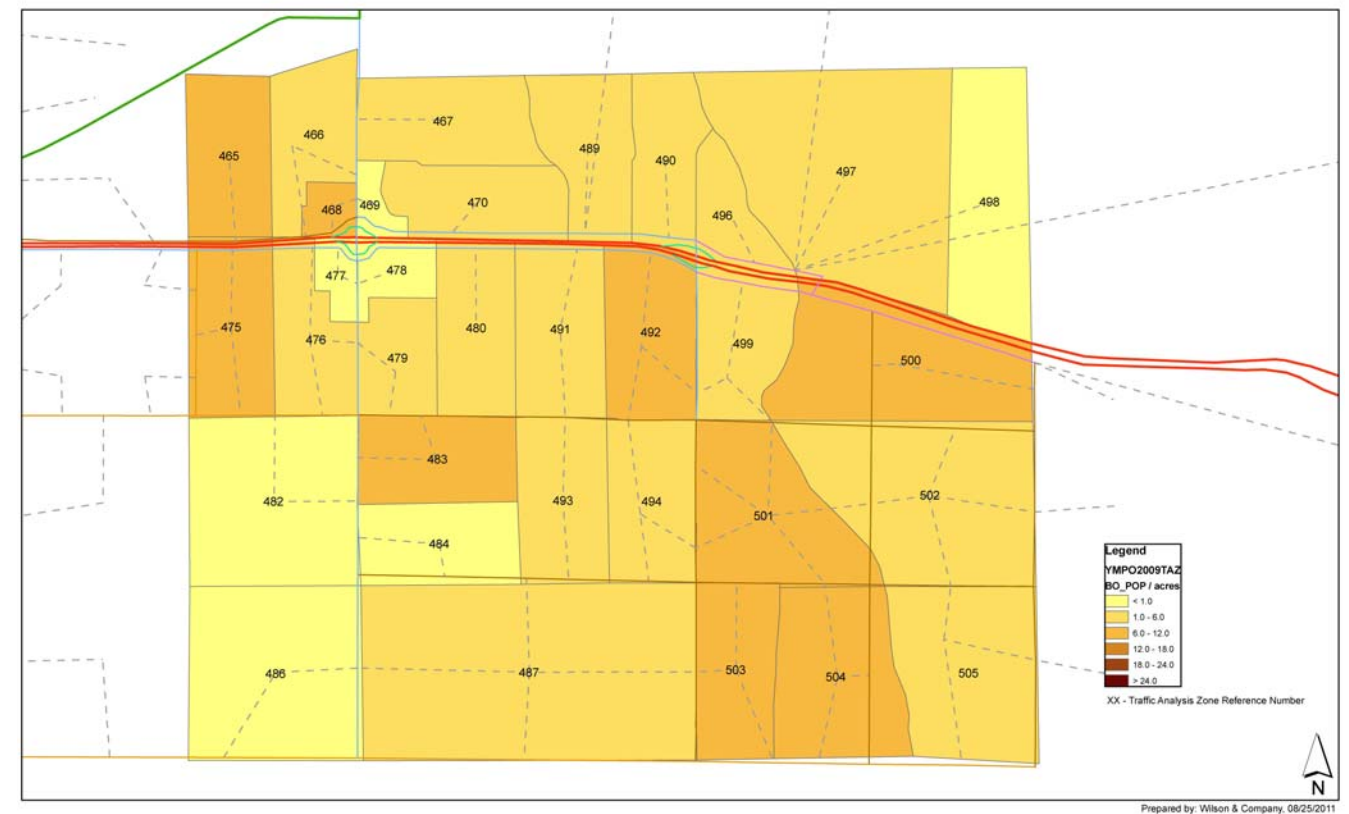
Year 2020 Dwelling Unit Density
Yuma Travel Demand Model



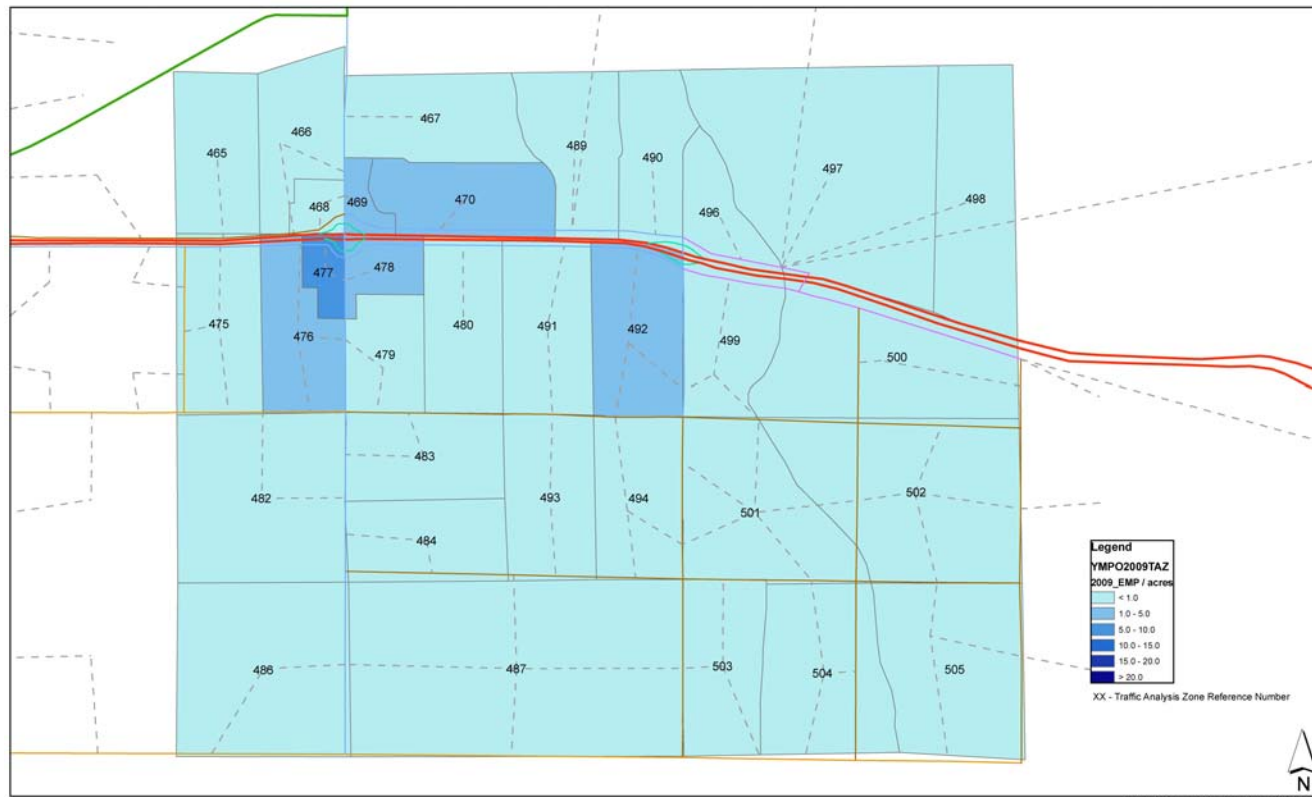
Year 2030 Dwelling Unit Density
Yuma Travel Demand Model



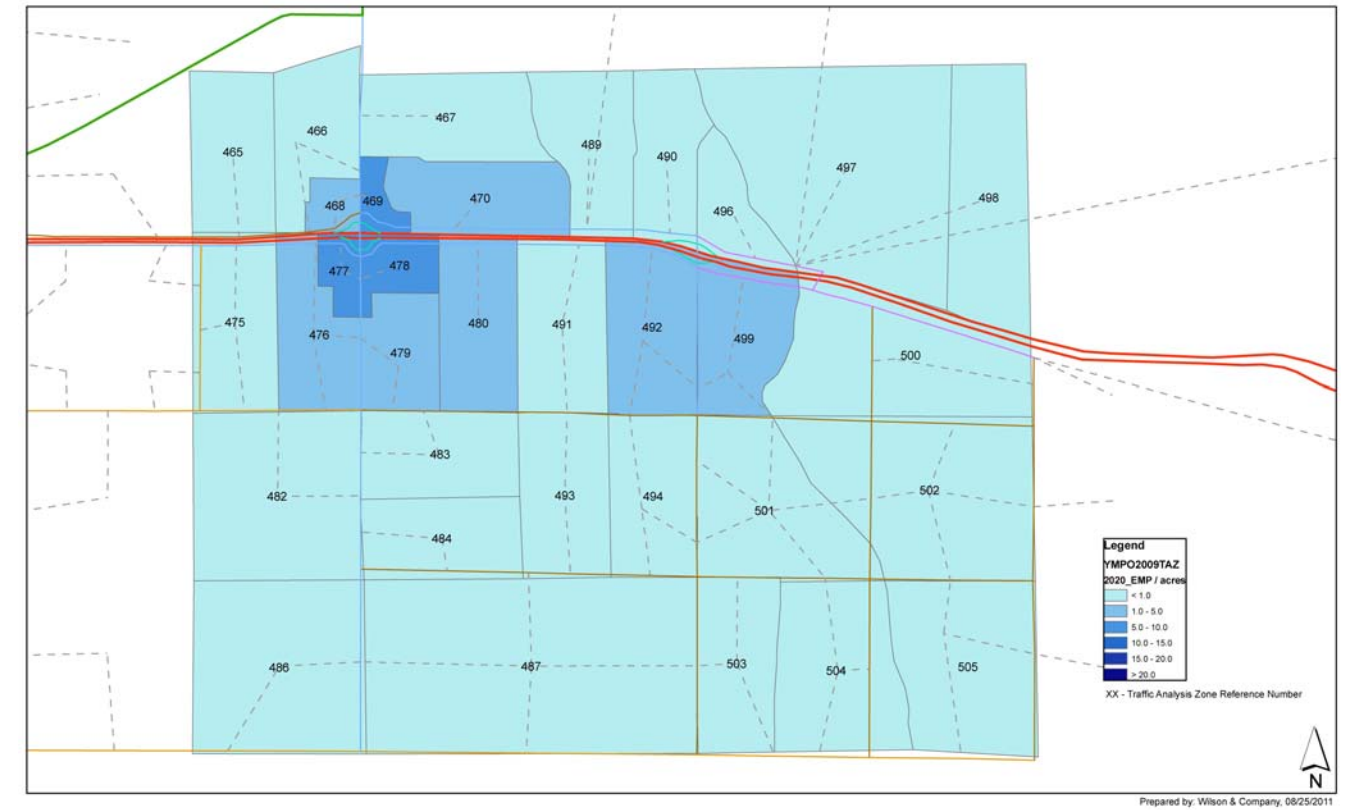
Buildout Dwelling Unit Density
Yuma Travel Demand Model



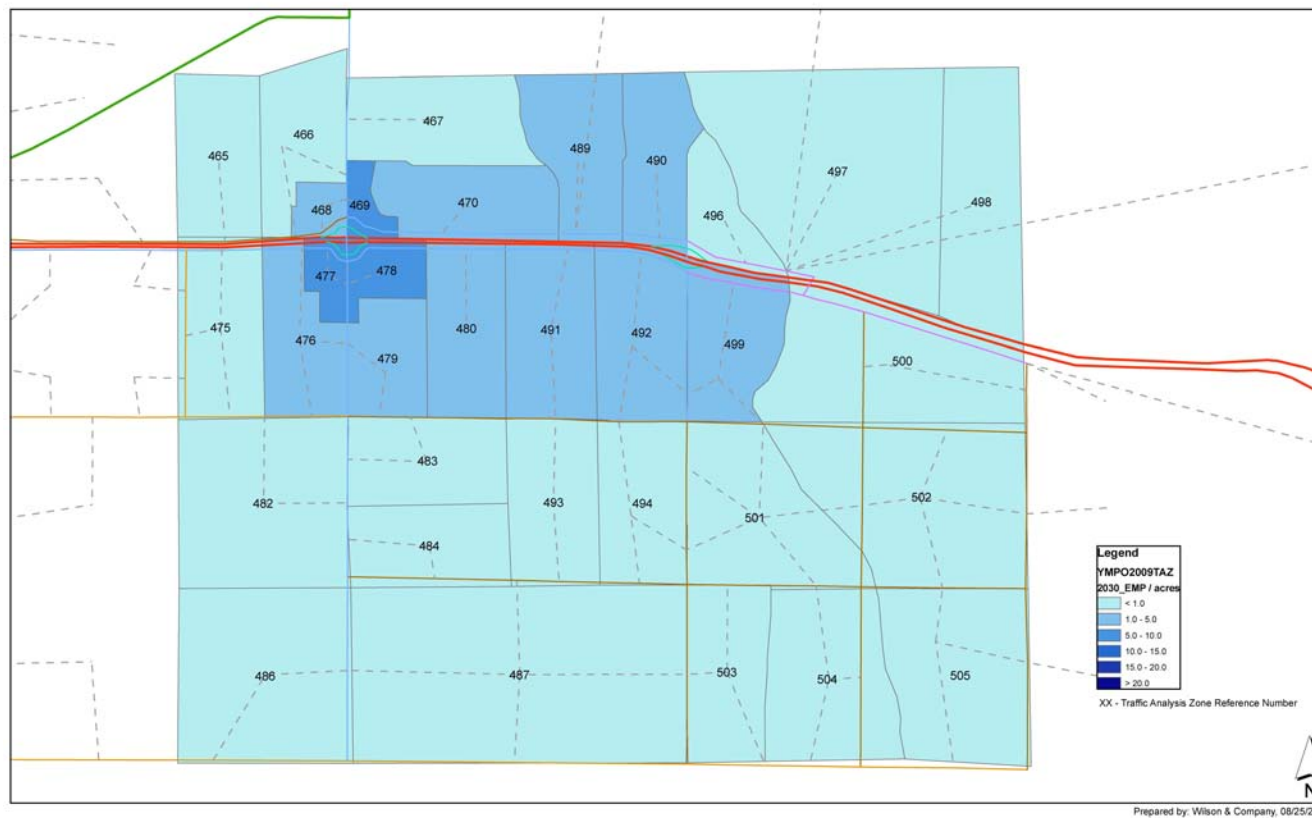
Year 2009 Employment Density
Yuma Travel Demand Model



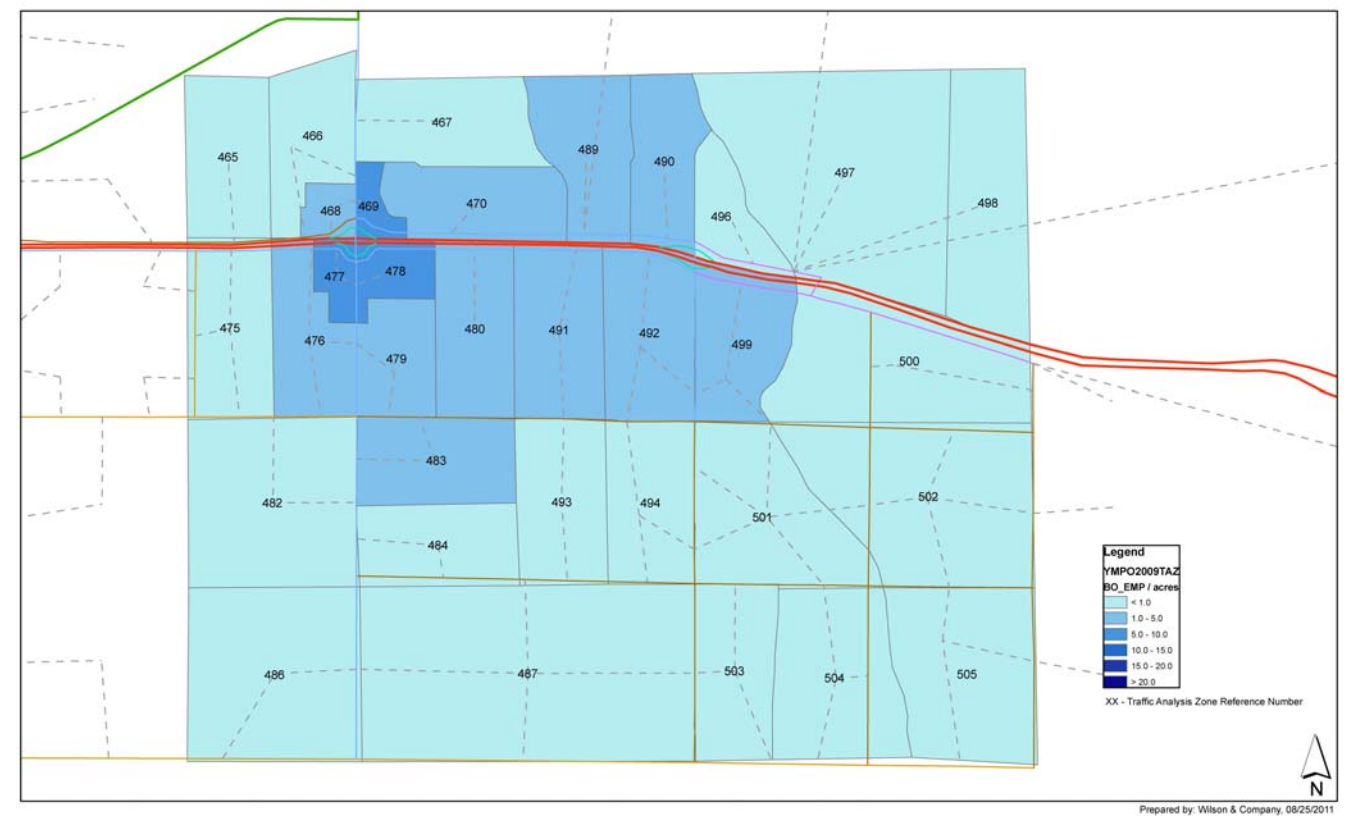
Year 2020 Employment Density
Yuma Travel Demand Model



Year 2030 Employment Density
Yuma Travel Demand Model



Buildout Employment Density
Yuma Travel Demand Model



Appendix D

Year 2030 and Buildout Intersection Level of Service with Recommended Improvements

Peak-Hour Intersection Performance Analysis: Year 2030 Recommended Improvements
 Transportation Needs for the Foothills and Mesa Del Sol Areas, Yuma County, AZ

ID	Intersection Name	Operations Metric	AM (PM)											
			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
1	Fortuna Rd & North Frontage Rd (Signal)	Volume (vph)	297 (163)	589 (669)	83 (127)	54 (538)	528 (1228)	438 (603)	208 (556)	151 (105)	360 (157)	220 (116)	227 (85)	142 (170)
		v/c Ratio	0.933 (0.901)	0.414 (0.96)	0.13 (0.407)	0.157 (1.125)	0.521 (1.002)	0.926 (1.054)	0.756 (1.256)	0 (0)	0.901 (0.291)	0.485 (0.371)	0 (0)	0.826 (0.971)
		Movement Delay (s)	51.3 (78.1)	27.7 (97.2)	24 (64.9)	29.5 (140.9)	39.3 (83.1)	66.8 (108.9)	38.8 (194.4)	41.4 (40.3)	57.7 (42.5)	31.7 (63.1)	0 (0)	53.2 (123)
		Movement LOS	D (E)	C (F)	C (E)	C (F)	D (F)	E (F)	D (F)	D (D)	E (D)	C (E)	-	D (F)
		Approach Delay (s)	34.6 (89.7)			50.6 (102.8)			48.8 (145.5)			45.1 (104.3)		
		Approach LOS	C (F)			D (F)			D (F)			D (F)		
		Intersection Delay (s)	44.5 (107.9)											
		Intersection LOS	D (F)											
2	Fortuna Rd & I-8 Westbound (Signal)	Volume (vph)	395 (357)	816 (603)	0 (0)	0 (0)	667 (874)	323 (299)	0 (0)	0 (0)	0 (0)	134 (192)	25 (0)	277 (313)
		v/c Ratio	0.866 (0.855)	0.515 (0.378)	0 (0)	0 (0)	0.536 (0.699)	0.833 (0.768)	0 (0)	0 (0)	0 (0)	2.531 (2.499)	0.034 (0)	0.446 (0.561)
		Movement Delay (s)	29.2 (24.8)	22.1 (13.8)	0 (0)	0 (0)	39.4 (28.7)	47.1 (30.2)	0 (0)	0 (0)	0 (0)	800.1 (751.8)	20.9 (0)	25.6 (21.6)
		Movement LOS	C (C)	C (B)	-	-	D (C)	D (C)	-	-	-	F (F)	C -	C (C)
		Approach Delay (s)	24.4 (17.9)			41.9 (29.1)			-			263.4 (299.2)		
		Approach LOS	C (B)			D (C)			-			F (F)		
		Intersection Delay (s)	70.5 (76.7)											
		Intersection LOS	E (E)											
3	Fortuna Rd & I-8 Eastbound (Signal)	Volume (vph)	0 (0)	1143 (771)	277 (216)	142 (157)	567 (929)	0 (0)	236 (220)	14 (4)	418 (501)	0 (0)	0 (0)	0 (0)
		v/c Ratio	0 (0)	0.704 (0.555)	0.548 (0.499)	0.445 (0.44)	0.343 (0.625)	0 (0)	0 (0)	0 (0)	0.889 (0.912)	0 (0)	0 (0)	0 (0)
		Movement Delay (s)	0 (0)	18.8 (20)	17.7 (19.8)	13.1 (13.8)	9.7 (14.1)	0 (0)	17.9 (15.2)	15.2 (13.1)	23.4 (23)	0 (0)	0 (0)	0 (0)
		Movement LOS	-	B (C)	B (B)	B (B)	A (B)	-	B (B)	B (B)	C (C)	-	-	-
		Approach Delay (s)	18.6 (20)			10.4 (14)			21.3 (20.6)			-		
		Approach LOS	B (B)			B (B)			C (C)			-		
		Intersection Delay (s)	17.2 (17.8)											
		Intersection LOS	B (B)											
4	Fortuna Rd & E. South Frontage Rd (Signal)	Volume (vph)	58 (95)	896 (692)	21 (105)	196 (139)	713 (1199)	113 (264)	216 (193)	89 (138)	83 (106)	40 (146)	113 (83)	276 (146)
		v/c Ratio	0.202 (0.383)	0.679 (0.381)	0.679 (0.385)	0.605 (0.348)	0.691 (0.825)	0.245 (0.406)	0.446 (0.507)	0 (0)	0.204 (0.467)	0.086 (0.443)	0.292 (0.366)	0.839 (0.758)
		Movement Delay (s)	16.6 (16.6)	23.1 (16)	23.4 (16.1)	16.3 (11.4)	21.6 (21.1)	18.1 (16.1)	14.7 (25.9)	19.6 (33.6)	19.7 (33.3)	18.4 (28.2)	23 (34.1)	28.4 (37.8)
		Movement LOS	B (B)	C (B)	C (B)	B (B)	C (C)	B (B)	B (C)	B (C)	B (C)	B (C)	C (C)	C (D)
		Approach Delay (s)	22.8 (16.1)			20.2 (19.4)			16.9 (30.1)			26.1 (33.2)		
		Approach LOS	C (B)			C (B)			B (C)			C (C)		
		Intersection Delay (s)	21.5 (21.5)											
		Intersection LOS	C (C)											
5	Fortuna Rd & 35th Place (Signal)	Volume (vph)	33 (24)	737 (637)	56 (48)	69 (163)	535 (831)	53 (200)	122 (152)	24 (17)	45 (21)	88 (19)	29 (8)	121 (139)
		v/c Ratio	0.073 (0.082)	0.533 (0.43)	0.533 (0.431)	0.171 (0.359)	0.37 (0.597)	0.372 (0.598)	0 (0)	0 (0)	0.122 (0.055)	0.21 (0.046)	0 (0)	0.395 (0.382)
		Movement Delay (s)	8.2 (10.5)	12.9 (13.7)	12.9 (13.7)	7.9 (8.3)	10.5 (13.2)	10.5 (13.2)	24 (30.8)	17.1 (20.9)	17.4 (21)	18.8 (21.4)	0 (0)	19.3 (23.5)
		Movement LOS	A (B)	B (B)	B (B)	A (A)	B (B)	B (B)	C (C)	B (C)	B (C)	B (C)	-	B (C)
		Approach Delay (s)	12.7 (13.6)			10.2 (12.6)			21.6 (28.8)			19.1 (23.3)		
		Approach LOS	B (B)			B (B)			C (C)			B (C)		
		Intersection Delay (s)	13.5 (15)											
		Intersection LOS	B (B)											
6	Fortuna Rd & 40th Street (Signal)	Volume (vph)	41 (64)	224 (290)	27 (68)	388 (643)	199 (103)	107 (102)	70 (60)	134 (232)	127 (63)	27 (67)	146 (101)	543 (352)
		v/c Ratio	0.901 (1.249)	0 (0)	0 (0)	2.296 (2.819)	0 (0)	0.151 (0.132)	0 (0)	0 (0)	0.246 (0.311)	0.07 (0.21)	0.241 (0.202)	1.053 (0.829)
		Movement Delay (s)	45.9 (153)	0 (0)	0 (0)	617.8 (849.2)	0 (0)	10 (7.5)	18.8 (18.9)	16 (17.4)	16.2 (17.5)	18.2 (20.6)	16.2 (16.9)	75.4 (25.1)
		Movement LOS	D (F)	-	-	F (F)	-	B (A)	B (B)	B (B)	B (B)	B (C)	B (B)	F (C)
		Approach Delay (s)	45.9 (153)			524.1 (748)			16.7 (17.7)			61.2 (22.9)		
		Approach LOS	D (F)			F (F)			B (B)			E (C)		
		Intersection Delay (s)	209.8 (334.3)											
		Intersection LOS	F (F)											
7	Foothills Blvd & E. North Frontage Rd (Signal)	Volume (vph)	227 (242)	295 (357)	51 (138)	105 (59)	206 (168)	190 (41)	58 (200)	26 (37)	348 (320)	200 (114)	58 (32)	88 (116)
		v/c Ratio	0.58 (0.604)	0.426 (0.646)	0.087 (0.431)	0.271 (0.245)	0.297 (0.192)	0.323 (0.199)	0 (0)	0 (0)	0.697 (0.537)	1.733 (1.047)	0 (0)	0.258 (0.219)
		Movement Delay (s)	18.6 (21.2)	12.4 (18.1)	10.6 (15.5)	16.8 (24)	11.7 (14.9)	11.8 (15)	29.9 (437.6)	0 (0)	17.4 (11.1)	389.6 (126.2)	0 (0)	11.6 (8.8)
		Movement LOS	B (C)	B (B)	B (B)	B (C)	B (B)	B (B)	C (F)	-	B (B)	F (F)	-	B (A)
		Approach Delay (s)	14.7 (18.6)			12.8 (16.9)			19 (164.2)			230.1 (59.9)		
		Approach LOS	B (B)			B (B)			B (F)			F (E)		
		Intersection Delay (s)	55.4 (68.8)											
		Intersection LOS	E (E)											
8	Foothills Blvd & I-8 Westbound (Signal)	Volume (vph)	905 (779)	435 (431)	0 (0)	0 (0)	347 (475)	395 (281)	0 (0)	0 (0)	0 (0)	95 (103)	31 (152)	163 (152)
		v/c Ratio	0.937 (0.921)	0.201 (0.235)	0 (0)	0 (0)	0.353 (0.624)	0.898 (0.825)	0 (0)	0 (0)	0 (0)	1.468 (1.471)	0 (0)	0.636 (0.669)
		Movement Delay (s)	40.1 (37)	6.6 (10.4)	0 (0)	0 (0)	28 (32.8)	42.6 (36.2)	0 (0)	0 (0)	0 (0)	323.7 (317.2)	0 (0)	39 (30.8)
		Movement LOS	D (D)	A (B)	-	-	C (C)	D (D)	-	-	-	F (F)	-	D (C)
		Approach Delay (s)	29.2 (27.5)			35.7 (34)			-			132.6 (103.3)		
		Approach LOS	C (C)			D (C)			-			F (F)		
		Intersection Delay (s)	43.9 (42.6)											
		Intersection LOS	D (D)											
9	Foothills Blvd & I-8 Eastbound (Signal)	Volume (vph)	0 (0)	1282 (862)	347 (199)	100 (89)	128 (548)	0 (0)	241 (215)	0 (0)	822 (1006)	0 (0)	0 (0)	0 (0)
		v/c Ratio	0 (0)	0.538 (0.52)	0.54 (0.523)	0.603 (0.48)	0.061 (0.387)	0 (0)	0 (0)	0 (0)	2.153 (1.519)	0 (0)	0 (0)	0 (0)
		Movement Delay (s)	0 (0)	12 (21.1)	12.1 (21.2)	32.2 (34.6)	8.1 (19.6)	0 (0)	1726.8 (1120.4)	0 (0)	573.6 (268.4)	0 (0)	0 (0)	0 (0)
		Movement LOS	-	B (C)	B (C)	C (C)	A (B)	-	F (F)	-	F (F)	-	-	-
		Approach Delay (s)	12.1 (21.1)			18.7 (21.6)			835.1 (418.4)			-		
		Approach LOS	B (C)			B (C)			F (F)			-		
		Intersection Delay (s)	312.2 (187.4)											
		Intersection LOS	F (F)											
10	Foothills Blvd & E. South Frontage Rd / E. South Frontage Rd (Signal)	Volume (vph)	43 (49)	867 (534)	12 (21)	113 (313)	411 (949)	308 (207)	338 (331)	22 (51)	43 (76)	23 (23)	31 (39)	417 (167)
		v/c Ratio	0.159 (0.338)	0.548 (0.297)	0.548 (0.297)	0.485 (0.789)	0.511 (0.632)	0.451 (0.636)	0 (0)	0 (0)	0.117 (0.248)	0.459 (0.442)	0 (0)	0.805 (0.416)
		Movement Delay (s)	22 (35)	16.1 (15.5)	16.1 (15.5)	27.6 (36.1)	15.7 (20.1)	15.1 (20.1)	1539.6 (2511.7)	0 (0)	16 (28.4)	22.6 (65.6)	0 (0)	30 (30.6)
		Movement LOS	C (D)	B (B)	B (B)	C (D)	B (C)	B (C)	F (F)	-	B (C)	C (E)	-	C (C)
		Approach Delay (s)	16.3 (17.1)			17.1 (23.5)			1293.9 (1823.1)			29.3 (34.1)		
		Approach LOS	B (B)			B (C)			F (F)			C (C)		
		Intersection Delay (s)	214.8 (321.6)											
		Intersection LOS	F (F)											
11	Foothills Blvd & 38th Street (Signal)	Volume (vph)	154 (112)	945 (488)	182 (239)	15 (46)	315 (781)	14 (39)	29 (26)	6 (11)	122 (161)	158 (102)	9 (8)	26 (11)
		v/c Ratio	0.297 (0.338)	0.682 (0.473)	0.684 (0.475)	0.062 (0.127)	0.231 (0.554)	0.233 (0.554)	0 (0)	0 (0)	0.486 (0.694)	0.441 (0.296)	0.03 (0.029)	0.104 (0.047)
		Movement Delay (s)	8.6 (9.8)	9.5 (8.2)	9.5 (8.2)	15.5 (12.3)	9 (9.7)	9 (9.7)	16.8 (16.5)	16.3 (16.1)	18.2 (19.3)	18.9 (17.7)	16.3 (16.1)	16.6 (16.1)
		Movement LOS	A (A)	A (A)	A (A)	B (B)	A (A)	A (A)	B (B)	B (B)	B (B)	B (B)	B (B)	B (B)
		Approach Delay (s)	9.4 (8.4)			9.3 (9.8)			17.9 (18.7)			18.5 (17.5)		
		Approach LOS	A (A)			A (A)			B (B)			B (B)		
		Intersection Delay (s)	10.9 (10.6)											
		Intersection LOS	B (B)											

Peak-Hour Intersection Performance Analysis: Year 2030 Recommended Improvements
 Transportation Needs for the Foothills and Mesa Del Sol Areas, Yuma County, AZ

ID	Intersection Name	Operations Metric	AM (PM)											
			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
12	Foothills Blvd & 40th Street (Signal)	Volume (vph)	280 (161)	764 (413)	22 (4)	66 (173)	372 (654)	215 (223)	222 (267)	253 (284)	167 (368)	8 (13)	350 (180)	267 (168)
		v/c Ratio	0.961 (0.719)	0.747 (0.397)	0.747 (0.397)	0.409 (0.455)	1.131 (0.858)	0.769 (0.858)	0 (0)	0 (0)	0.478 (0.875)	0.021 (0.104)	0 (0)	0.707 (0.461)
		Movement Delay (s)	83.5 (34.3)	47.5 (33)	47.5 (33)	44.3 (25.3)	143.4 (46.5)	62.9 (47.1)	97.3 (42.6)	0 (0)	19.1 (36.4)	26 (49.3)	0 (0)	25 (21.1)
		Movement LOS	F (C)	D (C)	D (C)	D (C)	F (D)	E (D)	F (D)	-	B (D)	C (D)	-	C (C)
		Approach Delay (s)	-	57 (33.3)	-	-	106.9 (43.3)	-	-	46.2 (38.2)	-	-	25 (22.1)	-
		Approach LOS	-	E (C)	-	-	F (D)	-	-	D (D)	-	-	C (C)	-
		Intersection Delay (s)	-	-	-	-	-	-	-	58.9 (37.1)	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	E (D)	-	-	-	-
13	S. Ave 10 E & E. South Frontage Rd (Stop)	Volume (vph)	299 (149)	0 (0)	10 (24)	0 (0)	0 (0)	0 (0)	0 (0)	378 (451)	222 (375)	55 (29)	354 (332)	0 (0)
		v/c Ratio	1.37 (0.8)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.38 (0.53)	0 (0)	0 (0)	0.06 (0.04)	0 (0)
		Movement Delay (s)	230.8 (61.4)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1.9 (1.3)	0 (0)
		Movement LOS	F (F)	-	-	-	-	-	-	-	-	-	A (A)	-
		Approach Delay (s)	-	230.8 (61.4)	-	-	-	-	-	-	-	-	1.9 (1.3)	-
		Approach LOS	-	F (F)	-	-	-	-	-	-	-	-	A (A)	-
		Intersection Delay (s)	-	-	-	-	-	-	-	54.7 (8.2)	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	F (A)	-	-	-	-
14	Fortuna Rd & E. 28th Street (Stop)	Volume (vph)	0 (0)	846 (538)	51 (473)	53 (70)	701 (1554)	0 (0)	0 (0)	0 (0)	0 (0)	250 (167)	0 (0)	407 (15)
		v/c Ratio	0 (0)	0.28 (0.32)	0 (0)	0.08 (0.12)	0.22 (0.5)	0 (0)	0 (0)	0 (0)	0 (0)	1.76 (0.84)	0 (0)	0 (0)
		Movement Delay (s)	0 (0)	0 (0)	0 (0)	10.6 (11.5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	376.9 (67.5)	0 (0)	0 (0)
		Movement LOS	-	-	-	B (B)	-	-	-	-	-	F (F)	-	-
		Approach Delay (s)	-	-	-	-	0.7 (0.5)	-	-	-	-	-	376.9 (67.5)	-
		Approach LOS	-	-	-	-	-	-	-	-	-	-	F (F)	-
		Intersection Delay (s)	-	-	-	-	-	-	-	107.5 (4.6)	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	F (A)	-	-	-	-
15	S. Camino Del Sol & E. 28th Street (Stop)	Volume (vph)	323 (189)	14 (26)	8 (12)	1 (1)	29 (17)	48 (8)	6 (40)	8 (23)	198 (338)	15 (9)	21 (7)	4 (4)
		v/c Ratio	0 (0)	0.23 (0.13)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.28 (0.51)	0 (0)	0 (0)	0.22 (0.08)	0 (0)
		Movement Delay (s)	0 (0)	7.7 (6.5)	0 (0)	0 (0)	0.1 (0.3)	0 (0)	0 (0)	11 (13.4)	0 (0)	0 (0)	27.7 (20.3)	0 (0)
		Movement LOS	-	A (A)	-	-	A (A)	-	-	B (B)	-	-	D (C)	-
		Approach Delay (s)	-	7.7 (6.5)	-	-	0.1 (0.3)	-	-	11 (13.4)	-	-	27.7 (20.3)	-
		Approach LOS	-	-	-	-	-	-	-	B (B)	-	-	D (C)	-
		Intersection Delay (s)	-	-	-	-	-	-	-	9 (10.8)	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	A (B)	-	-	-	-
16	E. Camino Del Sol/ E. Camionero Del Sol & E. Calle Ventana (Stop)	Volume (vph)	12 (7)	158 (222)	27 (54)	15 (27)	262 (196)	0 (25)	25 (13)	2 (2)	12 (9)	69 (24)	5 (0)	38 (10)
		v/c Ratio	0 (0)	0.01 (0.01)	0 (0)	0 (0)	0.01 (0.02)	0 (0)	0 (0)	0.09 (0.05)	0 (0)	0 (0)	0.23 (0.08)	0 (0)
		Movement Delay (s)	0 (0)	0.6 (0.2)	0 (0)	0 (0)	0.5 (1.1)	0 (0)	0 (0)	13.4 (12.6)	0 (0)	0 (0)	14 (13.2)	0 (0)
		Movement LOS	-	A (A)	-	-	A (A)	-	-	B (B)	-	-	B (B)	-
		Approach Delay (s)	-	0.6 (0.2)	-	-	0.5 (1.1)	-	-	13.4 (12.6)	-	-	14 (13.2)	-
		Approach LOS	-	-	-	-	-	-	-	B (B)	-	-	B (B)	-
		Intersection Delay (s)	-	-	-	-	-	-	-	3.8 (1.8)	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	A (A)	-	-	-	-
17	E. North Frontage Rd & E. Camino Del Sol (Stop)	Volume (vph)	0 (0)	0 (0)	0 (0)	254 (192)	0 (0)	82 (56)	36 (92)	146 (183)	0 (0)	0 (0)	232 (187)	207 (271)
		v/c Ratio	0 (0)	0 (0)	0 (0)	0.62 (0.61)	0 (0)	0.13 (0.09)	0.04 (0.09)	0.09 (0.12)	0 (0)	0 (0)	0.28 (0.29)	0 (0)
		Movement Delay (s)	0 (0)	0 (0)	0 (0)	25.3 (30.4)	0 (0)	11.1 (10.7)	8.4 (8.7)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement LOS	-	-	-	D (D)	-	B (B)	A (A)	-	-	-	-	-
		Approach Delay (s)	-	-	-	-	21.8 (26)	-	-	1.7 (2.9)	-	-	-	-
		Approach LOS	-	-	-	-	C (D)	-	-	-	-	-	-	-
		Intersection Delay (s)	-	-	-	-	-	-	-	8 (7.4)	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	A (A)	-	-	-	-
18	Far West Ave & E. South Frontage Rd (Stop)	Volume (vph)	41 (29)	0 (0)	68 (42)	0 (0)	0 (0)	0 (0)	0 (0)	158 (200)	27 (62)	48 (77)	168 (124)	0 (0)
		v/c Ratio	0.17 (0.13)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.12 (0.17)	0 (0)	0 (0)	0.04 (0.07)	0 (0)
		Movement Delay (s)	11.3 (11.7)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (3.4)	0 (0)
		Movement LOS	B (B)	-	-	-	-	-	-	-	-	-	A (A)	-
		Approach Delay (s)	-	11.3 (11.7)	-	-	-	-	-	-	-	-	2 (3.4)	-
		Approach LOS	-	B (B)	-	-	-	-	-	-	-	-	-	-
		Intersection Delay (s)	-	-	-	-	-	-	-	3.2 (2.8)	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	A (A)	-	-	-	-
19	Ave 12E & E. South Frontage Rd (Stop)	Volume (vph)	213 (231)	0 (0)	145 (203)	0 (0)	0 (0)	0 (0)	0 (0)	214 (216)	242 (199)	117 (47)	118 (52)	0 (0)
		v/c Ratio	0.69 (0.5)	0 (0)	0.23 (0.32)	0 (0)	0 (0)	0 (0)	0 (0)	0.29 (0.27)	0 (0)	0.12 (0.05)	0.08 (0.03)	0 (0)
		Movement Delay (s)	36.6 (19)	0 (0)	11.9 (12.5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	8.8 (8.4)	0 (0)	0 (0)
		Movement LOS	E (C)	-	B (B)	-	-	-	-	-	-	A (A)	-	-
		Approach Delay (s)	-	26.6 (15.9)	-	-	-	-	-	-	-	-	4.4 (4)	-
		Approach LOS	-	D (C)	-	-	-	-	-	-	-	-	-	-
		Intersection Delay (s)	-	-	-	-	-	-	-	10.1 (7.7)	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	B (A)	-	-	-	-
20	Ave 12E & 40th Street (Stop)	Volume (vph)	6 (6)	20 (26)	3 (4)	57 (142)	160 (209)	121 (109)	232 (154)	599 (827)	80 (99)	105 (82)	640 (493)	70 (55)
		v/c Ratio	0 (0)	0 (0)	0 (0)	0 (0)	14.13 (17.31)	0 (0)	0 (0)	0.3 (0.17)	0 (0)	0 (0)	0.13 (0.13)	0 (0)
		Movement Delay (s)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	7.2 (4.7)	0 (0)	0 (0)	3.3 (3.3)	0 (0)
		Movement LOS	-	F (F)	-	-	F (F)	-	-	A (A)	-	-	A (A)	-
		Approach Delay (s)	-	-	-	-	-	-	-	7.2 (4.7)	-	-	3.3 (3.3)	-
		Approach LOS	-	F (F)	-	-	F (F)	-	-	-	-	-	-	-
		Intersection Delay (s)	-	-	-	-	-	-	-	0 (0)	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	A (A)	-	-	-	-
21	Ave 12E & CO 13th (48th St) (Stop)	Volume (vph)	0 (0)	0 (0)	0 (0)	13 (16)	0 (0)	24 (31)	83 (115)	220 (297)	0 (0)	0 (0)	272 (141)	82 (43)
		v/c Ratio	0 (0)	0 (0)	0 (0)	0 (0)	0.08 (0.1)	0 (0)	0 (0)	0.08 (0.09)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement Delay (s)	0 (0)	0 (0)	0 (0)	0 (0)	13.2 (12.5)	0 (0)	0 (0)	2.8 (2.8)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement LOS	-	A (A)	-	-	B (B)	-	-	A (A)	-	-	-	-
		Approach Delay (s)	-	-	-	-	13.2 (12.5)	-	-	2.8 (2.8)	-	-	-	-
		Approach LOS	-	A (A)	-	-	B (B)	-	-	-	-	-	-	-
		Intersection Delay (s)	-	-	-	-	-	-	-	1.9 (2.7)	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	A (A)	-	-	-	-
22	Foothills Blvd & CO 13th (48th St) (Stop)	Volume (vph)	162 (90)	594 (343)	77 (44)	54 (91)	300 (531)	52 (63)	116 (149)	219 (325)	76 (146)	33 (23)	174 (98)	22 (13)
		v/c Ratio	0.15 (0.1)	0.22 (0.12)	0 (0)	0 (0)	0.07 (0.09)	0.03 (0.04)	0 (0)	5.93 (2.43)	0 (0)	0 (0)	2.99 (0)	0 (0)
		Movement Delay (s)	8.6 (9.3)	0 (0)	0 (0)	0 (0)	2.1 (2.2)	0 (0)	0 (0)	0 (683.4)	0 (0)	0 (0)	1006.2 (0)	0 (0)
		Movement LOS	A (A)	-	-	-	A (A)	-	-	F (F)	-	-	F (F)	-
		Approach Delay (s)	-	1.7 (1.8)	-	-	1.8 (2)	-	-	(683.4)	-	-	1006.2 -	-
		Approach LOS	-	-	-	-	-	-	-	F (F)	-	-	F (F)	-
		Intersection Delay (s)	-	-	-	-	-	-	-	2310.9 (0)	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	F (A)	-	-	-	-

Peak-Hour Intersection Performance Analysis: Year 2030 Recommended Improvements
 Transportation Needs for the Foothills and Mesa Del Sol Areas, Yuma County, AZ

ID	Intersection Name	Operations Metric	AM (PM)											
			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
23	Ave 14E & CO 13th (48th St) (Stop)	Volume (vph)	48 (24)	57 (24)	8 (3)	3 (5)	15 (25)	8 (19)	27 (41)	137 (206)	29 (75)	32 (20)	202 (123)	21 (13)
		v/c Ratio	0 (0)	0.28 (0.13)	0 (0)	0 (0)	0.06 (0.1)	0 (0)	0 (0)	0.02 (0.03)	0 (0)	0 (0)	0.02 (0.02)	0 (0)
		Movement Delay (s)	0 (0)	16.3 (15)	0 (0)	0 (0)	12.8 (12.8)	0 (0)	0 (0)	1.3 (1.2)	0 (0)	0 (0)	1.2 (1.1)	0 (0)
		Movement LOS	-	C (B)	-	-	B (B)	-	-	A (A)	-	-	A (A)	-
		Approach Delay (s)	-	16.3 (15)	-	-	12.8 (12.8)	-	-	1.3 (1.2)	-	-	1.2 (1.1)	-
		Approach LOS	-	C (B)	-	-	B (B)	-	-	-	-	-	-	-
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-
24	CO 14th St (56th St) & Ave 14E (Stop)	Volume (vph)	0 (0)	0 (0)	0 (0)	37 (48)	0 (0)	44 (55)	60 (75)	108 (145)	0 (0)	0 (0)	157 (88)	70 (37)
		v/c Ratio	0 (0)	0 (0)	0 (0)	0.13 (0.16)	0 (0)	0 (0)	0 (0)	0.05 (0.06)	0 (0)	0 (0)	0.15 (0.08)	0 (0)
		Movement Delay (s)	0 (0)	0 (0)	0 (0)	11.3 (11.1)	0 (0)	0 (0)	0 (0)	3.1 (2.9)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement LOS	-	-	-	B (B)	-	-	-	A (A)	-	-	-	-
		Approach Delay (s)	-	-	-	-	11.3 (11.1)	-	-	3.1 (2.9)	-	-	-	-
		Approach LOS	-	-	-	-	B (B)	-	-	-	-	-	-	-
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-
25	Ave 15E & S. Frontage Rd (Stop)	Volume (vph)	442 (307)	0 (0)	474 (434)	0 (0)	0 (0)	0 (0)	0 (0)	83 (265)	110 (375)	480 (434)	355 (306)	0 (0)
		v/c Ratio	7.06 (8.45)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.12 (0.41)	0 (0)	0 (0)	0.38 (0.52)	0 (0)
		Movement Delay (s)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	7.3 (11.4)	0 (0)
		Movement LOS	F (F)	-	-	-	-	-	-	-	-	-	A (B)	-
		Approach Delay (s)	-	-	-	-	-	-	-	-	-	-	7.3 (11.4)	-
		Approach LOS	-	F (F)	-	-	-	-	-	-	-	-	-	-
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-
26	Ave 15E & 40th Street (Stop)	Volume (vph)	250 (113)	584 (267)	0 (0)	0 (0)	492 (698)	495 (476)	565 (576)	0 (0)	333 (414)	0 (0)	0 (0)	0 (0)
		v/c Ratio	0.42 (0.23)	0.37 (0.17)	0 (0)	0 (0)	0.31 (0.45)	0.32 (0.3)	11.29 (5.62)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement Delay (s)	14.5 (13.5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement LOS	B (B)	-	-	-	-	-	-	F (F)	-	-	-	-
		Approach Delay (s)	-	4.3 (4)	-	-	-	-	-	-	-	-	-	-
		Approach LOS	-	-	-	-	-	-	-	F (F)	-	-	-	-
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-
27	Ave 15E & CO 13th (48th St) (Stop)	Volume (vph)	145 (74)	442 (229)	0 (0)	0 (0)	260 (402)	183 (169)	196 (217)	0 (0)	108 (130)	0 (0)	0 (0)	0 (0)
		v/c Ratio	0 (0)	0.15 (0.08)	0 (0)	0 (0)	0.28 (0.37)	0 (0)	1.36 (1.14)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement Delay (s)	0 (0)	3.6 (2.9)	0 (0)	0 (0)	0 (0)	0 (0)	225.4 (126.6)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement LOS	-	A (A)	-	-	-	-	F (F)	-	-	-	-	-
		Approach Delay (s)	-	3.6 (2.9)	-	-	-	-	-	225.4 (126.6)	-	-	-	-
		Approach LOS	-	-	-	-	-	-	-	F (F)	-	-	-	-
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-

Peak-Hour Intersection Performance Analysis: Year 2030 Recommended Improvements - Mitigated
 Transportation Needs for the Foothills and Mesa Del Sol Areas, Yuma County, AZ

ID	Intersection Name	Fields	AM (PM)												
			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
1*	Fortuna Rd & North Frontage Rd (Signal)	Volume (vph)	347 (163)	663 (669)	183 (127)	54 (488)	528 (1028)	438 (603)	208 (556)	151 (105)	360 (157)	220 (116)	227 (85)	142 (170)	
		v/c Ratio	-	-	-	-	-	-	-	-	-	-	-	-	
		Movement Delay (s)	22 (26)	11 (20)	4 (6)	39 (53)	27 (43)	9 (26)	40 (46)	34 (30)	10 (10)	29 (22)	32 (38)	8 (10)	
		Movement LOS	C (C)	B (B)	A (A)	D (D)	C (D)	A (C)	D (D)	C (C)	A (A)	C (C)	C (D)	A (A)	
		Approach Delay (s)	-	12 (17)	-	-	19 (35)	-	-	22 (35)	-	-	-	24 (19)	
		Approach LOS	-	B (B)	-	-	B (C)	-	-	C (C)	-	-	-	C (B)	
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-	
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-	
2*	Fortuna Rd & I-8 Westbound (Signal)	Volume (vph)	463 (357)	916 (634)	0 (0)	0 (0)	685 (966)	423 (335)	0 (0)	0 (0)	0 (0)	134 (242)	25 (0)	277 (325)	
		v/c Ratio	-	-	-	-	-	-	-	-	-	-	-	-	
		Movement Delay (s)	50 (42)	24 (31)	-	-	24 (22)	7 (8)	-	-	-	-	31 (40)	37 -	14 (13)
		Movement LOS	D (D)	C (C)	A (A)	A (A)	C (C)	A (A)	A (A)	A (A)	A (A)	A (A)	C (D)	D (A)	B (B)
		Approach Delay (s)	-	28 (33)	-	-	16 (17)	-	-	-	-	-	-	19 (23)	
		Approach LOS	-	C (C)	-	-	B (B)	-	-	A (A)	-	-	-	B (C)	
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-	
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-	
3*	Fortuna Rd & I-8 Eastbound (Signal)	Volume (vph)	0 (0)	1143 (771)	277 (260)	202 (157)	617 (1051)	0 (0)	236 (220)	14 (4)	418 (551)	0 (0)	0 (0)	0 (0)	
		v/c Ratio	-	-	-	-	-	-	-	-	-	-	-	-	
		Movement Delay (s)	-	5 (4)	16 (13)	35 (29)	19 (21)	-	30 (30)	35 (26)	12 (15)	-	-	-	
		Movement LOS	A (A)	A (A)	B (B)	C (C)	B (C)	A (A)	C (C)	C (C)	B (B)	A (A)	A (A)	A (A)	
		Approach Delay (s)	-	6 (6)	-	-	21 (21)	-	-	17 (19)	-	-	-	-	
		Approach LOS	-	A (A)	-	-	C (C)	-	-	B (B)	-	-	-	A (A)	
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-	
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-	
4*	Fortuna Rd & E. South Frontage Rd (Signal)	Volume (vph)	58 (95)	928 (692)	21 (105)	196 (139)	713 (1199)	126 (264)	216 (193)	89 (138)	83 (106)	40 (146)	113 (83)	276 (146)	
		v/c Ratio	-	-	-	-	-	-	-	-	-	-	-	-	
		Movement Delay (s)	15 (23)	21 (18)	14 (11)	4 (11)	12 (15)	15 (6)	25 (23)	28 (28)	2 (4)	18 (21)	28 (29)	8 (6)	
		Movement LOS	B (C)	C (B)	B (B)	A (B)	B (B)	B (A)	C (C)	C (C)	A (A)	B (C)	C (C)	A (A)	
		Approach Delay (s)	22 (21)	-	-	-	11 (12)	-	-	17 (16)	-	-	-	12 (18)	
		Approach LOS	-	C (C)	-	-	B (B)	-	-	B (B)	-	-	-	B (B)	
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-	
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-	
5	Fortuna Rd & 35th Place (Signal)	Volume (vph)	33 (24)	737 (637)	56 (48)	69 (163)	535 (831)	53 (200)	122 (152)	24 (17)	45 (21)	88 (19)	29 (8)	121 (139)	
		v/c Ratio	0.074 (0.087)	0.561 (0.555)	0.561 (0.556)	0.175 (0.365)	0.387 (0.705)	0.388 (0.706)	0 (0)	0 (0)	0.118 (0.053)	0.203 (0.041)	0 (0)	0.382 (0.368)	
		Movement Delay (s)	8.5 (10.9)	13.3 (14.7)	13.3 (14.7)	8.1 (8.2)	10.8 (15)	10.8 (15.2)	22.4 (21.7)	15.9 (14.8)	16.2 (14.9)	17.5 (15.2)	0 (0)	17.9 (16.7)	
		Movement LOS	A (B)	B (B)	B (B)	A (A)	B (B)	B (B)	C (C)	C (C)	B (B)	B (B)	-	B (B)	
		Approach Delay (s)	-	13.1 (14.5)	-	-	10.5 (14.1)	-	-	20.1 (20.4)	-	-	-	17.8 (16.6)	
		Approach LOS	-	B (B)	-	-	B (B)	-	-	C (C)	-	-	-	B (B)	
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-	
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-	
6	Fortuna Rd & 40th Street (Signal)	Volume (vph)	41 (64)	224 (290)	27 (68)	388 (643)	199 (103)	107 (102)	70 (60)	134 (232)	127 (63)	27 (67)	146 (101)	543 (352)	
		v/c Ratio	0.385 (0.538)	0 (0)	0.428 (0.626)	0.874 (0.903)	0.266 (0.113)	0.168 (0.132)	0 (0)	0 (0)	0.224 (0.313)	0.062 (0.21)	0.219 (0.203)	0.957 (0.834)	
		Movement Delay (s)	20.8 (21)	0 (0)	21.2 (21.7)	43.2 (37.3)	11.6 (7.3)	11.1 (7.4)	15.3 (18.7)	13 (17.3)	13.2 (17.4)	14.8 (20.5)	13.1 (16.7)	44.8 (25.6)	
		Movement LOS	C (C)	-	C (C)	D (D)	B (A)	B (A)	B (B)	B (B)	B (B)	B (C)	B (B)	D (C)	
		Approach Delay (s)	-	21 (21.4)	-	-	29.2 (30.1)	-	-	13.6 (17.6)	-	-	-	37.2 (23.2)	
		Approach LOS	-	C (C)	-	-	C (C)	-	-	B (B)	-	-	-	D (C)	
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-	
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-	
7*	Foothills Blvd & E. North Frontage Rd (Signal)	Volume (vph)	285 (242)	345 (357)	151 (138)	105 (59)	206 (331)	190 (41)	58 (200)	26 (37)	348 (320)	200 (164)	58 (32)	88 (116)	
		v/c Ratio	-	-	-	-	-	-	-	-	-	-	-	-	
		Movement Delay (s)	10 (9)	5 (4)	2 (1)	34 (33)	32 (31)	17 (17)	39 (42)	32 (35)	8 (7)	38 (33)	36 (34)	17 (14)	
		Movement LOS	A (A)	A (A)	A (A)	C (C)	C (C)	B (B)	D (D)	C (C)	A (A)	D (C)	D (C)	B (B)	
		Approach Delay (s)	-	5 (5)	-	-	24 (28)	-	-	12 (20)	-	-	-	30 (25)	
		Approach LOS	-	A (A)	-	-	C (C)	-	-	B (B)	-	-	-	C (C)	
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-	
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-	
8*	Foothills Blvd & I-8 Westbound (Signal)	Volume (vph)	905 (779)	618 (585)	0 (0)	0 (0)	347 (534)	407 (281)	0 (0)	0 (0)	0 (0)	95 (103)	31 (152)	163 (152)	
		v/c Ratio	-	-	-	-	-	-	-	-	-	-	-	-	
		Movement Delay (s)	39 (38)	20 (16)	-	-	33 (28)	11 (8)	-	-	-	-	32 (12)	32 (31)	7 (30)
		Movement LOS	D (D)	B (B)	A (A)	A (A)	C (C)	B (A)	A (A)	A (A)	A (A)	C (B)	C (C)	A (C)	
		Approach Delay (s)	29 (25)	-	-	-	19 (19)	-	-	-	-	-	-	17 (22)	
		Approach LOS	-	C (C)	-	-	B (B)	-	-	A (A)	-	-	-	B (C)	
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-	
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-	
9*	Foothills Blvd & I-8 Eastbound (Signal)	Volume (vph)	0 (0)	1282 (1099)	347 (199)	150 (89)	292 (548)	0 (0)	241 (265)	0 (0)	822 (1006)	0 (0)	0 (0)	0 (0)	
		v/c Ratio	-	-	-	-	-	-	-	-	-	-	-	-	
		Movement Delay (s)	-	19 (16)	12 (9)	40 (23)	19 (16)	-	35 (32)	-	12 (19)	-	-	-	
		Movement LOS	A (A)	B (B)	B (A)	D (C)	B (B)	A (A)	C (C)	A (A)	B (B)	A (A)	A (A)	A (A)	
		Approach Delay (s)	-	16 (15)	-	-	23 (17)	-	-	15 (18)	-	-	-	-	
		Approach LOS	-	B (B)	-	-	C (B)	-	-	B (B)	-	-	-	A (A)	
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-	
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-	
10*	Foothills Blvd & E. South Frontage Rd / E. South Frontage Rd (Signal)	Volume (vph)	43 (49)	874 (700)	12 (21)	213 (313)	543 (984)	358 (257)	338 (331)	22 (51)	43 (76)	23 (23)	31 (39)	417 (267)	
		v/c Ratio	-	-	-	-	-	-	-	-	-	-	-	-	
		Movement Delay (s)	23 (37)	29 (22)	21 (19)	46 (25)	11 (10)	6 (7)	59 (47)	49 (40)	43 (42)	57 (49)	50 (47)	20 (8)	
		Movement LOS	C (D)	C (C)	C (B)	D (C)	B (A)	A (A)	E (D)	D (D)	D (D)	E (D)	D (D)	B (A)	
		Approach Delay (s)	-	26 (21)	-	-	12 (11)	-	-	50 (44)	-	-	-	19 (15)	
		Approach LOS	-	C (C)	-	-	B (B)	-	-	D (D)	-	-	-	B (B)	
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-	
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-	
11	Foothills Blvd & 38th Street (Signal)	Volume (vph)	154 (112)	945 (488)	182 (239)	15 (46)	315 (781)	14 (39)	29 (26)	6 (11)	122 (161)	158 (102)	9 (8)	26 (11)	
		v/c Ratio	0.31 (0.353)	0.72 (0.505)	0.723 (0.507)	0.064 (0.133)	0.249 (0.597)	0.25 (0.597)	0 (0)	0 (0)	0.48 (0.686)	0.425 (0.284)	0.03 (0.029)	0.102 (0.047)	
		Movement Delay (s)	8.9 (10.2)	9.8 (8.5)	9.9 (8.6)	16 (12.8)	9.2 (10.1)	9.2 (10.1)	15.6 (15.2)	15.1 (14.8)	16.9 (17.7)	17.5 (16.3)	15.1 (14.8)	15.4 (14.8)	
		Movement LOS	A (B)	A (A)	A (A)	B (B)	A (B)	A (B)	B (B)	B (B)	B (B)	B (B)	B (B)	B (B)	
		Approach Delay (s)	-	9.7 (8.8)	-	-	9.5 (10.2)	-	-	16.6 (17.2)	-	-	-	17.1 (16.1)	
		Approach LOS	-	A (A)	-	-	A (B)	-	-	B (B)	-	-	-	B (B)	
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-	
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-	

Peak-Hour Intersection Performance Analysis: Year 2030 Recommended Improvements - Mitigated
 Transportation Needs for the Foothills and Mesa Del Sol Areas, Yuma County, AZ

ID	Intersection Name	Fields	AM (PM)											
			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
12	Foothills Blvd & 40th Street (Signal)	Volume (vph)	280 (161)	764 (413)	22 (4)	66 (173)	372 (654)	215 (223)	222 (267)	253 (284)	167 (368)	8 (13)	350 (180)	267 (168)
		v/c Ratio	0.821 (0.573)	0.517 (0.263)	0.517 (0.264)	0.275 (0.475)	0.876 (0.904)	0.596 (0.904)	0.727 (0.69)	0 (0)	0.284 (0.703)	0.026 (0.063)	0.825 (0.597)	0.74 (0.655)
		Movement Delay (s)	30.3 (14.9)	14.4 (9.9)	14.4 (9.9)	22.7 (19)	41.5 (38)	25.1 (39.3)	26 (22.6)	14.9 (15)	14.3 (17.1)	20.2 (22.5)	28.1 (23.4)	25.6 (24)
		Movement LOS	C (B)	B (A)	B (A)	C (B)	D (D)	C (D)	C (C)	B (B)	B (B)	C (C)	C (C)	C (C)
		Approach Delay (s)	18.5 (11.3)			34.2 (35.4)			18.6 (18)			26.9 (23.7)		
		Approach LOS	B (B)			C (D)			B (B)			C (C)		
		Intersection Delay (s)	23.7 (23.7)											
		Intersection LOS	C (C)											
13	S. Ave 10 E & E. South Frontage Rd (Signal)	Volume (vph)	299 (149)	0 (0)	10 (24)	0 (0)	0 (0)	0 (0)	0 (0)	378 (451)	222 (375)	55 (29)	354 (332)	0 (0)
		v/c Ratio	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.493 (0.641)	0 (0)	0 (0)	0.493 (0.641)	0.3 (0.249)	0 (0)	0 (0)
		Movement Delay (s)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1.1 (1.3)	0.8 (0.6)	0 (0)	0 (0)
		Movement LOS	-	-	-	-	-	-	-	-	A (A)	A (A)	-	-
		Approach Delay (s)	-			-			1.1 (1.3)			0.8 (0.6)		
		Approach LOS	-			-			A (A)			A (A)		
		Intersection Delay (s)	0.9 (1.1)											
		Intersection LOS	A (A)											
14	Fortuna Rd & E. 28th Street (Signal)	Volume (vph)	0 (0)	846 (638)	51 (473)	53 (70)	701 (1554)	0 (0)	0 (0)	0 (0)	0 (0)	250 (267)	0 (0)	407 (15)
		v/c Ratio	0 (0)	0.336 (0.42)	0.336 (0.366)	0.073 (0.131)	0.274 (0.539)	0 (0)	0 (0)	0.336 (0.42)	0.336 (0.366)	0.073 (0.131)	0.274 (0.539)	0 (0)
		Movement Delay (s)	0 (0)	0.7 (0.5)	0.7 (0.5)	0.9 (0.8)	0.6 (0.6)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement LOS	-	A (A)	A (A)	A (A)	A (A)	-	-	-	-	-	-	-
		Approach Delay (s)	0.7 (0.5)			0.6 (0.6)			-			-		
		Approach LOS	A (A)			A (A)			-			-		
		Intersection Delay (s)	0.7 (0.6)											
		Intersection LOS	A (A)											
15	S. Camino Del Sol & E. 28th Street (Stop)	Volume (vph)	323 (189)	14 (26)	8 (12)	1 (1)	29 (17)	48 (8)	6 (40)	8 (23)	198 (338)	15 (9)	21 (7)	4 (4)
		v/c Ratio	0 (0)	0.23 (0.13)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.28 (0.51)	0 (0)	0 (0)	0.22 (0.08)	0 (0)
		Movement Delay (s)	0 (0)	7.7 (6.5)	0 (0)	0 (0)	0.1 (0.3)	0 (0)	0 (0)	11 (13.4)	0 (0)	0 (0)	27.7 (20.3)	0 (0)
		Movement LOS	-	A (A)	-	-	A (A)	-	-	B (B)	-	-	D (C)	-
		Approach Delay (s)	7.7 (6.5)			0.1 (0.3)			11 (13.4)			27.7 (20.3)		
		Approach LOS	-			-			B (B)			D (C)		
		Intersection Delay (s)	9 (10.8)											
		Intersection LOS	A (B)											
16	E. Camino Del Sol/ E. Camionero Del Sol & E. Calle Ventana (Stop)	Volume (vph)	12 (7)	158 (222)	27 (54)	15 (27)	262 (196)	0 (25)	25 (13)	2 (2)	12 (9)	69 (24)	5 (0)	38 (10)
		v/c Ratio	0 (0)	0.01 (0.01)	0 (0)	0 (0)	0.01 (0.02)	0 (0)	0 (0)	0.09 (0.05)	0 (0)	0 (0)	0.23 (0.08)	0 (0)
		Movement Delay (s)	0 (0)	0.6 (0.2)	0 (0)	0 (0)	0.5 (1.1)	0 (0)	0 (0)	13.4 (12.6)	0 (0)	0 (0)	14 (13.2)	0 (0)
		Movement LOS	-	A (A)	-	-	A (A)	-	-	B (B)	-	-	B (B)	-
		Approach Delay (s)	0.6 (0.2)			0.5 (1.1)			13.4 (12.6)			14 (13.2)		
		Approach LOS	-			-			B (B)			B (B)		
		Intersection Delay (s)	3.8 (1.8)											
		Intersection LOS	A (A)											
17	E. North Frontage Rd & E. Camino Del Sol (Stop)	Volume (vph)	0 (0)	0 (0)	0 (0)	254 (192)	0 (0)	82 (56)	36 (92)	146 (283)	0 (0)	0 (0)	232 (187)	207 (271)
		v/c Ratio	0 (0)	0 (0)	0 (0)	0.62 (0.7)	0 (0)	0.13 (0.09)	0.04 (0.09)	0.09 (0.18)	0 (0)	0 (0)	0.28 (0.29)	0 (0)
		Movement Delay (s)	0 (0)	0 (0)	0 (0)	25.3 (41.5)	0 (0)	11.1 (10.7)	8.4 (8.7)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement LOS	-	-	-	D (E)	-	B (B)	A (A)	-	-	-	-	-
		Approach Delay (s)	-			21.8 (34.6)			1.7 (2.1)			-		
		Approach LOS	-			C (D)			-			-		
		Intersection Delay (s)	8 (8.7)											
		Intersection LOS	A (A)											
18	Far West Ave & E. South Frontage Rd (Stop)	Volume (vph)	41 (29)	0 (0)	68 (42)	0 (0)	0 (0)	0 (0)	0 (0)	158 (200)	27 (62)	48 (77)	168 (124)	0 (0)
		v/c Ratio	0.17 (0.13)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.12 (0.17)	0 (0)	0 (0)	0.04 (0.07)	0 (0)
		Movement Delay (s)	11.3 (11.7)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	2 (3.4)	0 (0)
		Movement LOS	B (B)	-	-	-	-	-	-	-	-	-	A (A)	-
		Approach Delay (s)	11.3 (11.7)			-			-			2 (3.4)		
		Approach LOS	B (B)			-			-			-		
		Intersection Delay (s)	3.2 (2.8)											
		Intersection LOS	A (A)											
19	Ave 12E & E. South Frontage Rd (Stop)	Volume (vph)	213 (231)	0 (0)	145 (203)	0 (0)	0 (0)	0 (0)	0 (0)	214 (216)	242 (199)	117 (47)	118 (52)	0 (0)
		v/c Ratio	0.69 (0.5)	0 (0)	0.23 (0.32)	0 (0)	0 (0)	0 (0)	0 (0)	0.29 (0.27)	0 (0)	0.12 (0.05)	0.08 (0.03)	0 (0)
		Movement Delay (s)	36.6 (19)	0 (0)	11.9 (12.5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	8.8 (8.4)	0 (0)	0 (0)
		Movement LOS	E (C)	-	B (B)	-	-	-	-	-	-	A (A)	-	-
		Approach Delay (s)	26.6 (15.9)			-			-			4.4 (4)		
		Approach LOS	D (C)			-			-			-		
		Intersection Delay (s)	10.1 (7.7)											
		Intersection LOS	B (A)											
20	Ave 12E & 40th Street (Signal)	Volume (vph)	6 (6)	20 (26)	3 (4)	57 (142)	160 (209)	121 (109)	232 (154)	599 (827)	80 (99)	105 (82)	640 (493)	70 (55)
		v/c Ratio	0.092 (0.113)	0 (0)	0 (0)	0.611 (0.903)	0 (0)	0.423 (0.19)	0.577 (0.512)	0.309 (0.586)	0.31 (0.586)	0.611 (0.903)	0 (0)	0.505 (0.754)
		Movement Delay (s)	17.6 (12.9)	0 (0)	0 (0)	21.5 (39.8)	0 (0)	19.6 (11.8)	13.6 (14.1)	4.1 (12.2)	4.2 (12.2)	4.3 (18.4)	0 (0)	5.1 (22.4)
		Movement LOS	B (B)	-	-	C (D)	-	B (B)	B (B)	A (B)	A (B)	A (B)	-	A (C)
		Approach Delay (s)	17.6 (12.9)			20.8 (33.1)			6.6 (12.5)			4.8 (20.8)		
		Approach LOS	B (B)			C (C)			A (B)			A (C)		
		Intersection Delay (s)	8.3 (19.2)											
		Intersection LOS	A (B)											
21	Ave 12E & CO 13th (48th St) (Stop)	Volume (vph)	0 (0)	0 (0)	0 (0)	13 (16)	0 (0)	24 (31)	83 (115)	220 (297)	0 (0)	0 (0)	272 (141)	82 (43)
		v/c Ratio	0 (0)	0 (0)	0 (0)	0 (0)	0.08 (0.1)	0 (0)	0 (0)	0.08 (0.09)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement Delay (s)	0 (0)	0 (0)	0 (0)	0 (0)	13.2 (12.5)	0 (0)	0 (0)	2.8 (2.8)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement LOS	-	A (A)	-	-	B (B)	-	-	A (A)	-	-	-	-
		Approach Delay (s)	-			13.2 (12.5)			2.8 (2.8)			-		
		Approach LOS	A (A)			B (B)			-			-		
		Intersection Delay (s)	1.9 (2.7)											
		Intersection LOS	A (A)											
22	Foothills Blvd & CO 13th (48th St) (Signal)	Volume (vph)	162 (90)	594 (343)	77 (44)	54 (91)	300 (531)	52 (63)	116 (149)	219 (325)	76 (146)	33 (23)	174 (98)	22 (13)
		v/c Ratio	0.337 (0.281)	0.469 (0.289)	0.47 (0.293)	0.159 (0.222)	0.245 (0.445)	0.25 (0.447)	0.701 (0.957)	0 (0)	0 (0)	0.159 (0.222)	0.245 (0.445)	0 (0)
		Movement Delay (s)	11.3 (16.2)	9.4 (10.8)	9.4 (10.8)	12.4 (13.6)	8.2 (11.8)	8.2 (11.8)	13.4 (38.5)	0 (0)	0 (0)	9.6 (8.6)	0 (0)	0 (0)
		Movement LOS	B (B)	A (B)	A (B)	B (B)	A (B)	A (B)	B (D)	-	-	A (A)	-	-
		Approach Delay (s)	9.8 (11.8)			8.7 (12)			13.4 (38.5)			9.6 (8.6)		
		Approach LOS	A (B)			A (B)			B (D)			A (A)		
		Intersection Delay (s)	10.3 (20.3)											
		Intersection LOS	B (C)											

Peak-Hour Intersection Performance Analysis: Year 2030 Recommended Improvements - Mitigated
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ID	Intersection Name	Fields	AM (PM)											
			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
23	Ave 14E & CO 13th (48th St) (Stop)	Volume (vph)	48 (24)	57 (24)	8 (3)	3 (5)	15 (25)	8 (19)	27 (41)	137 (206)	29 (75)	32 (20)	202 (123)	21 (13)
		v/c Ratio	0 (0)	0.28 (0.13)	0 (0)	0 (0)	0.06 (0.1)	0 (0)	0 (0)	0.02 (0.03)	0 (0)	0 (0)	0.02 (0.02)	0 (0)
		Movement Delay (s)	0 (0)	16.3 (15)	0 (0)	0 (0)	12.8 (12.8)	0 (0)	0 (0)	1.3 (1.2)	0 (0)	0 (0)	1.2 (1.1)	0 (0)
		Movement LOS	-	C (B)	-	-	B (B)	-	-	A (A)	-	-	A (A)	-
		Approach Delay (s)	16.3 (15)			12.8 (12.8)			1.3 (1.2)			1.2 (1.1)		
		Approach LOS	C (B)			B (B)			-			-		
		Intersection Delay (s)	4.6 (3.4)											
		Intersection LOS	A (A)											
24	CO 14th St (56th St) & Ave 14E (Stop)	Volume (vph)	0 (0)	0 (0)	0 (0)	37 (48)	0 (0)	44 (55)	60 (75)	108 (145)	0 (0)	0 (0)	157 (88)	70 (37)
		v/c Ratio	0 (0)	0 (0)	0 (0)	0.13 (0.16)	0 (0)	0 (0)	0 (0)	0.05 (0.06)	0 (0)	0 (0)	0.15 (0.08)	0 (0)
		Movement Delay (s)	0 (0)	0 (0)	0 (0)	11.3 (11.1)	0 (0)	0 (0)	0 (0)	3.1 (2.9)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement LOS	-	-	-	B (B)	-	-	-	A (A)	-	-	-	-
		Approach Delay (s)	-			11.3 (11.1)			3.1 (2.9)			-		
		Approach LOS	-			B (B)			-			-		
		Intersection Delay (s)	3 (4)											
		Intersection LOS	A (A)											
25	Ave 15E & S. Frontage Rd (Signal)	Volume (vph)	442 (307)	0 (0)	474 (434)	0 (0)	0 (0)	0 (0)	0 (0)	83 (265)	110 (375)	480 (434)	355 (306)	0 (0)
		v/c Ratio	0 (0)	0 (0)	0.367 (0.714)	0 (0)	0.258 (0.204)	0 (0)	0 (0)	0 (0)	0.367 (0.714)	0.468 (0.639)	0.258 (0.204)	0 (0)
		Movement Delay (s)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	5.5 (5.8)	2.2 (6.2)	0.6 (0.4)	0 (0)
		Movement LOS	-	-	-	-	-	-	-	-	A (A)	A (A)	A (A)	-
		Approach Delay (s)	-			-			5.5 (5.8)			1.5 (3.8)		
		Approach LOS	-			-			A (A)			A (A)		
		Intersection Delay (s)	2.3 (4.7)											
		Intersection LOS	A (A)											
26	Ave 15E & 40th Street (Signal)	Volume (vph)	250 (113)	584 (267)	0 (0)	0 (0)	208 (521)	495 (476)	565 (576)	0 (0)	101 (252)	0 (0)	0 (0)	0 (0)
		v/c Ratio	0.224 (0.119)	0.202 (0.108)	0 (0)	0 (0)	0.072 (0.21)	0.382 (0.429)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement Delay (s)	0.8 (0.8)	0.4 (0.5)	0 (0)	0 (0)	0.3 (0.6)	1.1 (0.9)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement LOS	A (A)	A (A)	-	-	A (A)	A (A)	-	-	-	-	-	-
		Approach Delay (s)	0.5 (0.6)			0.9 (0.8)			-			-		
		Approach LOS	A (A)			A (A)			-			-		
		Intersection Delay (s)	0.7 (0.7)											
		Intersection LOS	A (A)											
27	Ave 15E & CO 13th (48th St) (Signal)	Volume (vph)	145 (74)	442 (229)	0 (0)	0 (0)	260 (402)	183 (169)	196 (217)	0 (0)	108 (130)	0 (0)	0 (0)	0 (0)
		v/c Ratio	0.207 (0.123)	0.355 (0.172)	0 (0)	0 (0)	0.207 (0.254)	0.171 (0.257)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement Delay (s)	0.7 (0.7)	0.9 (0.8)	0 (0)	0 (0)	0.7 (0.9)	0.7 (0.9)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement LOS	A (A)	A (A)	-	-	A (A)	A (A)	-	-	-	-	-	-
		Approach Delay (s)	0.8 (0.8)			0.7 (0.9)			-			-		
		Approach LOS	A (A)			A (A)			-			-		
		Intersection Delay (s)	0.8 (0.8)											
		Intersection LOS	A (A)											

Note:
 * Indicates intersection simulated with VISSIM software to accurately measure queues and code complex signal phasing.

Peak-Hour Intersection Performance Analysis: Buildout Improvements - Alternative 1
 Transportation Needs for the Foothills and Mesa Del Sol Areas, Yuma County, AZ

ID	Intersection Name	Fields	AM (PM)												
			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
1*	Fortuna Rd & North Frontage Rd (Signal)	Volume (vph)	241 (163)	557 (536)	148 (127)	54 (464)	418 (966)	295 (379)	131 (372)	145 (122)	272 (157)	246 (116)	213 (112)	128 (151)	
		v/c Ratio	0.534 (0.522)	0.534 (0.662)	0.317 (0.351)	0.259 (0.861)	0.336 (0.641)	0.762 (0.808)	0.408 (0.859)	0 (0)	0.792 (0.435)	0.523 (0.256)	0 (0)	0.833 (0.827)	
		Movement Delay (s)	14 (20.2)	21 (27.5)	19.4 (25.1)	33.5 (41.1)	22.2 (23.8)	27.5 (32.5)	31.8 (48)	24.1 (24.6)	28.4 (25.8)	18.1 (21.4)	0 (0)	28 (32.6)	
		Movement LOS	B (C)	C (C)	B (C)	C (D)	C (C)	C (C)	C (D)	C (C)	C (C)	B (C)	-	C (C)	
		Approach Delay (s)	19 (25.7)			25.1 (30)			28.1 (38.3)			23.8 (29.2)			
		Approach LOS	B (C)			C (C)			C (D)			C (C)			
		Intersection Delay (s)	23.4 (30.4)												
Intersection LOS	C (C)														
2*	Fortuna Rd & I-8 Westbound (Signal)	Volume (vph)	250 (190)	783 (622)	0 (0)	0 (0)	634 (886)	302 (353)	0 (0)	0 (0)	0 (0)	54 (89)	9 (0)	163 (204)	
		v/c Ratio	0.437 (0.396)	0.387 (0.316)	0 (0)	0 (0)	0.337 (0.481)	0.515 (0.615)	0 (0)	0 (0)	0 (0)	0.37 (0.464)	0.034 (0)	0.716 (0.784)	
		Movement Delay (s)	6 (6.9)	4.7 (4.9)	0 (0)	0 (0)	10.3 (11.5)	11.4 (12.6)	0 (0)	0 (0)	0 (0)	21.7 (21.4)	17.7 (0)	21.3 (21.6)	
		Movement LOS	A (A)	A (A)	-	-	B (B)	B (B)	-	-	-	C (C)	B -	C (C)	
		Approach Delay (s)	5 (5.4)			10.6 (11.8)			-			21.2 (21.6)			
		Approach LOS	A (A)			B (B)			-			C (C)			
		Intersection Delay (s)	9.1 (10.8)												
Intersection LOS	A (B)														
3*	Fortuna Rd & I-8 Eastbound (Signal)	Volume (vph)	0 (0)	893 (614)	173 (215)	143 (124)	545 (851)	0 (0)	140 (198)	7 (2)	272 (317)	0 (0)	0 (0)	0 (0)	
		v/c Ratio	0 (0)	0.513 (0.366)	0.319 (0.319)	0.33 (0.257)	0.297 (0.484)	0 (0)	0 (0)	0 (0)	0.818 (0.841)	0 (0)	0 (0)	0 (0)	
		Movement Delay (s)	0 (0)	13.2 (13.2)	12.2 (13.6)	8 (8.1)	6.2 (8)	0 (0)	17.7 (17.7)	16.1 (15.3)	21.5 (21.4)	0 (0)	0 (0)	0 (0)	
		Movement LOS	-	B (B)	B (B)	A (A)	A (A)	-	B (B)	B (B)	C (C)	-	-	-	
		Approach Delay (s)	13 (13.3)			6.6 (8)			20.1 (20)			-			
		Approach LOS	B (B)			A (A)			C (B)			-			
		Intersection Delay (s)	12.4 (12.6)												
Intersection LOS	B (B)														
4*	Fortuna Rd & E. South Frontage Rd (Signal)	Volume (vph)	58 (76)	692 (511)	23 (96)	166 (123)	526 (781)	125 (264)	145 (193)	89 (126)	83 (88)	41 (131)	113 (81)	229 (125)	
		v/c Ratio	0.156 (0.23)	0.494 (0.391)	0.495 (0.4)	0.438 (0.282)	0.489 (0.698)	0.515 (0.327)	0.325 (0.461)	0 (0)	0.237 (0.443)	0.093 (0.344)	0.339 (0.371)	0.808 (0.674)	
		Movement Delay (s)	13.9 (12.4)	19.2 (15.9)	19.3 (16.1)	13.2 (10.8)	17.9 (17.6)	16.4 (16.4)	15.1 (19.1)	20.3 (25.3)	20.4 (24.8)	18.6 (19.2)	23.3 (24.8)	27.5 (26.9)	
		Movement LOS	B (B)	B (B)	B (B)	B (B)	B (B)	B (B)	B (B)	C (C)	C (C)	B (B)	C (C)	C (C)	
		Approach Delay (s)	18.8 (15.6)			16.7 (16.6)			18 (22.2)			25.3 (23.4)			
		Approach LOS	B (B)			B (B)			B (C)			C (C)			
		Intersection Delay (s)	19 (18.1)												
Intersection LOS	B (B)														
5	Fortuna Rd & 35th Place (Signal)	Volume (vph)	65 (33)	387 (354)	34 (34)	44 (86)	292 (438)	76 (233)	204 (170)	48 (42)	76 (28)	44 (15)	56 (20)	66 (94)	
		v/c Ratio	0.126 (0.093)	0.322 (0.307)	0.325 (0.31)	0.091 (0.159)	0.3 (0.614)	0.307 (0.384)	0 (0)	0 (0)	0.173 (0.069)	0.094 (0.033)	0 (0)	0.259 (0.274)	
		Movement Delay (s)	8.4 (9.8)	12 (12.2)	12 (12.2)	9.2 (7.3)	12.5 (13.1)	12.6 (11.3)	20 (20)	13.8 (14.4)	14.2 (14.3)	14.7 (14.9)	0 (0)	14.7 (15.5)	
		Movement LOS	A (A)	B (B)	B (B)	A (A)	B (B)	B (B)	B (B)	B (B)	B (B)	B (B)	-	B (B)	
		Approach Delay (s)	11.5 (12)			12.2 (11.9)			17.7 (18.3)			14.7 (15.4)			
		Approach LOS	B (B)			B (B)			B (B)			B (B)			
		Intersection Delay (s)	13.6 (13.2)												
Intersection LOS	B (B)														
6	Fortuna Rd & 40th Street (Signal)	Volume (vph)	133 (189)	182 (231)	52 (112)	196 (316)	135 (71)	88 (91)	47 (53)	223 (427)	282 (136)	41 (99)	307 (177)	284 (164)	
		v/c Ratio	0.432 (0.613)	0 (0)	0.536 (0.709)	0.632 (0.788)	0.169 (0.081)	0.13 (0.122)	0 (0)	0 (0)	0.612 (0.533)	0.165 (0.427)	0.566 (0.32)	0.616 (0.349)	
		Movement Delay (s)	16.8 (23.4)	0 (0)	15.7 (22.4)	24.3 (37.7)	8 (8.5)	7.8 (8.7)	18.9 (20.5)	14 (19.1)	15.4 (19.2)	19.7 (26.8)	15 (17.6)	15.4 (17.8)	
		Movement LOS	B (C)	-	B (C)	C (D)	A (A)	A (A)	B (C)	B (B)	B (B)	B (C)	B (B)	B (B)	
		Approach Delay (s)	16.1 (22.8)			15.6 (27.8)			15.1 (19.3)			15.5 (19.7)			
		Approach LOS	B (C)			B (C)			B (B)			B (B)			
		Intersection Delay (s)	15.5 (22.3)												
Intersection LOS	B (C)														
7*	Foothills Blvd & E. North Frontage Rd (Signal)	Volume (vph)	354 (226)	399 (325)	65 (148)	47 (21)	212 (169)	76 (13)	15 (75)	26 (37)	307 (328)	211 (124)	58 (25)	25 (50)	
		v/c Ratio	0.756 (0.478)	0.558 (0.461)	0.107 (0.247)	0.23 (0.077)	0.647 (0.313)	0.674 (0.318)	0 (0)	0 (0)	0.534 (0.622)	0.639 (0.442)	0.056 (0.037)	0.061 (0.086)	
		Movement Delay (s)	21.4 (15.2)	16.8 (12.7)	13.4 (11.4)	30 (20.7)	31.9 (21.5)	32.3 (21.5)	12.4 (11.9)	0 (0)	15.9 (14.5)	27.2 (22.4)	12.4 (10.8)	12.4 (11)	
		Movement LOS	C (B)	B (B)	B (B)	C (C)	C (C)	C (C)	B (B)	-	B (B)	C (C)	B (B)	B (B)	
		Approach Delay (s)	18.5 (13.2)			31.8 (21.4)			15.5 (13.9)			23 (18.1)			
		Approach LOS	B (B)			C (C)			B (B)			C (B)			
		Intersection Delay (s)	21.2 (15.1)												
Intersection LOS	C (B)														
8*	Foothills Blvd & I-8 Westbound (Signal)	Volume (vph)	525 (418)	679 (526)	0 (0)	0 (0)	475 (501)	255 (120)	0 (0)	0 (0)	0 (0)	89 (142)	13 (68)	139 (173)	
		v/c Ratio	0.792 (0.746)	0.343 (0.29)	0 (0)	0 (0)	0.551 (0.638)	0.661 (0.342)	0 (0)	0 (0)	0 (0)	0.435 (0.681)	0 (0)	0.668 (0.645)	
		Movement Delay (s)	17.6 (17.6)	4.4 (5.1)	0 (0)	0 (0)	14.4 (15)	15.4 (13.8)	0 (0)	0 (0)	0 (0)	18 (17.4)	0 (0)	19.5 (17.2)	
		Movement LOS	B (B)	A (A)	-	-	B (B)	B (B)	-	-	-	B (B)	-	B (B)	
		Approach Delay (s)	10.2 (10.6)			14.7 (14.8)			-			18.9 (17.3)			
		Approach LOS	B (B)			B (B)			-			B (B)			
		Intersection Delay (s)	12.7 (13.3)												
Intersection LOS	B (B)														
9*	Foothills Blvd & I-8 Eastbound (Signal)	Volume (vph)	0 (0)	1007 (755)	260 (180)	223 (152)	341 (491)	0 (0)	197 (189)	0 (0)	429 (551)	0 (0)	0 (0)	0 (0)	
		v/c Ratio	0 (0)	0.801 (0.738)	0.801 (0.744)	0.698 (0.513)	0.204 (0.356)	0 (0)	0 (0)	0 (0)	0.922 (0.941)	0 (0)	0 (0)	0 (0)	
		Movement Delay (s)	0 (0)	20.6 (21.9)	21.1 (22.4)	17 (16.5)	8.9 (12.6)	8.7 (0)	17.8 (13.1)	0 (0)	25.1 (27)	0 (0)	0 (0)	0 (0)	
		Movement LOS	-	C (C)	C (C)	B (B)	A (A)	A (A)	B (B)	-	C (C)	-	-	-	
		Approach Delay (s)	20.8 (22)			12.1 (13.5)			22.8 (23.4)			-			
		Approach LOS	C (C)			B (B)			C (C)			-			
		Intersection Delay (s)	19.3 (20.1)												
Intersection LOS	B (C)														
10*	Foothills Blvd & E. South Frontage Rd / E. South Frontage Rd (Signal)	Volume (vph)	43 (49)	656 (415)	12 (21)	101 (206)	348 (599)	321 (237)	338 (346)	22 (51)	43 (76)	23 (23)	31 (39)	273 (174)	
		v/c Ratio	0.105 (0.145)	0.515 (0.312)	0.515 (0.313)	0.358 (0.5)	0.282 (0.448)	0.581 (0.396)	0.6 (0.687)	0 (0)	0.074 (0.148)	0.057 (0.07)	0.042 (0.073)	0.834 (0.728)	
		Movement Delay (s)	13 (13.4)	12.4 (9.5)	12.4 (9.6)	18.1 (14.7)	11 (10.2)	12.9 (10)	15.9 (19.2)	9.3 (10.3)	9.5 (10.5)	15.7 (17)	15.5 (16.8)	20.9 (20.3)	
		Movement LOS	B (B)	B (A)	B (A)	B (B)	B (B)	B (A)	B (B)	A (B)	A (B)	B (B)	B (B)	C (C)	
		Approach Delay (s)	12.5 (9.9)			12.8 (11)			14.8 (16.9)			20 (19.4)			
		Approach LOS	B (A)			B (B)			B (B)			B (B)			
		Intersection Delay (s)	14.1 (12.9)												
Intersection LOS	B (B)														
11	Foothills Blvd & 38th Street (Signal)	Volume (vph)	69 (46)	505 (238)	218 (264)	36 (109)	148 (400)	14 (39)	29 (26)	35 (49)	70 (114)	179 (133)	66 (31)	82 (31)	
		v/c Ratio	0.152 (0.137)	0.577 (0.371)	0.579 (0.484)	0.118 (0.274)	0.13 (0.326)	0.133 (0.328)	0 (0)	0 (0)	0 (0)	0.22 (0.411)	0.431 (0.358)	0.176 (0.095)	0.258 (0.112)
		Movement Delay (s)	10 (10.2)	10.3 (9.2)	10.3 (9.8)	14.5 (13.7)	8.7 (8.4)	8.7 (8.4)	13.9 (13.9)	12.8 (13.6)	13.3 (14.6)	15.5 (15.8)	13.1 (13.4)	13.4 (13.5)	
		Movement LOS	A (B)	B (A)	B (A)	B (B)	A (A)	A (A)	B (B)	B (B)	B (B)	B (B)	B (B)	B (B)	
		Approach Delay (s)	10.3 (9.6)			9.8 (9.5)			13.3 (14.2)			14.5 (15)			
		Approach LOS	B (A)			A (A)			B (B)			B (B)			
		Intersection Delay (s)	11.4 (10.9)												
Intersection LOS	B (B)														

Peak-Hour Intersection Performance Analysis: Buildout Improvements - Alternative 1
 Transportation Needs for the Foothills and Mesa Del Sol Areas, Yuma County, AZ

ID	Intersection Name	Fields	AM (PM)											
			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
12	Foothills Blvd & 40th Street (Signal)	Volume (vph)	201 (113)	507 (277)	12 (52)	31 (88)	241 (432)	135 (140)	144 (166)	132 (250)	121 (255)	5 (8)	186 (93)	134 (84)
		v/c Ratio	0.448 (0.315)	0.321 (0.212)	0.322 (0.216)	0.092 (0.211)	0.509 (0.574)	0.335 (0.58)	0.422 (0.403)	0 (0)	0.252 (0.542)	0.018 (0.034)	0.677 (0.416)	0.574 (0.442)
		Movement Delay (s)	11.3 (10.5)	9 (8)	9 (8.1)	14.8 (13.4)	16.8 (15)	15.8 (15.1)	16.2 (15)	13.3 (13.5)	13.4 (14.1)	19.2 (19)	22.5 (20.3)	21.8 (20.5)
		Movement LOS	B (B)	A (A)	A (A)	B (B)	B (B)	B (B)	B (B)	B (B)	B (B)	B (B)	C (C)	C (C)
		Approach Delay (s)	9.6 (8.7)			16.3 (14.8)			14.4 (14.1)			22.2 (20.3)		
		Approach LOS	A (A)			B (B)			B (B)			C (C)		
		Intersection Delay (s)	14.3 (13.7)											
		Intersection LOS	B (B)											
13	S. Ave 10 E & E. South Frontage Rd (Signal)	Volume (vph)	202 (72)	0 (0)	28 (64)	0 (0)	0 (0)	0 (0)	0 (0)	378 (451)	102 (214)	102 (86)	354 (332)	0 (0)
		v/c Ratio	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.397 (0.527)	0 (0)	0 (0)	0.397 (0.527)	0.359 (0.327)	0 (0)	0 (0)
		Movement Delay (s)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1 (1.1)	0.9 (0.7)	0 (0)	0 (0)
		Movement LOS	-	-	-	-	-	-	-	-	A (A)	A (A)	-	-
		Approach Delay (s)	-			-			1 (1.1)			0.9 (0.7)		
		Approach LOS	-			-			A (A)			A (A)		
		Intersection Delay (s)	0.9 (0.9)											
		Intersection LOS	A (A)											
14	Fortuna Rd & E. 28th Street (Signal)	Volume (vph)	0 (0)	512 (280)	151 (485)	78 (70)	289 (722)	0 (0)	0 (0)	0 (0)	0 (0)	367 (284)	0 (0)	58 (15)
		v/c Ratio	0 (0)	0.278 (0.207)	0.279 (0.423)	0.087 (0.092)	0.123 (0.282)	0 (0)	0 (0)	0.278 (0.207)	0.279 (0.423)	0.087 (0.092)	0.123 (0.282)	0 (0)
		Movement Delay (s)	0 (0)	0.8 (0.6)	0.8 (0.9)	1 (1.1)	0.6 (0.6)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement LOS	-	A (A)	A (A)	A (A)	A (A)	-	-	-	-	-	-	-
		Approach Delay (s)	0.8 (0.8)			0.7 (0.6)			-			-		
		Approach LOS	A (A)			A (A)			-			-		
		Intersection Delay (s)	0.8 (0.7)											
		Intersection LOS	A (A)											
15	S. Camino Del Sol & E. 28th Street (Stop)	Volume (vph)	23 (17)	50 (57)	35 (35)	8 (8)	78 (75)	49 (12)	8 (38)	10 (25)	15 (133)	30 (25)	20 (7)	22 (23)
		v/c Ratio	0 (0)	0.02 (0.01)	0 (0)	0 (0)	0.01 (0.01)	0 (0)	0 (0)	0.05 (0.25)	0 (0)	0 (0)	0.11 (0.1)	0 (0)
		Movement Delay (s)	0 (0)	1.7 (1.2)	0 (0)	0 (0)	0.5 (0.7)	0 (0)	0 (0)	10.2 (10.7)	0 (0)	0 (0)	10.7 (11.3)	0 (0)
		Movement LOS	-	A (A)	-	-	A (A)	-	-	B (B)	-	-	B (B)	-
		Approach Delay (s)	1.7 (1.2)			0.5 (0.7)			10.2 (10.7)			10.7 (11.3)		
		Approach LOS	-			-			B (B)			B (B)		
		Intersection Delay (s)	3.9 (6.4)											
		Intersection LOS	A (A)											
16	E. Camino Del Sol/ E. Camionero Del Sol & E. Calle Ventana (Stop)	Volume (vph)	5 (2)	52 (75)	27 (54)	13 (25)	104 (73)	0 (14)	10 (6)	5 (3)	5 (5)	69 (24)	6 (0)	29 (16)
		v/c Ratio	0 (0)	0 (0)	0 (0)	0 (0)	0.01 (0.02)	0 (0)	0 (0)	0.03 (0.02)	0 (0)	0 (0)	0.15 (0.06)	0 (0)
		Movement Delay (s)	0 (0)	0.5 (0.1)	0 (0)	0 (0)	0.9 (1.8)	0 (0)	0 (0)	10.2 (10)	0 (0)	0 (0)	10.5 (10)	0 (0)
		Movement LOS	-	A (A)	-	-	A (A)	-	-	B (B)	-	-	B (B)	-
		Approach Delay (s)	0.5 (0.1)			0.9 (1.8)			10.2 (10)			10.5 (10)		
		Approach LOS	-			-			B (B)			B (B)		
		Intersection Delay (s)	4.4 (2.6)											
		Intersection LOS	A (A)											
17	E. North Frontage Rd & E. Camino Del Sol (Stop)	Volume (vph)	0 (0)	0 (0)	0 (0)	108 (71)	0 (0)	82 (56)	36 (92)	178 (317)	0 (0)	0 (0)	264 (223)	77 (116)
		v/c Ratio	0 (0)	0 (0)	0 (0)	0.26 (0.25)	0 (0)	0.13 (0.08)	0.03 (0.08)	0.11 (0.2)	0 (0)	0 (0)	0.22 (0.22)	0 (0)
		Movement Delay (s)	0 (0)	0 (0)	0 (0)	15.9 (20.9)	0 (0)	10.8 (10.3)	8.1 (8.3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement LOS	-	-	-	C (C)	-	B (B)	A (A)	-	-	-	-	-
		Approach Delay (s)	-			13.7 (16.2)			1.4 (1.9)			-		
		Approach LOS	-			B (C)			A (A)			-		
		Intersection Delay (s)	3.9 (3.2)											
		Intersection LOS	A (A)											
18	Far West Ave & E. South Frontage Rd (Stop)	Volume (vph)	41 (29)	0 (0)	51 (29)	0 (0)	0 (0)	0 (0)	0 (0)	172 (212)	27 (62)	35 (59)	179 (137)	0 (0)
		v/c Ratio	0.15 (0.11)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.13 (0.18)	0 (0)	0 (0)	0.03 (0.05)	0 (0)
		Movement Delay (s)	11.3 (11.8)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1.5 (2.7)	0 (0)
		Movement LOS	B (B)	-	-	-	-	-	-	-	-	-	A (A)	-
		Approach Delay (s)	11.3 (11.8)			-			-			1.5 (2.7)		
		Approach LOS	B (B)			-			-			A (A)		
		Intersection Delay (s)	2.7 (2.3)											
		Intersection LOS	A (A)											
19	Ave 12E & E. South Frontage Rd (Stop)	Volume (vph)	167 (181)	0 (0)	98 (199)	0 (0)	0 (0)	0 (0)	0 (0)	79 (79)	193 (152)	139 (65)	63 (32)	0 (0)
		v/c Ratio	0.42 (0.32)	0 (0)	0.13 (0.25)	0 (0)	0 (0)	0 (0)	0 (0)	0.17 (0.15)	0 (0)	0.12 (0.05)	0.04 (0.02)	0 (0)
		Movement Delay (s)	19.3 (13.5)	0 (0)	9.8 (10.5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	8.2 (7.9)	0 (0)	0 (0)
		Movement LOS	C (B)	-	A (B)	-	-	-	-	-	-	A (A)	-	-
		Approach Delay (s)	15.8 (11.9)			-			-			5.7 (5.3)		
		Approach LOS	C (B)			-			-			A (A)		
		Intersection Delay (s)	7.2 (7.1)											
		Intersection LOS	A (A)											
20	Ave 12E & 40th Street (Signal)	Volume (vph)	119 (166)	200 (255)	16 (36)	28 (60)	250 (220)	87 (103)	201 (118)	355 (607)	143 (61)	38 (25)	424 (279)	24 (15)
		v/c Ratio	0.334 (0.362)	0.197 (0.203)	0.2 (0.207)	0.325 (0.291)	0 (0)	0.38 (0.334)	0.427 (0.26)	0.305 (0.531)	0.31 (0.532)	0.325 (0.291)	0 (0)	0.326 (0.279)
		Movement Delay (s)	15.7 (11.4)	11 (7.2)	11 (7.3)	11.7 (7.5)	0 (0)	12 (7.9)	11.2 (11.2)	6.8 (10.2)	6.8 (10.2)	6.7 (8.7)	0 (0)	6.9 (8.8)
		Movement LOS	B (B)	B (A)	B (A)	B (A)	-	B (A)	B (B)	A (B)	A (B)	A (A)	-	A (A)
		Approach Delay (s)	12.6 (8.7)			11.8 (7.7)			8.1 (10.4)			6.8 (8.7)		
		Approach LOS	B (A)			B (A)			A (B)			A (A)		
		Intersection Delay (s)	9.3 (9.2)											
		Intersection LOS	A (A)											
21	Ave 12E & CO 13th (48th St) (Stop)	Volume (vph)	254 (150)	183 (86)	22 (11)	15 (23)	97 (174)	88 (106)	188 (206)	210 (288)	120 (267)	30 (17)	359 (203)	19 (11)
		v/c Ratio	0.496 (0.329)	0.16 (0.082)	0.164 (0.084)	0.156 (0.243)	0 (0)	0.187 (0.297)	0.411 (0.357)	0.286 (0.401)	0.192 (0.437)	0.156 (0.243)	0 (0)	0.307 (0.176)
		Movement Delay (s)	12.8 (11.2)	8.6 (7.6)	8.6 (7.6)	8.6 (8.2)	0 (0)	8.8 (8.5)	11.9 (8.8)	7.8 (7.3)	7.4 (7.6)	7.8 (6.3)	0 (0)	8 (6.4)
		Movement LOS	B (B)	A (A)	A (A)	A (A)	-	A (A)	B (A)	A (A)	A (A)	A (A)	-	A (A)
		Approach Delay (s)	10.9 (9.8)			8.7 (8.3)			9.2 (7.8)			7.9 (6.4)		
		Approach LOS	B (A)			A (A)			A (A)			A (A)		
		Intersection Delay (s)	9.3 (8)											
		Intersection LOS	A (A)											
22	Foothills Blvd & CO 13th (48th St) (Signal)	Volume (vph)	87 (49)	341 (162)	22 (11)	26 (39)	170 (329)	127 (137)	222 (258)	145 (204)	30 (72)	24 (13)	266 (139)	29 (13)
		v/c Ratio	0.189 (0.118)	0.312 (0.142)	0.315 (0.144)	0.06 (0.069)	0.291 (0.396)	0.255 (0.405)	0.417 (0.429)	0.123 (0.212)	0.128 (0.221)	0.06 (0.069)	0.291 (0.396)	0.246 (0.135)
		Movement Delay (s)	9.9 (9.6)	8.3 (6.9)	8.4 (7)	9.4 (7.5)	8.3 (8)	8.1 (8)	9.6 (9)	6 (6.6)	6 (6.6)	6.4 (6.3)	0 (0)	6.5 (6.3)
		Movement LOS	A (A)	A (A)	A (A)	A (A)	A (A)	A (A)	A (A)	A (A)	A (A)	A (A)	-	A (A)
		Approach Delay (s)	8.7 (7.5)			8.3 (8)			8 (7.7)			6.4 (6.3)		
		Approach LOS	A (A)			A (A)			A (A)			A (A)		
		Intersection Delay (s)	7.9 (7.6)											
		Intersection LOS	A (A)											

Peak-Hour Intersection Performance Analysis: Buildout Improvements - Alternative 1
 Transportation Needs for the Foothills and Mesa Del Sol Areas, Yuma County, AZ

ID	Intersection Name	Fields	AM (PM)											
			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR
23	Ave 14E & CO 13th (48th St) (Stop)	Volume (vph)	96 (44)	49 (20)	7 (53)	4 (5)	19 (25)	29 (54)	74 (87)	195 (248)	48 (134)	26 (15)	313 (187)	16 (10)
		v/c Ratio	0 (0)	0.55 (0.34)	0 (0)	0 (0)	0.13 (0.18)	0 (0)	0 (0)	0.08 (0.12)	0 (0)	0 (0)	0.06 (0.04)	0 (0)
		Movement Delay (s)	0 (0)	31.1 (19.3)	0 (0)	0 (0)	14.5 (13.7)	0 (0)	0 (0)	1.95 (1.8)	0 (0)	0 (0)	0.65 (0.6)	0 (0)
		Movement LOS	-	D (C)	-	-	B (B)	-	-	-	-	-	-	-
		Approach Delay (s)	-	31.1 (19.3)	-	-	14.5 (13.7)	-	-	-	-	-	-	-
		Approach LOS	-	D (C)	-	-	B (B)	-	-	-	-	-	-	-
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-
24	CO 14th St (56th St) & Ave 14E (Stop)	Volume (vph)	0 (0)	0 (0)	0 (0)	25 (25)	0 (0)	25 (25)	12 (17)	80 (97)	0 (0)	0 (0)	74 (39)	8 (4)
		v/c Ratio	0 (0)	0 (0)	0 (0)	0.06 (0.06)	0 (0)	0 (0)	0 (0)	0.02 (0.02)	0 (0)	0 (0)	0.02 (0.02)	0 (0)
		Movement Delay (s)	0 (0)	0 (0)	0 (0)	9.2 (9.1)	0 (0)	0 (0)	0 (0)	1.15 (1.3)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement LOS	-	-	-	A (A)	-	-	-	-	-	-	-	-
		Approach Delay (s)	-	-	-	-	9.2 (9.1)	-	-	-	-	-	-	-
		Approach LOS	-	-	-	-	A (A)	-	-	-	-	-	-	-
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-
25	Ave 15E & S. Frontage Rd (Signal)	Volume (vph)	69 (43)	682 (433)	173 (99)	160 (199)	289 (576)	21 (39)	6 (15)	56 (120)	3 (9)	244 (229)	234 (164)	234 (159)
		v/c Ratio	0.166 (0.427)	0 (0)	0.892 (0.617)	0.594 (0.507)	0.181 (0.369)	0.218 (0.37)	0.166 (0.427)	0 (0)	0 (0)	0.542 (0.6)	0 (0)	0.849 (0.605)
		Movement Delay (s)	22.3 (13.7)	0 (0)	32.3 (14.7)	15.8 (10.5)	7.5 (7.7)	7.5 (7.7)	18.2 (18.6)	0 (0)	0 (0)	18 (17.7)	0 (0)	24 (13.9)
		Movement LOS	C (B)	-	C (B)	B (B)	A (A)	A (A)	B (B)	-	-	B (B)	-	C (B)
		Approach Delay (s)	-	27.4 (14.2)	-	-	10.3 (8.4)	-	-	18.2 (18.6)	-	-	-	21.9 (15.5)
		Approach LOS	-	C (B)	-	-	B (A)	-	-	B (B)	-	-	-	C (B)
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-
26	Ave 15E & 40th Street (Signal)	Volume (vph)	207 (94)	544 (301)	0 (0)	0 (0)	237 (486)	215 (206)	256 (274)	0 (0)	106 (202)	0 (0)	0 (0)	0 (0)
		v/c Ratio	0.186 (0.103)	0.199 (0.11)	0 (0)	0 (0)	0.087 (0.178)	0.176 (0.168)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement Delay (s)	0.8 (0.7)	0.5 (0.4)	0 (0)	0 (0)	0.4 (0.5)	0.7 (0.6)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement LOS	A (A)	A (A)	-	-	A (A)	A (A)	-	-	-	-	-	-
		Approach Delay (s)	-	0.6 (0.5)	-	-	0.5 (0.5)	-	-	-	-	-	-	-
		Approach LOS	-	A (A)	-	-	A (A)	-	-	-	-	-	-	-
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-
27	Ave 15E & CO 13th (48th St) (Signal)	Volume (vph)	201 (89)	297 (145)	0 (0)	0 (0)	121 (255)	236 (240)	296 (305)	0 (0)	94 (199)	0 (0)	0 (0)	0 (0)
		v/c Ratio	0.247 (0.107)	0.256 (0.135)	0 (0)	0 (0)	0.095 (0.216)	0.218 (0.239)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement Delay (s)	1.3 (1.1)	0.7 (0.7)	0 (0)	0 (0)	0.6 (0.8)	0.7 (0.9)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement LOS	A (A)	A (A)	-	-	A (A)	A (A)	-	-	-	-	-	-
		Approach Delay (s)	-	1 (0.9)	-	-	0.7 (0.8)	-	-	-	-	-	-	-
		Approach LOS	-	A (A)	-	-	A (A)	-	-	-	-	-	-	-
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-
28	S. Ave 10E & 40th Street (Signal)	Volume (vph)	66 (83)	103 (137)	11 (44)	16 (53)	123 (109)	39 (40)	105 (56)	403 (616)	86 (35)	41 (30)	448 (329)	25 (19)
		v/c Ratio	0.598 (0.752)	0 (0)	0.223 (0.346)	0.21 (0.48)	0 (0)	0.305 (0.286)	0.951 (0.507)	0 (0)	0.606 (0.816)	0 (0)	0 (0)	0.574 (0.436)
		Movement Delay (s)	37.9 (53)	0 (0)	14.6 (14.8)	17.2 (33)	0 (0)	15.2 (14.4)	96.8 (33.5)	0 (0)	10.9 (18.2)	31.9 (31.2)	0 (0)	10.3 (9.4)
		Movement LOS	D (D)	-	B (B)	B (C)	-	B (B)	F (C)	-	B (B)	C (C)	-	B (A)
		Approach Delay (s)	-	23.1 (26.8)	-	-	15.5 (19.2)	-	-	26 (19.4)	-	-	-	12 (11.1)
		Approach LOS	-	C (C)	-	-	B (B)	-	-	C (B)	-	-	-	B (B)
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-
29	S. Ave 10E & CO 13th (48th St) (Signal)	Volume (vph)	48 (52)	42 (73)	5 (19)	13 (51)	62 (60)	57 (48)	130 (66)	426 (662)	63 (38)	41 (31)	482 (361)	26 (19)
		v/c Ratio	0.355 (0.362)	0 (0)	0.079 (0.134)	0.137 (0.355)	0 (0)	0.201 (0.164)	0.342 (0.174)	0.323 (0.554)	0.326 (0.555)	0 (0)	0 (0)	0.406 (0.365)
		Movement Delay (s)	26 (24.5)	0 (0)	9.5 (7.4)	12.9 (24.4)	0 (0)	10.1 (7.5)	13.9 (13.4)	8.9 (12.2)	9 (12.2)	9.1 (10.6)	0 (0)	9.4 (10.9)
		Movement LOS	C (C)	-	A (A)	B (C)	-	B (A)	B (B)	A (B)	A (B)	A (B)	-	A (B)
		Approach Delay (s)	-	17.8 (13.6)	-	-	10.6 (12.9)	-	-	10 (12.3)	-	-	-	9.3 (10.8)
		Approach LOS	-	B (B)	-	-	B (B)	-	-	A (B)	-	-	-	A (B)
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-
30	CO 14th St (56th St) & S. Ave 10E (Stop)	Volume (vph)	0 (0)	0 (0)	0 (0)	5 (23)	0 (0)	46 (55)	111 (121)	530 (722)	0 (0)	0 (0)	528 (416)	53 (43)
		v/c Ratio	0 (0)	0 (0)	0 (0)	0.03 (0.15)	0 (0)	0.07 (0.08)	0 (0)	0.18 (0.22)	0 (0)	0 (0)	0.19 (0.15)	0 (0)
		Movement Delay (s)	0 (0)	0 (0)	0 (0)	26.6 (29.8)	0 (0)	10.7 (10.2)	0 (0)	2.2 (1.9)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement LOS	-	-	-	D (D)	-	B (B)	-	-	-	-	-	-
		Approach Delay (s)	-	-	-	-	12.3 (16)	-	-	-	-	-	-	-
		Approach LOS	-	-	-	-	B (C)	-	-	-	-	-	-	-
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-
31	Fortuna Rd & CO 13th (48th St) (Signal)	Volume (vph)	4 (6)	23 (38)	3 (12)	72 (156)	62 (84)	49 (39)	121 (67)	415 (605)	27 (34)	46 (37)	488 (386)	81 (66)
		v/c Ratio	0.042 (0.057)	0 (0)	0.061 (0.077)	0.174 (0.309)	0.231 (0.151)	0.215 (0.163)	0.22 (0.126)	0.228 (0.387)	0.23 (0.388)	0 (0)	0.231 (0.151)	0.36 (0.337)
		Movement Delay (s)	10.5 (8.6)	0 (0)	10.6 (8.7)	11.4 (10.4)	11.2 (8.9)	11.2 (9)	5.4 (6.2)	3.2 (5.1)	3.2 (5.1)	3.5 (4.7)	0 (0)	3.6 (4.9)
		Movement LOS	B (A)	-	B (A)	B (B)	B (A)	B (A)	A (A)	A (A)	A (A)	A (A)	-	A (A)
		Approach Delay (s)	-	10.6 (8.7)	-	-	11.3 (9.7)	-	-	3.7 (5.2)	-	-	-	3.6 (4.8)
		Approach LOS	-	B (A)	-	-	B (A)	-	-	A (A)	-	-	-	A (A)
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-
32	CO 14th St (56th St) & Fortuna Rd (Stop)	Volume (vph)	0 (0)	0 (0)	0 (0)	2 (4)	0 (0)	3 (4)	83 (107)	523 (708)	0 (0)	0 (0)	514 (429)	52 (43)
		v/c Ratio	0 (0)	0 (0)	0 (0)	0.01 (0.02)	0 (0)	0 (0.01)	0 (0)	0.16 (0.2)	0 (0)	0 (0)	0.18 (0.15)	0 (0)
		Movement Delay (s)	0 (0)	0 (0)	0 (0)	23.1 (25.3)	0 (0)	10.3 (9.9)	0 (0)	1.8 (1.8)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement LOS	-	-	-	C (D)	-	B (A)	-	-	-	-	-	-
		Approach Delay (s)	-	-	-	-	15.4 (17.6)	-	-	-	-	-	-	-
		Approach LOS	-	-	-	-	C (C)	-	-	-	-	-	-	-
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-
33	CO 14th St (56th St) & 12E Ave (Stop)	Volume (vph)	0 (0)	0 (0)	0 (0)	13 (39)	0 (0)	122 (224)	193 (138)	373 (555)	0 (0)	0 (0)	402 (298)	41 (31)
		v/c Ratio	0 (0)	0 (0)	0 (0)	0.08 (0.19)	0 (0)	0.17 (0.29)	0 (0)	0.18 (0.18)	0 (0)	0 (0)	0.14 (0.11)	0 (0)
		Movement Delay (s)	0 (0)	0 (0)	0 (0)	27.9 (24.3)	0 (0)	10.7 (11.1)	0 (0)	3.15 (2.15)	0 (0)	0 (0)	0 (0)	0 (0)
		Movement LOS	-	-	-	D (C)	-	B (B)	-	-	-	-	-	-
		Approach Delay (s)	-	-	-	-	12.4 (13.1)	-	-	-	-	-	-	-
		Approach LOS	-	-	-	-	B (B)	-	-	-	-	-	-	-
		Intersection Delay (s)	-	-	-	-	-	-	-	-	-	-	-	-
		Intersection LOS	-	-	-	-	-	-	-	-	-	-	-	-

Peak-Hour Intersection Performance Analysis: Buildout Improvements - Alternative 1
 Transportation Needs for the Foothills and Mesa Del Sol Areas, Yuma County, AZ

ID	Intersection Name	Fields	AM (PM)												
			NBL	NBT	NBR	SBL	SBT	SBR	EBL	EBT	EBR	WBL	WBT	WBR	
34	Foothills Blvd & 28th (Stop)	Volume (vph)	0 (0)	58 (149)	38 (115)	258 (242)	131 (95)	0 (0)	0 (0)	0 (0)	0 (0)	113 (41)	0 (0)	364 (378)	
		v/c Ratio	0 (0)	0.06 (0.17)	0 (0)	0.19 (0.21)	0.08 (0.06)	0 (0)	0 (0)	0 (0)	0 (0)	0.42 (0.17)	0 (0)	0.41 (0.5)	
		Movement Delay (s)	0 (0)	0 (0)	0 (0)	8 (8.6)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	25.9 (21.6)	0 (0)	11.2 (13.8)	
		Movement LOS	-	-	-	A (A)	-	-	-	-	-	D (C)	-	B (B)	
		Approach Delay (s)	-	-	-	5.3 (6.1)			-	-	-	14.7 (14.6)			
		Approach LOS	-	-	-	-			-	-	-	B (B)			
		Intersection Delay (s)	9.4 (8)												
		Intersection LOS	A (A)												
35	CO 14th St (56th St) & Foothills Blvd (Stop)	Volume (vph)	0 (0)	0 (0)	0 (0)	20 (22)	0 (0)	199 (222)	351 (323)	142 (188)	0 (0)	0 (0)	192 (48)	29 (7)	
		v/c Ratio	0 (0)	0 (0)	0 (0)	0.14 (0.1)	0 (0)	0.24 (0.23)	0 (0)	0.18 (0.16)	0 (0)	0 (0)	0.07 (0.02)	0 (0)	
		Movement Delay (s)	0 (0)	0 (0)	0 (0)	32 (22.6)	0 (0)	10.2 (9.5)	0 (0)	4.05 (3.5)	0 (0)	0 (0)	0 (0)	0 (0)	
		Movement LOS	-	-	-	D (C)	-	B (A)	-	-	-	-	-	-	
		Approach Delay (s)	-	-	-	12.2 (10.7)			-	-	-	-			
		Approach LOS	-	-	-	B (B)			-	-	-	-			
		Intersection Delay (s)	6.3 (6.6)												
		Intersection LOS	A (A)												
36	Ave 14E & 40th Street (Signal)	Volume (vph)	165 (79)	97 (39)	13 (5)	17 (23)	80 (110)	165 (200)	283 (272)	171 (238)	57 (165)	19 (9)	236 (108)	12 (6)	
		v/c Ratio	0.566 (0.277)	0 (0)	0 (0)	0.424 (0.241)	0 (0)	0 (0.509)	0.508 (0.378)	0.154 (0.319)	0.162 (0.26)	0 (0)	0 (0)	0.193 (0.089)	
		Movement Delay (s)	11.2 (8.3)	0 (0)	0 (0)	10.2 (8)	0 (0)	0 (9.3)	10.8 (6.4)	6.6 (5.2)	6.7 (5.1)	6.7 (4.5)	0 (0)	6.8 (4.5)	
		Movement LOS	B (A)	-	-	B (A)	-	(A)	B (A)	A (A)	A (A)	A (A)	-	A (A)	
		Approach Delay (s)	11.2 (8.3)			10.2 (8.8)			8.9 (5.7)			6.7 (4.5)			
		Approach LOS	B (A)			B (A)			A (A)			A (A)			
		Intersection Delay (s)	9.2 (6.7)												
		Intersection LOS	A (A)												
37	Ave 15E & I-8 Westbound Off-Ramp (Signal)	Volume (vph)	481 (378)	303 (209)	0 (0)	0 (0)	149 (245)	52 (50)	0 (0)	0 (0)	0 (0)	100 (151)	0 (0)	20 (24)	
		v/c Ratio	0.63 (0.485)	0.226 (0.166)	0 (0)	0 (0)	0.07 (0.108)	0.073 (0.111)	0 (0)	0 (0)	0 (0)	0 (0)	0.07 (0.108)	0 (0)	
		Movement Delay (s)	2.3 (1.7)	0.4 (0.5)	0 (0)	0 (0)	0.3 (0.4)	0.3 (0.5)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	
		Movement LOS	A (A)	A (A)	-	-	A (A)	A (A)	-	-	-	-	-	-	
		Approach Delay (s)	1.6 (1.3)			0.3 (0.5)			-			-			
		Approach LOS	A (A)			A (A)			-			-			
		Intersection Delay (s)	1.3 (1)												
		Intersection LOS	A (A)												
38	Ave 15E & I-8 Eastbound Off-Ramp (Signal)	Volume (vph)	0 (0)	713 (501)	209 (106)	66 (37)	183 (359)	0 (0)	71 (86)	0 (0)	287 (455)	0 (0)	0 (0)	0 (0)	
		v/c Ratio	0 (0)	0.357 (0.255)	0.357 (0.256)	0.108 (0.148)	0.15 (0.18)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.15 (0.18)	0 (0)	
		Movement Delay (s)	0 (0)	0.7 (0.8)	0.8 (0.8)	1.1 (0.7)	0.5 (0.7)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	
		Movement LOS	-	A (A)	A (A)	A (A)	A (A)	-	-	-	-	-	-	-	
		Approach Delay (s)	-	0.8 (0.8)			0.7 (0.7)			-			-		
		Approach LOS	-	A (A)			A (A)			-			-		
		Intersection Delay (s)	0.7 (0.8)												
		Intersection LOS	A (A)												
39	Fortuna Rd & 24th St (Signal)	Volume (vph)	0 (0)	272 (212)	145 (188)	180 (625)	307 (601)	0 (0)	0 (0)	0 (0)	0 (0)	135 (161)	0 (0)	838 (191)	
		v/c Ratio	0 (0)	0.188 (0.131)	0.118 (0.137)	0.188 (0.686)	0.111 (0.196)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.111 (0.196)	0 (0)	
		Movement Delay (s)	0 (0)	0.6 (0.3)	0.5 (0.3)	1 (4.4)	0.4 (0.3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	
		Movement LOS	-	A (A)	A (A)	A (A)	A (A)	-	-	-	-	-	-	-	
		Approach Delay (s)	-	0.6 (0.3)			0.6 (2.4)			-			-		
		Approach LOS	-	A (A)			A (A)			-			-		
		Intersection Delay (s)	0.6 (1.9)												
		Intersection LOS	A (A)												
40	S. Camino Del Sol & 24th St (Stop)	Volume (vph)	128 (54)	0 (0)	14 (9)	0 (0)	0 (0)	0 (0)	0 (0)	256 (569)	74 (146)	87 (41)	571 (259)	0 (0)	
		v/c Ratio	0.5 (0.25)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0.11 (0.22)	0 (0)	0 (0)	0.16 (0.08)	0 (0)	
		Movement Delay (s)	27.7 (22.3)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	1.55 (1.7)	0 (0)	
		Movement LOS	D (C)	-	-	-	-	-	-	-	-	-	-	-	
		Approach Delay (s)	27.7 (22.3)			-			-			-			
		Approach LOS	D (C)			-			-			-			
		Intersection Delay (s)	4.2 (1.7)												
		Intersection LOS	A (A)												

Note:
 * Indicates intersection simulated with VISSIM software to accurately measure queues and code complex signal phasing.

Appendix E
Summary of Intersection Improvements

TABLE E.1

RECOMMENDED INTERSECTION IMPROVEMENTS FOR YEAR 2030

Intersection	Improvements
#1 – South Fortuna Road and I-8 North Frontage Road	<ul style="list-style-type: none"> • Model forecasts indicate a new turn lane should be added to the following movements: southbound left, southbound right, and eastbound left
#6 – South Fortuna Road and East 40th Street/East County 12 th Street	<ul style="list-style-type: none"> • Northbound through movement should be modified to add an additional lane based on planned segment improvements • Restriping of existing pavement with a through-left shared lane and a right-turn lane to achieve two southbound through lanes with shared right turn and two new southbound left-turn lanes • Southbound left movement should be given a protected phase
#7 – South Foothills Boulevard and I-8 North Frontage Road	<ul style="list-style-type: none"> • Restriping of existing pavement that consists of two through lanes with shared left and right turns to achieve one through lane with shared left-turn and a dedicated right-turn lane in the eastbound direction • Restriping of existing pavement that consists of two through lanes with shared left and right turns to achieve dedicated left-turn lane and a through lane with shared right turn in the westbound direction • Northbound left movement should be given a protected phase
#9 – South Foothills Boulevard and I-8 Eastbound Off-Ramp	<ul style="list-style-type: none"> • Restriping of existing pavement that consists of a dedicated left-turn lane and a through lane with shared left and right turns and a dedicated right-turn lane to achieve a through lane with shared left-turn lane and two dedicated right-turn lanes in on the eastbound off-ramp • Southbound left movement should be given a protected phase • Note: While standard intersection configurations and traffic control were assumed for this analysis, ADOT considers roundabouts to be a viable alternative, and their applicability could be the subject of subsequent site-specific studies. • (Please refer to discussion of South Foothills Boulevard Traffic Signal Phasing at I-8 Eastbound Off-Ramp and I-8 South Frontage Road in Section 4.2.2 for additional details)
#10 – South Foothills Boulevard and I-8 South Frontage Road	<ul style="list-style-type: none"> • Restriping of existing pavement that consists of two through lanes with shared left- and right-turn movements to achieve a through lane with shared left turn and a dedicated right-turn lane in the westbound direction • Eastbound approach would need a new dedicated left-turn lane along with restriping of the existing pavement to achieve a dedicated left-turn lane and a through lane with shared right-turn movement • Southbound left movement should be given a protected phase • (Please refer to discussion of South Foothills Boulevard Traffic Signal Phasing at I-8 Eastbound Off-Ramp and I-8 South Frontage Road in Section 4.2.2 for additional details)
#12 – South Foothills Boulevard and East 40 th Street/East County 12 th Street	<ul style="list-style-type: none"> • Eastbound through movement should be modified to add an additional lane based on planned segment improvements • A turn lane should be added to the westbound right movement • Eastbound left movement should be given a protected phase

TABLE E.1

RECOMMENDED INTERSECTION IMPROVEMENTS FOR YEAR 2030

Intersection	Improvements
#13 – South Avenue 10E and I-8 South Frontage Road	<ul style="list-style-type: none"> ● Model forecasts indicate this intersection will need a traffic signal; ADOT should consider conducting a warrant analysis when traffic levels increase
#14 – South Fortuna Road and East 28 th Street/East County 10½ Street	<ul style="list-style-type: none"> ● Model forecasts indicate this intersection will need a traffic signal; ADOT should consider conducting a warrant analysis when traffic levels increase
#20 – South Avenue 12E and East 40 th Street/East County 12 th Street	<ul style="list-style-type: none"> ● East 40th Street/East County 12th Street should be upgraded to four-lane road from a two-lane road based on planned segment improvements with two through lanes in eastbound and westbound approaches at the intersection ● South Avenue 12E should be extended to the south of the intersection with one through lane in each direction ● A though lane with shared left- and right-turn movements should be considered for the northbound approach ● Southbound approach of South Avenue 12E should be restriped to achieve one through lane with shared left-turn movement and a dedicated southbound right-turn lane ● A new turn lane should be added to the eastbound left movement ● Model forecasts indicate this intersection will need a traffic signal; ADOT should consider conducting a warrant analysis when traffic levels increase
#21 – South Avenue 12E and East 48 th Street/East County 13 th Street	<ul style="list-style-type: none"> ● South Avenue 12E should be extended to East 48th Street/East County 13th Street with one through lane in each direction ● East 48th Street/East County 13th Street should be extended as a two-lane road to South Fortuna Road, providing one through lane in each direction east and west of South Avenue 12E ● All three approaches should have the same lane configuration consisting of one through lane with shared left- and right-turn movements
#22 – South Foothills Boulevard and East 48 th Street/East County 13 th Street	<ul style="list-style-type: none"> ● Additional through lane should be added to the northbound and southbound approaches based on the planned segment improvements ● Southbound approach should be restriped to achieve two through lanes with shared right-turn movement ● Model forecasts indicate this intersection will need a traffic signal; ADOT should consider conducting a warrant analysis when traffic levels increase
#24 – South Avenue 14E and East 56 th Street/East County 14 th Street	<ul style="list-style-type: none"> ● Additional through lane should be added to eastbound and westbound approaches based on the planned segment improvements
#25 – South Avenue 15E and I-8 South Frontage Road	<ul style="list-style-type: none"> ● South Avenue 15E should be upgraded to a four-lane road, based on planned segment improvements ● A new dedicated turn lane should be added to the northbound right movement ● The existing pavement on eastbound approach should be restriped to achieve one through lane with shared right-turn movement ● I-8 South Frontage Road should be extended to the east side of the intersection with one through lane in each direction ● A dedicated left-turn lane should be added to the Westbound approach ● Westbound left should be given a protected phase ● Model forecasts indicate this intersection will need a traffic signal; ADOT should consider conducting a warrant analysis when traffic levels increase

TABLE E.1

RECOMMENDED INTERSECTION IMPROVEMENTS FOR YEAR 2030

Intersection	Improvements
#26 – South Avenue 15E and East 40 th Street/East County 12 th Street	<ul style="list-style-type: none">• South Avenue 15E should be upgraded to a four-lane road from a two-lane road based on planned segment improvements• A turn lane should be added to the eastbound left-turn movement• Model forecasts indicate this intersection will need a traffic signal; ADOT should consider conducting a warrant analysis when traffic levels increase
#27 – South Avenue 15E and East 48 th Street/East County 13 th Street	<ul style="list-style-type: none">• South Avenue 15E should be upgraded to a four-lane road from a two-lane road based on planned segment improvements• Model forecasts indicate this intersection will need a traffic signal; ADOT should consider conducting a warrant analysis when traffic levels increase

Prepared by Wilson & Company, December, 2011.

TABLE E.2

RECOMMENDED INTERSECTION IMPROVEMENTS FOR BUILDOUT CONDITIONS – ALTERNATIVE 1

Intersection	Improvements
#13 – South Avenue 10E and South Frontage Road	<ul style="list-style-type: none"> • South Avenue 10E should be upgraded to a four-lane road from a two-lane road based on planned segment improvements • Pavement should be restriped in the northbound direction to achieve a dedicated left-turn lane and a new dedicated right-turn lane
#20 – South Avenue 12E and East 40 th Street/East County 12 th Street	<ul style="list-style-type: none"> • South Avenue 12E should be upgraded to a four-lane road north and south of East 40th Street/East County 12th Street based on planned segment improvements • Additional through lane should be added to the northbound and southbound approaches along with a new dedicated lane for the northbound left movement
#21 – South Avenue 12E and East 48 th Street/East County 13 th Street	<ul style="list-style-type: none"> • South Avenue 12E north and south of its intersection with East 48th Street/East County 13th Street should be upgraded to a four-lane road based on planned segment improvements • A new left-turn lane should be added to the northbound approach along with an additional through lane • Additional through lane should be added to the southbound approach • East 48th Street/East County 13th Street should be upgraded to a four-lane road from a two-lane road east and west of South Avenue 12E based on planned segment improvements • A dedicated left-turn lane should be added to the eastbound left movement along with an additional through lane • Additional through lane should be added to the westbound approach • Model forecasts indicate this intersection will need a traffic signal; ADOT should consider conducting a warrant analysis when traffic levels increase
#22 – South Foothills Boulevard and East 48 th Street/East County 13 th Street	<ul style="list-style-type: none"> • East 48th Street/East County 13th Street should be upgraded to a four-lane road from a two-lane road east and west of South Foothills Boulevard based on planned segment improvements • Additional through lane would be added to the eastbound and westbound approaches • Eastbound approach would need a dedicated left-turn lane.
#23 – South Avenue 14E and East 48 th Street/East County 13 th Street	<ul style="list-style-type: none"> • East 48th Street/East County 13th Street should be upgraded to a four-lane road from a two-lane road east and west of South Avenue 14E based on planned segment improvements • A through lane should be added to the eastbound and westbound approaches
#25 – South Avenue 15E and I-8 South Frontage Road	<ul style="list-style-type: none"> • South Avenue 15 E should be extended north of I-8 • Northbound approach at the I-8 South Frontage Rd should be restriped to achieve two through lanes with shared left- and right-turn movements • Southbound approach at the I-8 South Frontage Rd would need a new dedicated left-turn lane and two new through lanes with shared right-turn movement • Southbound and westbound left-turn movements should be given a protected phase
#27 – South Avenue 15E and East 48 th Street/East County 13 th Street	<ul style="list-style-type: none"> • A left-turn lane should be added to the eastbound approach

TABLE E.2

RECOMMENDED INTERSECTION IMPROVEMENTS FOR BUILDOUT CONDITIONS – ALTERNATIVE 1

Intersection	Improvements
#28 – South Avenue 10E and East 40 th Street/East County 12 th Street	<ul style="list-style-type: none"> • South Avenue 10E should be extended south of East 40th Street/East County 12th Street as a four-lane road based on planned segment improvements • Northbound approach should consist of two new through lanes with shared left- and right-turn movements • A through lane should be added to the southbound approach • East 40th Street/East County 12th Street should be upgraded to a four-lane road from a two-lane road east and west of South Avenue 10E • Eastbound approach should consist of two new through lanes with shared left- and right-turn movements • A through lane should be added to the westbound approach • Model forecasts indicate this intersection will need a traffic signal; ADOT should consider conducting a warrant analysis when traffic levels increase
#29 – South Avenue 10E and East 48 th Street/East County 13 th Street	<ul style="list-style-type: none"> • South Avenue 10E should be extended south of East 48th Street/East County 13th Street as a four-lane road based on planned segment improvements • Northbound and southbound approaches should consist of two through lanes with shared left- and right-turn movements • East 48th Street/East County 13th Street should be upgraded to a four-lane road from a two-lane road east and west of Ave 10E • Eastbound approach should consist of two through lanes with shared right-turn movement and a new dedicated left-turn lane • Westbound approach should consist of two through lanes with shared left- and right-turn movements • Model forecasts indicate this intersection will need a traffic signal; ADOT should consider conducting a warrant analysis when traffic levels increase
#30 – South Avenue 10E and East 56 th Street/East County 14 th Street	<ul style="list-style-type: none"> • South Avenue 10E should be extended south of East 48th Street/East County 13th Street to East 56th Street/East County 14th Street as a four-lane road based on planned segment improvements • Southbound approach should include new dedicated left- and right-turn lanes • East 56th Street/East County 14th Street should be constructed as a four-lane road east and west of South Avenue 10E • Eastbound approach should consist of two through lanes with shared left-turn movements • Westbound approach should consist of two through lanes with shared right-turn movements

TABLE E.2

RECOMMENDED INTERSECTION IMPROVEMENTS FOR BUILDOUT CONDITIONS – ALTERNATIVE 1

Intersection	Improvements
#31 – South Fortuna Road and East 48 th Street/East County 13 th Street	<ul style="list-style-type: none"> • South Fortuna Road should be extended south of East 48th Street/East County 13th Street as a four-lane road • Northbound approach should consist of two new through lanes with shared right- and left-turn movements • Southbound approach should consist of a new dedicated left-turn lane and two new through lanes with shared right-turn movement • East 48th Street/East County 13th Street east of South Fortuna Road should be upgraded from a two-lane road to a four-lane road • East 48th Street/East County 13th Street should be extended to the west of South Fortuna Road as a four-lane road • Eastbound approach should consist of a new dedicated left-turn lane and two new through lanes with shared right-turn movements • Westbound approach should consist of two new through lanes with shared right- and left-turn movements • Model forecasts indicate this intersection will need a traffic signal; ADOT should consider conducting a warrant analysis when traffic levels increase
#32 – South Fortuna Road and East 56 th Street/East County 14 th Street	<ul style="list-style-type: none"> • South Fortuna Road should be constructed as a four-lane road north of its intersection with East 56th Street/East County 14th Street • Southbound approach should consist of a new dedicated left- and right-turn lanes • East 56th Street/East County 14th Street should be constructed as a four-lane road east and west of South Fortuna Road • Eastbound approach should consist of two new through lanes with shared left-turn movements • Westbound approach should consist of two new through lanes with shared right-turn movements
#33 – South Avenue 12E and East 56 th Street/East County 14 th Street	<ul style="list-style-type: none"> • South Avenue 12E should be extended as a four-lane road south of East 48th Street/East County 13th Street to East 56th Street/East County 14th Street • Southbound approach should consist of new dedicated left- and right-turn lanes • East 56th Street/East County 14th Street should be constructed as a four-lane road east and west of South Avenue 12E • Eastbound approach should consist of two new through lanes with shared left-turn movements • Westbound approach should consist of two new through lanes with shared right-turn movements
#34 – South Foothills Boulevard and East 28 th Street/East County 10½ Street	<ul style="list-style-type: none"> • South Foothills Boulevard should be constructed as a two-lane road south of East 28th Street/East County 10½ Street and a four-lane road north of East 28th Street/East County 10½ Street • Northbound approach should consist of a new through lane with shared right-turn movement • Southbound approach should consist of a new dedicated left-turn lane and a through lane • East 28th Street/East County 10½ Street should be constructed as a four-lane road east of South Foothills Boulevard • Westbound approach should consist of a new dedicated left- and right-turn lanes

TABLE E.2

RECOMMENDED INTERSECTION IMPROVEMENTS FOR BUILDOUT CONDITIONS – ALTERNATIVE 1

Intersection	Improvements
<p>#35 – South Foothills Boulevard and East 56th Street/East County 14th Street</p>	<ul style="list-style-type: none"> • South Foothills Boulevard should be extended as a four-lane road from East 48th Street/East County 13th Street to East 56th Street/East County 14th Street • Southbound approach should consist of a new dedicated left- and right-turn lanes • East 56th Street/East County 14th Street should be upgraded to a four-lane road from a two-lane road east of South Foothills Boulevard • East 56th Street/East County 14th Street should be constructed as a four-lane road west of South Foothills Boulevard • Eastbound approach should consist of two new through lanes with shared left-turn movements • Westbound approach should consist of two new through lanes with shared right-turn movements
<p>#36 – South Avenue 14E and East 40th Street/East County 12th Street</p>	<ul style="list-style-type: none"> • South Avenue 14 E should be constructed north and south of East 40th Street/East County 12th Street as a four-lane road • Northbound and southbound approaches should consist of a new through lanes with shared left- and right-turn movements • Eastbound approach of East 40th Street/East County 12th Street should consist of a new dedicated left-turn lane and two through lanes with shared right-turn movements • Westbound approach should consist of two through lanes with shared left- and right-turn movements • Model forecasts indicate this intersection will need a traffic signal; ADOT should consider conducting a warrant analysis when traffic levels increase
<p>#37 – South Avenue 15E and I-8 Westbound Off-Ramp</p>	<ul style="list-style-type: none"> • South Avenue 15E should be extended as a four-lane road north of I-8 • Northbound approach at the I-8 Westbound Off-Ramp should consist of two new through lanes with shared left-turn movements • Southbound approach should consist of two new through lanes with shared right-turn movements • Westbound approach should consist of a new dedicated left- and right-turn lanes • Model forecasts indicate this intersection will need a traffic signal; ADOT should consider conducting a warrant analysis when traffic levels increase • • Note: While standard intersection configurations and traffic control were assumed for this analysis, ADOT considers roundabouts to be a viable alternative, and their applicability could be the subject of subsequent site-specific studies.
<p>#38 – South Avenue 15E and I-8 Eastbound Off-Ramp</p>	<ul style="list-style-type: none"> • South Avenue 15E should be extended as a four-lane road north of I-8 • Northbound approach at the I-8 Eastbound Off-Ramp should consist of two new through lanes with shared right-turn movements • Southbound approach should consist of two new through lanes with shared left-turn movements • Eastbound approach should consist of new dedicated left- and right-turn lanes • Model forecasts indicate this intersection will need a traffic signal; ADOT should consider conducting a warrant analysis when traffic levels increase • • Note: While standard intersection configurations and traffic control were assumed for this analysis, ADOT considers roundabouts to be a viable alternative, and their applicability could be the subject of subsequent site-specific studies.

TABLE E.2

RECOMMENDED INTERSECTION IMPROVEMENTS FOR BUILDOUT CONDITIONS – ALTERNATIVE 1

Intersection	Improvements
#39 – South Fortuna Road and East 24 th Street/East County 10 th Street	<ul style="list-style-type: none"> • Northbound approach should be restriped to achieve two through lanes with shared right-turn movements • A through lane should be added to the southbound approach • East 24th Street/East County 10th Street should be constructed as a four-lane road east of South Fortuna Road to South Camino Del Sol • Eastbound approach should be striped to provide a left-turn-only lane and two new right-turn-only lanes • Model forecasts indicate this intersection will need a traffic signal; ADOT should consider conducting a warrant analysis when traffic levels increase
#40 - East 24 th Street/East County 10 th Street and South Camino Del Sol	<ul style="list-style-type: none"> • South Camino Del Sol should be extended as a two-lane road north from 28th Street to East 24th Street/East County 10th Street • Northbound approach at this 'T' intersection should consist of a new left-right shared lane • East 24th Street/East County 10th Street should be constructed as a four-lane road east and west of South Camino Del Sol • Eastbound approach should consist of two new through lanes with shared right-turn movements • Westbound approach should consist of two new through lanes with shared left-turn movements

Prepared by Wilson & Company, December, 2011.

Appendix F

Detailed Planning Level Cost Calculations

**Planning Level Cost Estimates
Recommended Mid-Term (10-Year) Improvements**

Improvement	Name	Intersection # or Location	Quantity	Unit Cost (Millions)	Total Cost (Millions)
Widening 2-4 Lanes (Quantity in Miles of Length)					
	40th Street	Fortuna Road to Avenue 12E	1	\$4.50	\$4.50
	40th Street	Avenue 13E to Fortuna Wash	0.4	\$4.50	\$1.80
Sub-Total Cost			1.4	\$4.50	\$6.30
Widening 2-3 Lanes (Quantity in Miles of Length)					
	North and South Frontage Roads	Avenue 10E to Avenue 15E	7.25	\$3.00	\$21.75
Sub-Total Cost			7.25	\$3.00	\$21.75
New 4 lane arterial (Quantity in Miles of Length)					
	40th Street	Fortuna Wash to Avenue 15	1.6	\$5.00	\$8.00
Sub-Total Cost			1.6	\$5.00	\$8.00
New Bridge over Wash (Quantity in 100 Feet of Length)					
	40th Street *	Over Fortuna Wash	6	\$1.00	\$6.00
Sub-Total Cost			6	\$1.00	\$6.00
Total Cost					\$42.05

* Length of the bridge is assumed to be 600 Feet.

**Planning Level Cost Estimates
Recommended Year 2030 Improvements**

Improvement	Name	Intersection # or Location	Quantity	Unit Cost (Millions)	Total Cost (Millions)
New Signals (Quantity in Number of Signals)					
	South Frontage Road and Avenue 10E	13	1	\$0.25	\$0.25
	28th Street and Fortuna Road	14	1	\$0.25	\$0.25
	40th Street and Avenue 12E	20	1	\$0.25	\$0.25
	Co 13th Street and Foothills Boulevard	22	1	\$0.25	\$0.25
	S Frontage Road and Avenue 15 E	25	1	\$0.25	\$0.25
	40th Street and Avenue 15 E	26	1	\$0.25	\$0.25
	Co 13th Street and Avenue 15 E	27	1	\$0.25	\$0.25
Sub-Total Cost			7	\$0.25	\$1.75
Turn lanes (Quantity in Number of Turn Lanes)					
	North Frontage Road and Fortuna Road	1	3	\$0.35	\$1.05
	40th Street and Fortuna Road	6	1	\$0.35	\$0.35
	40th Street and Foothills Boulevard	12	1	\$0.35	\$0.35
	South Frontage Rd and Avenue 12 E	19	1	\$0.35	\$0.35
	40th Street and Avenue 12 E	20	1	\$0.35	\$0.35
	Co 13th Street and Foothills Boulevard	22	1	\$0.35	\$0.35
	S Frontage Road and Avenue 15 E	25	1	\$0.35	\$0.35
	40th Street and Avenue 15 E	26	2	\$0.35	\$0.70
Sub-Total Cost			11	\$0.35	\$3.85
Widening 2-4 Lanes (Quantity in Miles of Length)					
	Avenue 12 E	North of 40th Street	0.5	\$4.50	\$2.25
	Foothills Boulevard	50th Street to 56th Street	0.75	\$4.50	\$3.38
	Avenue 15 E	South Frontage Road to to 56th Street	2.3	\$4.50	\$10.35
	56th Street	Foothills Boulevard to Avenue 15 E	2	\$4.50	\$9.00
Sub-Total Cost			5.55	\$4.50	\$24.98
Widening 3-4 Lanes (Quantity in Miles of Length)					
	Fortuna Road	28th Street to 24th Street	0.4	\$3.00	\$1.20
Sub-Total Cost			0.4	\$3.00	\$1.20
New 2 lane Collector (Quantity in Miles of Length)					
	Avenue 10 E	South of South Frontage Rd	0.25	\$2.00	\$0.50
	Avenue 12 E	South of 40th Street	1	\$2.00	\$2.00
	Foothills Boulevard	North of 28th Street	0.25	\$2.00	\$0.50
	24th Street	West of Camino Del Sol	0.25	\$2.00	\$0.50
	48th Street	Fortuna Road to Foothills Boulevard	1.5	\$2.00	\$3.00
Sub-Total Cost			3.25	\$2.00	\$6.50
New 4 lane arterial (Quantity in Miles of Length)					
	Fortuna Road	40th Street to 48th Street	1	\$5.00	\$5.00
Sub-Total Cost			1	\$5.00	\$5.00
New Shared use path (Quantity in Miles of Length)					
		Along Fortuna Wash	4.5	\$0.70	\$3.15
Sub-Total Cost			4.5	\$0.70	\$3.15
Total Cost					\$46.43

* Length of the bridge is assumed to be 400 Feet.

**Planning Level Cost Estimates
Recommended Buildout Improvements**

Improvement	Name	Intersection # or Location	Quantity	Unit Cost (Millions)	Total Cost (Millions)
New Signals (Quantity in Number of Signals)					
	Co 13th Street and Avenue 12 E	21	1	\$0.25	\$0.25
	40th Street and Avenue 15 E	28	1	\$0.25	\$0.25
	Co 13th Street and S Avenue 10 E	29	1	\$0.25	\$0.25
	Co 13th Street and Fortuna Road	31	1	\$0.25	\$0.25
	40th Street and Avenue 14 E	36	1	\$0.25	\$0.25
	I-8 WB off ramp and Avenue 15 E	37	1	\$0.25	\$0.25
	I-8 EB off ramp and Avenue 15 E	38	1	\$0.25	\$0.25
	34th Street and Fortuna Road	39	1	\$0.25	\$0.25
Sub-Total Cost			8	\$0.25	\$2.00
Turn lanes (Quantity in Number of Turn Lanes)					
	North Frontage Road and Foothills Boulevard	7	1	\$0.35	\$0.35
	South Frontage Road and Foothills Boulevard	10	3	\$0.35	\$1.05
	40th Street and 12E Avenue	20	1	\$0.35	\$0.35
	Co 13th Street and 12E Avenue	21	2	\$0.35	\$0.70
	Co 13th Street and Foothills Boulevard	22	1	\$0.35	\$0.35
	South Frontage Road and Avenue 15E	25	1	\$0.35	\$0.35
	Co 13th Street and Avenue 10E	29	1	\$0.35	\$0.35
	Co 13th Street and Fortuna Road	31	2	\$0.35	\$0.70
	40th Street and Avenue 14E	36	1	\$0.35	\$0.35
	24th Street and Fortuna Road	39	1	\$0.35	\$0.35
Sub-Total Cost			14	\$0.35	\$4.90
Widening 2-4 Lanes (Quantity in Miles of Length)					
	Avenue 10 E	Frontage Road to 40th Street	1	\$4.50	\$4.50
	Avenue 12 E	40th Street to 48th Street	1	\$4.50	\$4.50
	Foothills Boulevard	South of 48th Street	0.25	\$4.50	\$1.13
	24th Street	Fortuna Road to Camino Del Sol	1	\$4.50	\$4.50
	28th Street	Foothills Boulevard to Avenue 15 E	0.75	\$4.50	\$3.38
	40th Street	Avenue 10 E to Fortuna Road	1	\$4.50	\$4.50
	48th Street	Fortuna Road to Avenue 15 E	3.75	\$4.50	\$16.88
Sub-Total Cost			8.75	\$4.50	\$39.38
New 2 lane Collector (Quantity in Miles of Length)					
	Avenue 14 E	40th Street to Fortuna Wash	1.1	\$2.00	\$2.20
Sub-Total Cost			1.1	\$2.00	\$2.20
New 4 lane arterial (Quantity in Miles of Length)					
	Avenue 10 E	40th Street to 56th Street	2	\$5.00	\$10.00
	Fortuna Road	48th Street to 56th Street	1	\$5.00	\$5.00
	Avenue 12 E	48th Street to 56th Street	1	\$5.00	\$5.00
	Avenue 15 E	North of I-8	1.4	\$5.00	\$7.00
	24th Street	Camino Del Sol to 28th Street	1.25	\$5.00	\$6.25
	28th Street	Foothills Boulevard to Avenue 15E	1.25	\$5.00	\$6.25
	48th Street	Avenue 10 E to Fortuna Road	1	\$5.00	\$5.00
	56th Street	Avenue 10 E to Foothills Boulevard	3	\$5.00	\$15.00
Sub-Total Cost			11.9	\$5.00	\$59.50
New Bridge over Wash (Quantity in 100 Feet of Length)					
	Avenue 14E (1 Bridge Location) *	Over Fortuna Wash	4	\$1.00	\$4.00
	28 Street (3 Bridge Locations) *	West of Avenue 15E	12	\$1.00	\$12.00
	Avenue 15E (3 Bridge Locations) *	North of I-8	12	\$1.00	\$12.00
Sub-Total Cost			28	\$1.00	\$28.00
New Interchange					
	I-8 and Avenue 15 E		1	\$25.00	\$25.00
Sub-Total Cost			1	\$25.00	\$25.00
Total Cost					\$160.98

* Length of the bridge is assumed to be 400 Feet.

Appendix G

Public Involvement Summary Report

Transportation Needs for the Yuma Foothills and Mesa Del Sol Areas PARA Study

Public Involvement Summary Report

Prepared for:



Yuma County &
Arizona Department of Transportation,
Multimodal Planning Division

Prepared by:

Godec, Randall & Associates, Inc.

March 2012

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Executive Summary

This report summarizes public involvement efforts and community response during the *Yuma Foothills and Mesa Del Sol Areas Transportation Needs Study*, a Planning Assistance for Rural Areas (PARA) project conducted by the Arizona Department of Transportation (ADOT) and Yuma County, Arizona from April 2011 to March 2012.

The Foothills and Mesa Del Sol Areas Transportation Needs Study was conducted through a cooperative planning process involving agency staff, elected officials, local businesses, and the public. Public involvement was a key component in the development of the study, to assist the project team in evaluating existing area transportation conditions and the future improvement scenarios developed as part of this project. Throughout the study, information was presented to and solicited from stakeholders through individual interviews, advisory committee meetings, project web site, community survey, media outreach, and a public forum.

The public involvement program for this study elicited suggestions and observations about the Foothills/Mesa Del Sol area transportation systems that included strong messages for improving local streets, the Interstate 8 freeway interchange approaches and frontage roads, and bicycle and pedestrian accommodations. Major themes included public safety, traffic congestion, traffic controls, and multimodal access. The study recommendations include excellent alignment with the public's comments and desires, and most people urged implementation of these measures as soon as possible.

1.0 Planning & Research

1.1 Public Involvement Plan

ADOT selected Godec, Randall & Associates, Inc. (GRA) to conduct the public involvement program for the Foothills and Mesa Del Sol Areas Transportation Needs Study. An initial public involvement plan was prepared for the project on April 11, and was refined through discussions with the study team and the planning consultant, Wilson & Company. A modified public involvement program was developed at a meeting on June 10, and the plan continued to be updated as the study progressed. The key elements of the plan, along with implementation dates, are shown on page 1 of the Appendix to this report.

1.2 Project Web Site

The Arizona Department of Transportation maintains a comprehensive Web site at <http://www.azdot.gov> on which it posts information about most current projects. A

Web page on this site was developed for the Foothills and Mesa Del Sol study, <http://www.azdot.gov/foothills>, where all study-related materials were posted. The Web page was also used to announce public participation opportunities and to link to the community survey and public open house comment form. For this project, the study team felt that Web-based communication was important because many seasonal area residents live outside the study area for a portion of the year. The Web page address was advertised in all public communication materials so that remote stakeholders could access study information and submit ideas and comments.

1.3 Stakeholder Research & Database Development

ADOT Communications and Community Partnerships Division in Yuma maintains electronic databases of people interested in transportation issues throughout the region. To supplement these, the study team researched key stakeholders, businesses, and homeowner associations for the Foothills and Mesa Del Sol areas, and Yuma County provided a list of mobile home and recreational vehicle parks. These lists were used to distribute study-related notices and publicity, and were updated as information became available.

At the beginning of the Foothills and Mesa Del Sol study, the planning consultants conducted interviews with several key stakeholders to learn more about the area, obtain data, discuss existing transportation issues, and define objectives for the study. Those interviewed included elected officials, agency staff, emergency responders, and major regional employers.

2.0 Outreach & Community Survey

2.1 Survey Design and Distribution

As input to the Existing and Future Conditions analysis, public opinions were sought about the current transportation problems in the area and priorities for improvements. A survey questionnaire was prepared and administered from September 1 to October 14, 2011. Representatives from the project team drafted questions for the survey questionnaire. The multimodal questionnaire was open-ended, asking respondents to discuss area transportation problems and to prioritize their perceptive needs for the area from a list of potential transportation improvements.

The one-page survey was accompanied by a fact sheet (see Appendix page 2 and page 3). In addition to being posted on the project Web site, boxes containing the surveys were delivered to strategic locations in the study area. Respondents were asked to complete the questionnaire and return it to the box provided. Based on suggestions from the study team and local staff, eight kiosk locations were chosen as optimal.

Survey kits were placed at the following retail shops, community gathering places, and RV parks:

Mesa del Sol Clubhouse
Sundance RV Park
Foothills Walmart
St. John Neumann Church
Westwind RV Park
Hank's Market
Foothills Library
Fry's Marketplace

Response for the online survey was collected from September 1 through Oct. 14, 2011. Survey boxes were placed at the study area locations during the same period, and were collected on October 14.

2.2 Public Notification

ADOT issued a media release to the local media contacts and e-mail notification via the .GOV email delivery system on August 29, 2011 (see Appendix page 4). Gabriella Kemp, ADOT Yuma Senior Community Relations Officer, sent a personalized reminder email solicitation on Sept. 15 (see Appendix page 5). Ms. Kemp conducted television interviews for Yuma City Outlook (Ch. 77) on Sept. 19, both in English and in Spanish, which aired almost continuously on their channel from Sept. 26 through Sept. 30. The study's Technical Advisory Committee sent the announcement internally to their organizations and externally to stakeholder lists, where appropriate. In addition, the project team sent a "last chance" email reminder on October 12 to a list of local contacts, stakeholders, RV parks, businesses, hospitals, schools, and special interest groups (Appendix page 6).

2.3 Results

A total of 77 individuals provided their opinions and feedback regarding transportation issues in the study area. Of these, 30 responses were collected at the survey kiosks and the remainder was provided through the Web site.

Survey respondents identified the following as the main transportation problems in the area. They are listed in order based on the number of times the problem was mentioned.

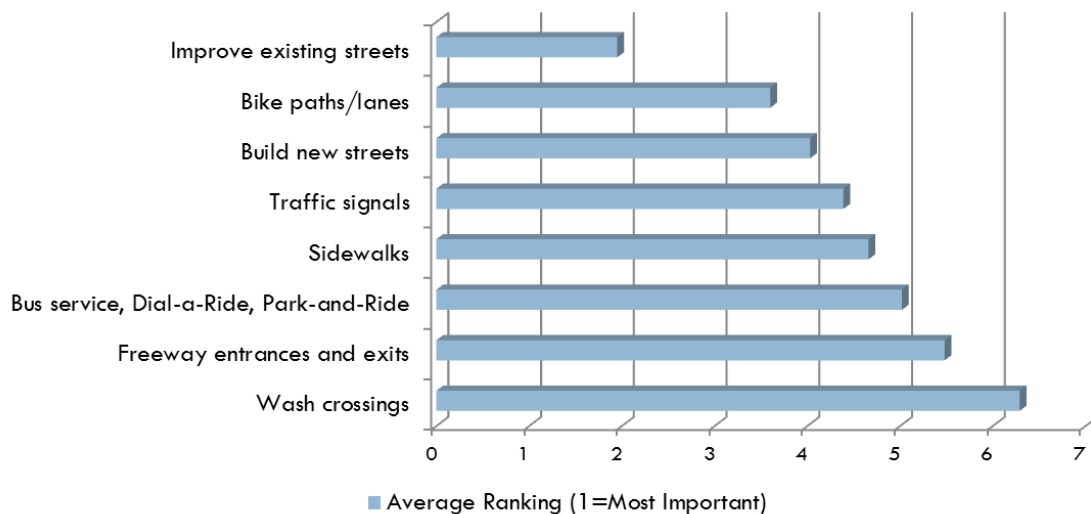
1. Dangerous, poor road conditions
2. Congestion on I-8 frontage roads
3. Lack of bicycle and pedestrian facilities

4. Not enough arterial streets
5. Lack of and poor timing of traffic signals
6. Lack of public transportation
7. Poor road design
8. Traffic congestion, especially during winter visitor season
9. Lack of traffic enforcement

Specific locations of highest concern were the north and south I-8 frontage roads as well as the Foothills Boulevard and Fortuna Road interchanges, due to poor signage and traffic control, congestion, high volume of heavy trucks, structural deterioration like potholes, and lack of left-turn lanes. The need to extend 40th Street to the west to connect into Yuma was mentioned many times. There was a surprisingly high level of concern about the lack of safe pedestrian and bicycle facilities.

When asked about suggested transportation improvements, respondents clearly felt that improving existing streets should be a priority and, based on previous comments, it can be assumed improvements to the frontage roads are the most important to the residents. Other important improvements are adding bicycle lanes and building new arterial streets to provide better east-west access. Additional public transit services were also suggested by some. The table below shows a ranking of suggestions, with #1 representing the highest priority.

Important Transportation Improvements



A comprehensive assessment of survey results was submitted by Godec, Randall & Associates, Inc. on December 6, 2011, and is available as a separate report.

3.0 Public Open House

3.1 Design & Logistics

A number of options were discussed for disseminating the study recommendations and results to area stakeholders and residents. The decision of the TAC was to host a community open house, with advance publicity announcing it.

ADOT and Yuma County invited the public to review the recommendations for the Foothills and Mesa Del Sol Areas Transportation Needs Study at a public open house from 5:00 until 6:30 p.m. on Wednesday, February 8, 2012 at the Yuma Foothills Branch Library, 13226 South Frontage Road, Yuma, AZ 85367. The study team made a presentation at 5:30, followed by questions and answers about the study. Twenty-one people attended, of whom 14 were local residents and seven were project staff. The sign-in sheets from the open house are included as pages 7-12 of the Appendix to this report. People indicated that they had learned about the open house through their homeowner associations, flyers sent to residential parks, direct mailings, and email notices.

A comment form was handed out to capture ideas and suggestions of attendees (Appendix page 13). The comment form was also subsequently posted to the project Web site, along with open house presentation materials, to allow people who were not able to attend to review and comment on the study recommendations. The online comment form was made available until February 17.

3.2 Public Notification

In order to advertise the open house to the public and area stakeholders, the project team reached out to the community via the following methods:

- Meeting invitation letters sent to 51 regional stakeholders on January 25, 2012 (Appendix page 14), including a flyer for posting in public locations (Appendix page 15)
- ADOT electronic notice to .GOV delivery on January 25 (Appendix page 16)
- Newspaper advertisement in *Yuma Sun* on Sunday, February 5 (Appendix page 17)
- ADOT Web page advertisement on February 6
- ADOT Web page posting of the study recommendations presented at the open house, along with an electronic comment form, on February 9

3.3 Results

Public comments and suggestions offered at the open house were very consistent with the results of the community survey conducted earlier. The recommendations developed by the Foothills and Mesa Del Sol Transportation Needs Study team had considered the survey results, and addressed most of the public's concerns at some stage in the long-range plan. Everyone at the meeting suggested that they would like to see the recommended improvements implemented much earlier than the practical funding situation might allow.

Specific comments offered are summarized below.

- Factors that should be considered in thinking about transportation improvements:
 - The average age of people in the study area is between 50 and 60 years.
 - They tend to have large vehicles (e.g. RVs)
 - The population in the winter increases greatly
 - There are many semi-trucks in the area, particularly around the Interstate 8/Fortuna Boulevard interchange, and on the frontage roads.
- The study should acknowledge that the traffic and congestion caused by semi-trucks around the I-8/Fortuna exit (near Barney's truck stop) is especially bad – not like other places. Trucks don't stop safely before coming out onto the road.
 - The County and ADOT said they would consult with law enforcement to keep an eye on this situation in the short term, and evaluate design options that would address this in the study.
- Also regarding Fortuna, the design of the area around the interchange is confusing. People who going northbound in the left lane are routed into the freeway entrance, and a similar situation occurs going southbound. There are directional signs painted on the roadway, but people can't see them when there is traffic.
 - ADOT and Yuma County made a note to look into improved signage at this location.
- What do developers contribute to road improvements? They should do so, rather than taxpayers having to pay for improvements needed by increased population and traffic. It was suggested that there should be impact fees. One person referred to the Foothills area as a "habitat", outside of the major taxation and capital improvement jurisdiction of Yuma – who's responsible for taking care of us?

- The county explained the development process. Yuma County does not typically charge impact fees, but there could be better opportunities for this as larger parcels develop over time.
- It was suggested that highway agencies should conserve funds by building “no frills” projects. People’s property taxes are going up, and many people are on fixed incomes, so everyone needs to save money.
- Several people suggested improving bicycle access and safety by designing roads to accommodate bikes. One specific suggestion was to construct a bike /pedestrian path along the north frontage road near Mesa Del Sol (off the road between the frontage road and the freeway fence).
- Improvements to the south frontage road should be a priority. Specific suggestions included:
 - Needs resurfacing between Fortuna and Foothills Boulevard.
 - Sidewalks should be installed, and they should be coordinated with access to bus stops.
 - Several people felt that a dedicated left-turn lane and more traffic signals should be installed between Payson and the Westwind RV Park.
 - More curbs were also suggested for traffic and pedestrian safety. Yuma County noted that these are already programmed in the County’s 2-year improvement plan.
- Comments about public transit service included:
 - Bus service should be provided beyond the frontage roads.
 - Dial-a-Ride for seniors should be provided.
 - A better implementation plan is needed for transit

No additional comments were received from the comment form posted on the project Website during the comment period.

Appendix

Godec, Randall & Associates, Inc.

Public Involvement Plan Summary

Updated September 21, 2011

Foothills and Mesa del Sol Transportation Needs Study – ADOT Project MPD 14-11 (D)

Phase I – Existing Conditions		Phase II – Alternatives & Recommendations	
<i>Task</i>	<i>Schedule</i>	<i>Task</i>	<i>Schedule</i>
TAC & Stakeholder Activities		Public Open House Activities	
Prepare Public Involvement Work Plan	Apr 11	Arrange logistics	Dec 15 - 30
Attend first TAC meeting to discuss outreach plan	Apr 27	Publish meeting announcement on project web site	Jan 20
Participate in TAC meeting #3 via phone, prepare materials	Sep 14	Mail open house invitations & flyers to key stakeholders	Jan 25
Participate in TAC meeting #4 via phone, prepare materials	Dec 14	Distribute public workshop invitations to e-mail database	Jan 25
Compile local stakeholder list & augment ADOT stakeholder list	ongoing	Distribute media release	Jan 26
Outreach & Community Survey Activities		Publish meeting notice advertisement in Yuma Sun	Feb 5
Support set-up of project web page on ADOT website	May	Prepare meeting materials	Jan 1 - 27
Design Community Survey & review Fact Sheet	Jul 10 – Aug 24	Facilitate & document meeting	Feb 8
Post Survey link to web site	Aug 29	Prepare meeting summary	Feb 10
Design & prepare survey boxes/kits	Aug 20-28	Post online comment form to web site	Feb 6
Deliver hard-copy surveys to study area locations	Sep 1	Collect & integrate online comments	Feb 17
Support ADOT media release	Sep 12	Publish public comment summary to project web site	Mar 15
Support ADOT publicity distribution to e-mail database	Sep 12	Reporting	
Contact individual RV/mobile home parks for contact info / send survey link & fact sheet	Aug 22 – Sep 16	Prepare Public Involvement Program Summary Report	Mar 9
Refill survey boxes as needed	Sep 12-30		
Send reminder e-mail to distribution lists (“1 Week to Go...”)	Oct 7		
Collect hard-copy surveys	Oct 14		
End online survey – remove from web site	Oct 14		
Aggregate survey results	Oct 17 – Dec 4		
Submit survey report	Dec 12		

YOUR INPUT IS IMPORTANT!

Arizona Department of Transportation (ADOT) and Yuma County are conducting a *Transportation Needs Study for the Foothills and Mesa Del Sol Areas* that will look at ways to improve travel in the study area. The study area includes the neighborhoods, businesses, and undeveloped land located between County 10th Street and County 14th Street and between Avenue 10E and Avenue 15E. Your ideas and suggestions are very valuable to the project.

Please complete this questionnaire and return it to the drop box where you picked it up.

-- Thank You --

Do you think there are transportation problems in the Foothills/Mesa Del Sol area? _____yes _____no _____not sure
If so, what do you think are the biggest problems?

1.
2.
3.

What do you think is the most important vehicle-related traffic problem that needs to be fixed?

Do you think public transit is important in your community? _____yes _____no _____not sure
If so, what destinations would you like to see served by buses?

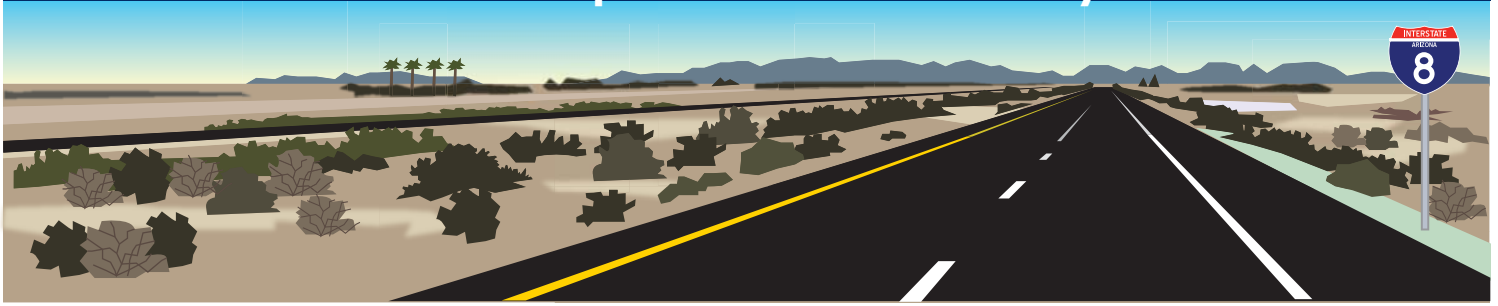
What overall improvements should be made to the Foothills/Mesa Del Sol area transportation network?

Roadway network (streets, intersections, traffic signals, stop signs, freeway interchanges, etc.)
Bicycle/pedestrian facilities (pathways, trails, sidewalks, etc.)
Public transportation (local & regional bus service, Dial-a-Ride, park-and-ride lots, etc.)
Other

Please prioritize the following list of transportation improvements starting with "1" = your highest priority.

Priority		Priority	
	Sidewalks		Bike paths/lanes
	Freeway Interchanges		Traffic signals
	Public transit		Improve existing roadways
	Wash crossings		Build new roadways
	Other:		

Foothills/Mesa Del Sol Transportation Needs Study

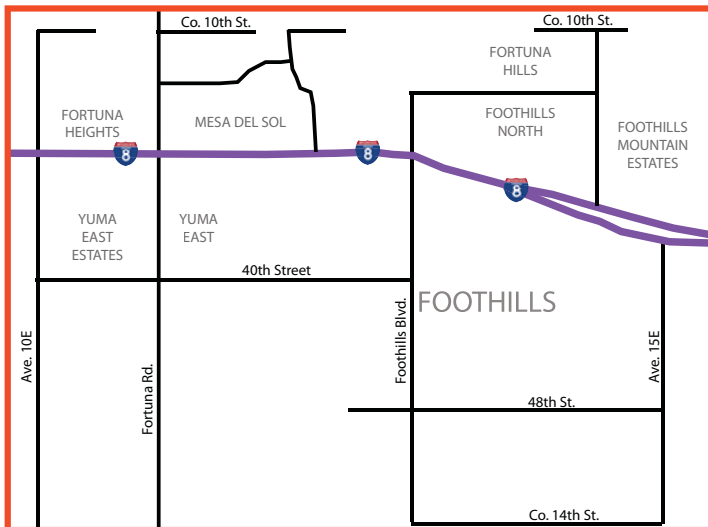


Study Overview

The primary goal of this study is to analyze the current transportation system and recommend needed improvements. Once the study is completed, a Multimodal Transportation Improvement Plan will be created to address the needs in the area. The multimodal plan will consider pedestrian, bicycle, automobile, and public transit needs for 5, 10 and 20 year planning periods. This plan will serve as a guide for future community development, project funding and project implementation.

Study Area

The study covers the area between Avenue 10E and Avenue 15E and between County 10th Street and County 14th Street.



For More Information

Please Contact
Mark Hoffman
Arizona Department of
Transportation
602.712.7454
MHoffman@azdot.gov

Study Timeline

- ▶ Summer/Fall 2011: Conduct public surveys
- ▶ Late 2011: Assess results
- ▶ Early 2012: Present study results to public and allow public to comment
- ▶ Spring 2012: Conclude study and finalize report

Public Outreach

Input from residents of the Foothills/Mesa Del Sol area is crucial to the success of this study. Questionnaires will be available at local shopping centers and other frequented locations. Please fill out the questionnaires and place them in the provided receptacles to help shape the transportation future of your community. You can also visit the study website for more information or to take the questionnaire online. Once we assess the results, a public meeting will be held to present our findings and allow the public to comment.



For Immediate Release: **August 29, 2011**
Contact: ADOT Public Information Office
news@azdot.gov -or- 1.800.949.8057

ADOT and Yuma County to conduct transportation needs study for Foothills/ Mesa Del Sol areas

Area residents urged to give input on current and future transportation needs

YUMA – The Arizona Department of Transportation and Yuma County will conduct a study for the Foothills and Mesa Del Sol areas to analyze the current transportation system and identify the most critical transportation needs. The study covers the area between Avenue 10E and 15E and between County 10th and 14th streets.

Residents living in the Foothills and Mesa Del Sol areas are encouraged to participate in the study by taking a questionnaire. Questionnaires will be available at local shopping centers and other frequented area locations. Local residents can also visit the ADOT project web site at www.azdot.gov/foothills to take the survey online or to learn more about the study.

Once the study is completed, a multimodal transportation plan will be created to address the needs in the area. The multimodal plan will consider pedestrian, automobile and public transit needs for 5, 10 and 20-year planning periods. This plan will serve as a guide for future community development, project funding and improvement implementation. A public meeting will be held in early 2012 to present the findings and allow residents to comment on the study.

For more information about the survey, please contact Project Manager Mark Hoffman at 602.712.7454 or mhoffman@azdot.gov or Yuma District Senior Community Relations Officer Gabriella Kemp at 928.317.2165 or gkemp@azdot.gov. Local media should contact the ADOT Public Information Office at news@azdot.gov or 1.800.949.8057. Visit www.facebook.com/azdot or www.azdot.gov for more information about ADOT. For more information about ADOT projects and programs across Arizona see the agency's latest blog posts at <http://adotblog.blogspot.com>.

#

From: Gabriella Kemp
Sent: Thursday, September 15, 2011 10:08 AM
Subject: Foothills / Mesa Del Sol Transportation Needs Study & Questionnaire

Hi there,

I'd really appreciate your help with this...

The Arizona Department of Transportation (ADOT) and Yuma County have initiated a **transportation needs study** to serve the residents of the **Foothills/ Mesa Del Sol** areas.

We are trying to analyze the current transportation system and recommend needed improvements. The study covers between Avenues 10E and 15E and between County 10th and County 14th Streets.

We've put together a short questionnaire to help us better understand the transportation issues facing this developing area. We hope you can take a few minutes to complete the questionnaire and help us spread the word to others who might be interested in the transportation needs of the Foothills/ Mesa Del Sol areas.

You can take the survey by clicking on the link below:

<http://gci.az.com/selectsurvey/TakeSurvey.aspx?SurveyID=88KMn18>

Please feel free to pass this note along to anyone your friends, co-workers and family members. The results will be carefully evaluated by the study team and used to develop several transportation system alternatives that the public can review and evaluate early next year.

As always, feel free to call me if you have any questions or concerns.

Thank you,

Gaby
Gabriella Kemp
Senior Community Relations Officer
Communication and Community Partnerships
Arizona Department of Transportation
2243 E Gila Ridge Road
Yuma, AZ 85365
Phone: (928) 317.2165
Blackberry: (928) 699.8983
Media Line: 1.800.949.8057

If you'd like more information about the study, please visit the ADOT project web site at:

<http://www.azdot.gov/foothills>.

You can also call contact:

Mark Hoffman, ADOT Project Manager
602-712-7454
Roger Patterson, Yuma County Engineer
928-817-5110

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October 12, 2011

Last Chance to Let Us Know About Transportation in Yuma Foothills and Mesa Del Sol!

There is only one day left to provide community feedback about what you think are the transportation issues and potential improvements you would like to see made in the Yuma Foothills and Mesa Del Sol areas of Yuma County. The online survey (*link below*) will close on **October 14**.

WHAT DO YOU THINK ABOUT TRANSPORTATION IN THE YUMA FOOTHILLS & MESA DEL SOL AREAS? TELL US BY CLICKING THIS LINK: <http://tiny.cc/jx1wh>

If you'd like more information about this study, please visit the ADOT project web site at www.azdot.gov/foothills or contact Mark Hoffman, ADOT Project Manager at [602-712-7454](tel:602-712-7454). Thank you for your participation and we appreciate your feedback!

Gabriella Kemp
Senior Community Relations Officer
Communication and Community Partnerships
Arizona Department of Transportation
2243 E Gila Ridge Road
Yuma, AZ 85365
Phone: [\(928\) 317.2165](tel:928-317-2165)
Blackberry: [\(928\) 699.8983](tel:928-699-8983)
Media Line: [1.800.949.8057](tel:1-800-949-8057)



Foothills & Mesa Del Sol Areas
Transportation Needs Study
Public Open House - February 8, 2012



Please Sign In

Note: information provided is voluntary and is available to the public.

PLEASE PRINT	
Name	Saty Cummings
Address	12288 Del Norte
City/Zip	Yuma 85367
Telephone	(541) 272-7818
E-mail	mailing address P.O.Box 25754
How did you hear about this Open House?	
Name	JAVIER G. BARBASA
Address	2251 W. 26TH ST.
City/Zip	YUMA, AZ 85364
Telephone	
E-Mail	JAVIER.BARBASA@YUMACOUNTY.AZ.GOV
How did you hear about this Open House?	
Name	MAE & JEWEL McNAMEE
Address	10670 E. 35 th PL.
City/Zip	YUMA - 85365
Telephone	
E-mail	gavenjewel@gmail.com
How did you hear about this Open House?	



**Foothills & Mesa Del Sol Areas
Transportation Needs Study
Public Open House – February 8, 2012**



Please Sign In

Note: information provided is voluntary and is available to the public.

PLEASE PRINT	
Name	Jonathan Fell
Address	7722 E 27th St.
Telephone	246-4250
E-mail	fell23@hotmail.com
City/Zip	Yuma
How did you hear about this Open House?	work @ Yuma County
Name	DALE & MARIE CARP
Address	11417 E. 35th PL
Telephone	928-347-9771
E-Mail	
How did you hear about this Open House?	
Name	DB Lew Wilson
Address	
Telephone	
E-mail	
City/Zip	Yuma 85767
How did you hear about this Open House?	Flyer / Mesa Del Sol Homeowners ASSN.



Foothills & Mesa Del Sol Areas
Transportation Needs Study
Public Open House – February 8, 2012



Please Sign In

Note: information provided is voluntary and is available to the public.

PLEASE PRINT	
Name	John Andoh
Address	2715 East 14th Street
City/Zip	Yuma 85365
Telephone	
E-mail	jandoh@ycipta.org
How did you hear about this Open House?	email
Name	
Address	
City/Zip	
Telephone	
E-Mail	
How did you hear about this Open House?	
Name	
Address	
City/Zip	
Telephone	
E-mail	
How did you hear about this Open House?	



**Foothills & Mesa Del Sol Areas
Transportation Needs Study
Public Open House – February 8, 2012**



Please Sign In

Note: information provided is voluntary and is available to the public.

PLEASE PRINT	
Name	Nonna Brown
Address	11342 E 35th PL
Telephone	970-685-7674
City/Zip	85367
How did you hear about this Open House?	
THRU YUMA EAST HOA	
Name	WARREN CRISP
Address	11430 E 35TH PL
Telephone	509 981 5977
City/Zip	85367
How did you hear about this Open House?	
E-Mail	
E-Mail	
Name	
Address	
City/Zip	
Telephone	
E-Mail	
E-Mail	
How did you hear about this Open House?	



Foothills & Mesa Del Sol Areas
 Transportation Needs Study
 Public Open House - February 8, 2012



Please Sign In

Note: information provided is voluntary and is available to the public.

PLEASE PRINT	
Name	Bruce Fenske
Address	ADOT, 2243 EGINA RIDGE RD, YUMA, AZ 85365
Telephone	928/317-2138
E-mail	BFENSK@AZDOT.GOV
How did you hear about this Open House?	
Name	LEWIS (DAN) SANDERS
Address	12118 E. 28TH PLACE
Telephone	256-468-5300
E-Mail	dan.sanders@yumaz.gov
How did you hear about this Open House?	
Name	Kevin Brown
Address	11391 37th pl.
Telephone	
E-mail	Yuma
How did you hear about this Open House?	

*



Foothills & Mesa Del Sol Areas
Transportation Needs Study
Public Open House - February 8, 2012



Please Sign In

Note: information provided is voluntary and is available to the public.

PLEASE PRINT	
Name	RICHARD FROST
Address	11592 VIA SALOIA
Telephone	928-342-5522
City/Zip	YUMA
E-mail	
How did you hear about this Open House?	MDSPOA MEETING
Name	Project Staff:
Address	Mark Hoffman - ADOT
Telephone	
E-Mail	
How did you hear about this Open House?	Amy Moran & Dan Marum - Wilson & Co.
Name	ROGER PATTERSON - Yuma County
Address	John Godek & Debra Duff - GRA
Telephone	
E-mail	
How did you hear about this Open House?	

*

OPEN HOUSE COMMENT FORM

Foothills/Mesa Del Sol Transportation Needs Study

1. What are the top issues/concerns in the study area that you feel need to be addressed?

2. Do you feel the proposed improvement plan addresses the transportation needs of the study area?
If not, what changes do you think should be made to the plan?

3. Please feel free to share any additional comments with us.

Optional

Name: _____ Address: _____

City: _____ Zip: _____ Email Address: _____

Completed comment forms can be submitted to the project team at the completion of the public meeting or to the project team after the meeting by **February 17, 2012**.

Mail: John Godec
c/o Godec, Randall & Associates
3944 N. 14th Street
Phoenix, AZ 85014

fax: 602-222-9575
email: jdg@godecrandall.com

Completion of this comment sheet is completely voluntary. All comments provided will become part of the study's documentation. Under state law, any identifying information provided will become part of the public record, and as such, must be released to any individual upon request.



FOR MORE INFORMATION:
azdot.gov/foothills



March 9, 2012

[To 51 area stakeholders]

Re: Foothills/Mesa Del Sol Transportation Needs Study
Community Open House – Wednesday, February 8

Dear XX,

The Arizona Department of Transportation and Yuma County invite you to learn more about the recommendations of the Foothills/ Mesa Del Sol Transportation Needs Study at a community Open House. The community Open House will give area residents an opportunity to ask questions and comment on the recommendations for future transportation improvements in the area.

Please join us:

Date: Wednesday, February 8
Time: 5:00 to 6:30 p.m. (presentation at 5:30 p.m.)
Location: Foothills Branch Library
13226 South Frontage Road, Yuma, AZ 85367

The study covers a 20-mile area between avenues 10E and 15E and between County 10th and 14th streets in Yuma. The study purpose is to evaluate the area's existing transportation system, forecast future conditions and identify improvements as part of a long range multimodal transportation plan that includes recommendations to improve roadways, pedestrian and bicycle facilities and public transit for 5, 10 and 20-year time periods.

Please share this information with those who may have an interest in the future of transportation in the Foothills/ Mesa Del Sol areas. We're including a flyer that you can post on a public bulletin board or other location to inform your residents and visitors about the meeting. For those unable to attend, study information, materials, and a comment form will be available on the project website: www.azdot.gov/foothills beginning February 6th.

We look forward to seeing you at the Open House. If you'd like more information, please contact ADOT Senior Community Relations Officer Gabriella Kemp at (928) 317-2165 or gkemp@azdot.gov.

Thank you,

Debra Duerr, Public Involvement Coordinator
Godec, Randall & Associates

Enclosures: Flyer

OPEN HOUSE

FIND OUT MORE ABOUT THE FUTURE OF TRANSPORTATION IN YOUR NEIGHBORHOOD!

Foothills/Mesa Del Sol Transportation Needs Study

Date: Wednesday, February 8th

Time: 5:00 to 6:30 p.m.
(presentation at 5:30 p.m.)

Place: Foothills Branch Library
13226 South Frontage Road
Yuma, AZ 85367



Please join us at an upcoming community open house to give us your input on the recommendations for future improvements to transportation in the Foothills and Mesa Del Sol area. If you cannot attend the open house, you can see the study recommendations online at the project web site azdot.gov/foothills after February 6.

E-mail Blast for Open House 1/25/12

TO: ADOT email distribution list
FROM: Gabriella Kemp
SUBJECT: Community Open House for Transportation Improvements in Foothills/
Mesa Del Sol Area

The Arizona Department of Transportation (ADOT) and Yuma County are conducting a Transportation Needs Study for the Foothills/ Mesa Del Sol areas. The study area includes 20-square miles between avenues 10E and 15E and between County 10th and 14th streets in Yuma.

The study purpose is to evaluate the area's existing transportation system, forecast future conditions and identify improvements as part of a long range transportation plan. The multimodal plan includes recommendations to improve roadway, bicycle and pedestrian facilities and public transit for 5, 10 and 20-year time periods.

The results of the Foothills/ Mesa Del Sol Transportation Improvement plan will be presented at a community Open House to be held:

Date: Wednesday February 8
Time: 5:00 to 6:30 pm (presentation at 5:30 p.m.)
Location: Foothills Branch Library
13226 South Frontage Road, Yuma, AZ 85367

Please come and tell us what you think about the proposed plan and recommendations.

Study information, materials and a comment form will be available on the study website: www.azdot.gov/foothills beginning February 6th.

For more information, please contact ADOT Senior Community Relations Officer Gabriella Kemp at (928) 317-2165 or gkemp@azdot.gov.



ASSOCIATED PRESS

HOMELAND SECURITY SECRETARY Janet Napolitano (center) tours the U.S.-Mexico border with U.S. Border Patrol agents in the Coronado National Forest near Nogales on Oct. 30, 2011.

AP Analysis: Border Patrol OT up as arrests drop

ASSOCIATED PRESS

WASHINGTON — Border Patrol agents have racked up daily overtime at a cost of about \$1.4 billion in the past six years while the number of arrests of illegal border crossers has fallen to the lowest level in nearly 40 years, an Associated Press analysis of agency records finds.

Since the 2006 budget year, the agency charged with stopping would-be illegal border crossers and smugglers from making it into the U.S. over land and sea borders has spent more than \$1.4 billion on what is described as "administrative uncontrollable overtime," according to the data provided by the Border Patrol. In practical terms, agents average two hours a day in overtime.

That means agents can earn anywhere from 10 percent to 25 percent extra pay an hour for the first two hours of overtime, with the extra cash being steadily re-

duced every hour after that because of complicated overtime rules. Over the course of a year, an agent can earn about \$15,000 more than the base salary, which for a more experienced agent is typically over \$60,000 a year. Agents are limited to \$35,000 in overtime annually.

The cost of overtime rose from about \$155.8 million in 2006 to more than \$331 million in 2011. That increase coincides with the addition of about 9,000 agents in the past six years and the drop of apprehensions to a nearly 40-year low, from more than 1 million arrests in 2006 to about 340,000 in 2011.

Border Patrol Deputy Chief Ronald D. Vitiello said patrolling the border can be an unpredictable job that requires longer hours from agents.

"The uncontrollable nature of the work is inherent in the primary duty of a Border Patrol agent and must be performed in order to get the job done," Vitiello said, adding that anything from mak-

ing an arrest to talking to witnesses can keep an agent on duty beyond a scheduled shift. Often it stems from charging the Border Patrol for the time spent driving from a remote location to an agent's home base or staying late to finish the paperwork from an arrest or seizure of illicit cargo.

Still, with the government facing record deficits and the Department of Homeland Security likely to see more cuts, a system that builds in overtime the same way on the busy U.S.-Mexico border as it does on the relatively sleepy U.S.-Canadian border raises questions.

Most illegal border crossers are apprehended along the 2,000-mile long Mexican border in California, Arizona, New Mexico, and Texas. In the budget year that ended in September, 18,506 agents made a combined 327,577 apprehensions — an average of nearly 18 apprehensions per agent. The agency spent about \$283 million on over-

What is site selection?

Generally speaking, to find the most appropriate site for a business from an economic and operational perspective. Varying approaches range from holistic analysis that considers the best region for a firm to locate based from a long-term strategic perspective in which the actual building or site is an afterthought; to the actual physical facility determining the location.

Internet usage and the increase in international sales have created an evolution in the site selection process. There is a significant increase in the number of companies providing site selection services, with multiple specialized consultants working a single project or simply a real estate broker making the case for the company based upon available buildings. Recent large announcements have garnered a great deal of press due to the enormous cash incentives used to "win" projects. Volkswagen chose to locate in Tennessee and was awarded \$250 million by the state. This has created an environment that demands an increase in the use of incentives. Gov. Brewer responded to this pressure last year by creating the Competitiveness Fund.

Site selection used to involve much more face-to-face interaction, more personal involvement in the decision making process. Decisions have been reduced to a few short months as opposed to a year or 18 months. Site visits have been condensed into one or two days, where before the client would want to spend three to five days interviewing the local college, workforce, utilities and peer companies to ensure the community was a good fit. Today the tour consists of seeing a building or land site, lunch with a peer company or workforce team, maybe a meeting with the college if time permits and then they are off to another location to repeat the same agenda with a different community.

An evolving trend is the use of multiple consultants; real estate broker, an incentives/tax specialist and a workforce analyst will all work the same project. The client wants to buy specialization, sometimes this is done by contracting each specialty or by hiring a large firm that has all three specialties within their scope of service. The



GYEDC
Julie Engel

first approach creates a lengthier process toward the decision making. When utilizing one company, the work is usually conducted in tandem.

It is imperative the Economic Development Organization (EDO) know what types of projects will be successful in their communities and need to be able to respond to all the requests for information regarding the three specialties mentioned above as well as demonstrate a company's return on their investment if they locate in their community. Ultimately the site selector's goal is to eliminate the communities with the greatest disadvantages and the fewest advantages for their client. They aim to ensure their client will succeed in a location, not just today but for the future as well. Site selectors do not make the final decision, they make recommendations to their clients and they prepare detailed analysis for their clients in order for them to make the decision as to where to locate. In some cases this is when the president, owner or plant manager will actually tour the top three communities recommended by the consultant; they may also add a community the consultant didn't recommend but they personally wanted to see on their list based upon their own perceptions.

Key factors considered in the initial search:

- **Business Strategy** — This involves a comprehensive look at the business's development strategy and all its nuances. Untapped markets, accessing a new workforce (talent), improving accessibility to clients or suppliers, reducing their overall costs or a competitive advantage within their industry.
- **Mergers and acquisitions** also play a role.
- **Operating Costs** — Tax structure, transportation, labor, occupancy, utilities and the regulatory environment all fall into this category.
- **Risk Factors** — Risk minimization within the three prior factors is a driving force in every project. Operational interruptions from natural disasters, labor unions, supply chain, etc. Utilities

reliability or uncertainty. Rolling brownouts or recurring blackouts are intolerable. Meeting a company's construction deadline if a build-to-suit or extensive building improvements are required for an existing site. Predictability in state and local government is considered a risk factor as well as the ability to demonstrate a stable tax environment. Each of these concerns must be mitigated and clearly demonstrated to the site selection consultant and the company; they can, with confidence, eliminate or mitigate these risk factors.

The process begins for the site selection consultant by defining the project requirements, broad screening and cuts, identifying the shortlist and conducting site tours, negotiations (land/building, utilities, and incentives) then finalizing the deal. The role of the EDO is to be prepared in advance to supply the information necessary for the site selector to conduct their analysis, be able to mitigate and hopefully eliminate all risk factors, have broker controlled sites that are ready for occupancy with little modification needed and be able to showcase the community as a viable location for their project. This can only be done through partnerships with the state and local governments, local educational institutions, work force, brokers and our existing businesses who have clearly found success by choosing this location for their expansion or relocation projects.

The number of jobs we are competing for continues to decline while competition continues to increase exponentially. To compete at the level required, there must be a commitment from all the partners listed. Cuts to economic development will diminish our chances to deliver all the necessary components in the site selection process. Funding economic development is investing in our communities and our future. We have been doing more with less year after year and we have reached the point where we have to do less with less. We need the support of the public sector and the private sector in order to increase our capabilities and perform at the level necessary to succeed.

Julie Engel is president/CEO of the Greater Yuma Economic Development Corp.

Join us to shape the future of transportation where you live & work

The Arizona Department of Transportation and Yuma County invite you to review the recommendations of the Foothills/ Mesa Del Sol Transportation Needs Study at a community Open House.

The Open House will give area residents an opportunity to review study results, ask questions and comment on the Foothills/ Mesa Del Sol Transportation Study.

February 8, 2012
Foothills Branch Library
13226 S. Frontage Rd.
Yuma, AZ 85367
5:00 to 6:30 p.m.
(Presentation at 5:30 p.m.)

For special accommodations or more information please contact Gabriella Kemp at (928) 317- 2165/gkemp@azdot.gov or visit www.azdot.gov/foothills.



azdot.gov/Foothills

COMINGS

FROM PAGE B1

Elizabeth Requarth has joined the A.T. Pan-crazi Insurance staff as the agency's personal lines producer. She can be reached at 783-0000.

A 2005 graduate of Yuma Catholic High School, she studied communications at Northern Arizona University. Requarth obtained her property and casualty producer's license and personal lines coverage

specialist designation from The Hartford University.



ELIZABETH REQUARTH

Arizona Department of Transportation has made some progress on a roadway improvement project on the east side of Gila Bend. But I can say from personal experience, it still is a challenge to get through the construction zone.

The project includes con-

struction of a new, elevated intersection at State Route 85 and Business Route 8, a wider bridge over the Union Pacific Railroad and realignment of both State Route 85 and Maricopa Road.

The \$13.5 million project is expected to be completed later this year.

Report Comings and Goings to jlobeck@yumasun.com or call Joyce Lobeck at 539-6853.

Yuma Friends of Arizona Health Sciences Center



Gordon A. Ewy, MD

Professor of Medicine, Director of Sarver Heart Center and the Gordon A. Ewy, MD Distinguished Endowed Chair of Cardiovascular Medicine at the University of Arizona College of Medicine



Sarver Heart Center

Join us for a lecture!

Know Your Heart Disease Risks

Wednesday, February 8, 2012
6 p.m.

University of Arizona Yuma Cooperative Extension Offices
2200 W. 28th St. (Next to Yuma Catholic High School)
Yuma, Arizona

Free and Open to the Public
Please RSVP to melindagraham@roadrunner.com
or call 928-210-7202

LOANS

FROM PAGE B1

"Why should a person have to ruin their credit before a bank is willing to even speak with them? Why aren't they helping beforehand?" Engler said. "The fact that banks won't talk to you until you're three months behind is a crime. Banks seem to have lost their business sense ... and can't see the blinding (light) of the obvious."

Compounding the problem, Engler said, is that once you do fall behind and negotiations finally begin, banks can foreclose on your house whenever they desire.

"I have helped countless homeowners come to agreements with banks, sometimes even to the point of having a contract in place, and the banks still end up foreclosing and auctioning off their properties.

"It's a case of the right hand not knowing what the other one is doing. There's no communication between a bank's short sale department and its foreclosure department. So even if you think you are saving your house, they can just take it right out from under you. How can things turn around when these are your business practices?"