

Prewitt-Milan Transportation Master Plan (PMTMP)

Technical Working Group Meeting #2

August 31st, 2021



discipline | intensity | collaboration | shared ownership | solutions



Introductions

Northwest New Mexico Council of Governments

• Robert (Bob) Kuipers

Consultant: Wilson & Company

- Ben Bachwirtz
- Paige Wolfrom
- Ty Nagle

Technical Working Group Members Policy Advisory Committee Members



Agenda

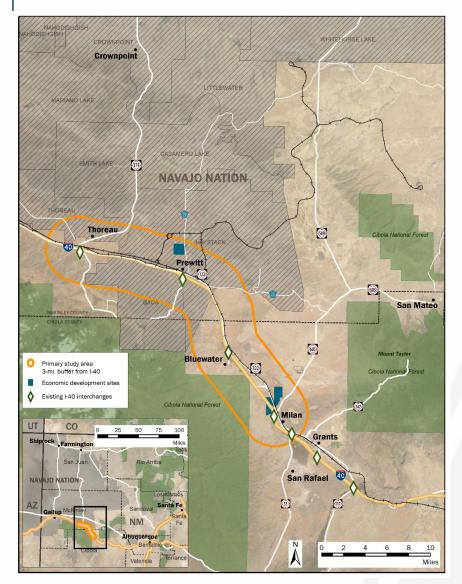
- 1. Welcome & Introductions
- 2. Review of Study Area/Project Objectives
- 3. I-40 Corridor Issues & Opportunities
 - a) Interchanges
 - b) Outer roads
 - c) Railroad crossings
 - d) Electric vehicle infrastructure
- 4. Project Website
- 5. Project Schedule & Next Steps
- 6. Adjourn

Review of Study Area/Project Objectives





Study Area





Project Objective

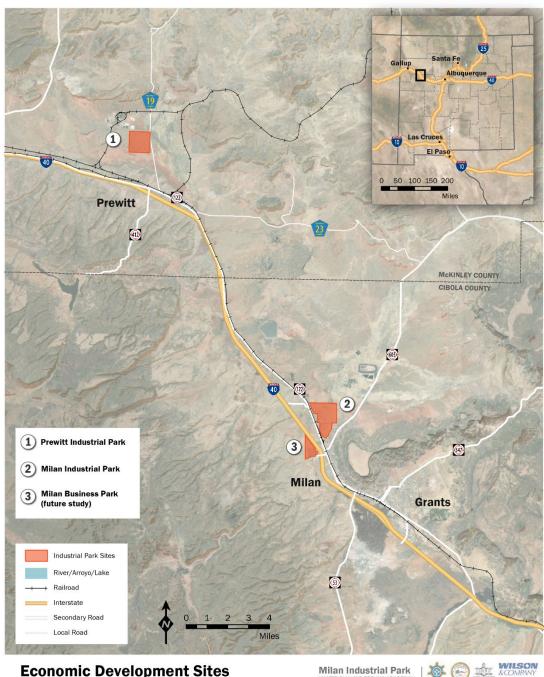
- The Prewitt-Milan Transportation Master Plan (PMTMP) will coordinate the planning and delivery of projects to improve access to the Milan and Prewitt industrial parks
- This TMP will analyze the multimodal transportation system to support industrial and economic development needs between Prewitt and Milan
- The purpose of the PMTMP is to plan and identify nextstep design needs and opportunities, and outline funding in order to construct the infrastructure needed to serve an emerging economic boom in Northwest New Mexico



TWG and PAC







Economic Development Sites under Study by NWNMCOG

Milan Industrial Park MASTER PLAN AND PRELIMINARY DESIGN

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Prewitt Industrial Park

Prewitt Industrial Park (2020)

- 626-acre site north of the community of Prewitt, in McKinley County, New Mexico
- Commonly referred to as the County Road 19 Site, just south of the Escalante power plant in Prewitt
- Good access to I-40 and BNSF Transcon



Conceptual Land Use – Prewitt Industrial Park Site



Milan Industrial Park

Milan Industrial Park

- 913-acre master planned industrial park
- Directly along BNSF Transcon
- Near I-40, truck stop & Grants-Milan Airport
- Phase I design is underway





1st TWG and PAC Meetings

- First meeting of the groups
- TWG discussion topics:
 - Future Sawmill Road interchange near Milan
 - Need for improved or reduced # of rail crossings
 - Deficiencies at Thoreau I-40 interchange
 - Transit service between Thoreau and Grants
- PAC: Grants projects should also be included



August Focus Groups

- Milan Industrial Park
 - Reviewed progress on the MIP
 - Discussed other potential development near Horizon Blvd
 - Overpass?
- Prewitt Industrial Park
 - Discussed future of Escalante Station
 - Reviewed overpass and NM 371 options



Project Website

http://www.nwnmcog.com/

PROGRAMS FEATURED PROJECTS

HOME

The Prewitt-Milan Transportation Master Plan

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PROJECT OVERVIEW

STUDY AREA AND MAP

PROJECT UPDATES & DOCUMENTS

INTERACTIVE MAP - ADD THE TRANSPORTATION PROJECTS YOU WANT TO SEE

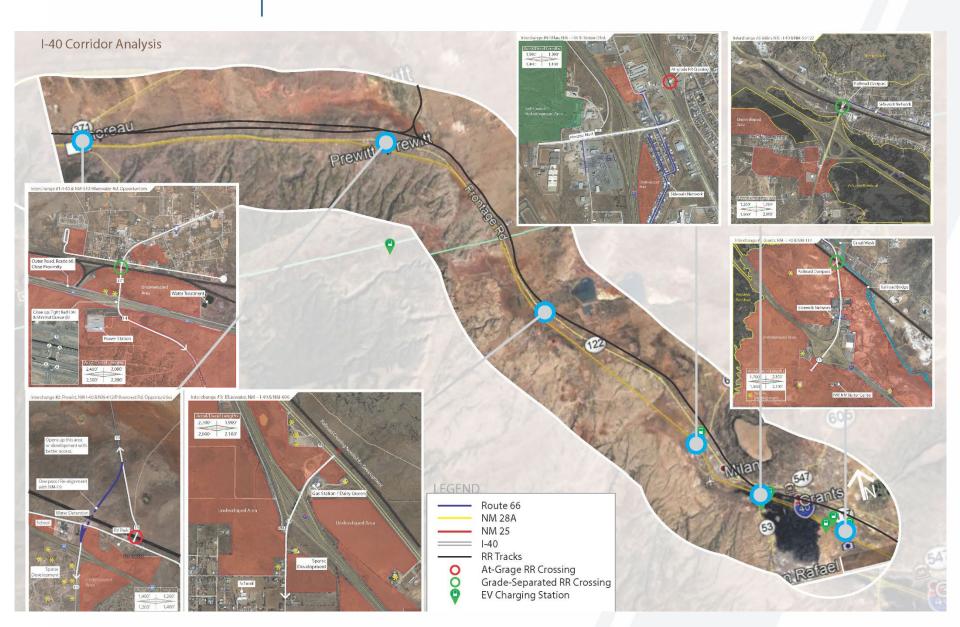
PROJECT SCHEDULE

I-40 Corridor Issues & Opportunities





I-40 Corridor Issues & Opportunities





AASHTO Acceleration & Deceleration Guidelines

75 mph corridor

'Merge speed'

Ratio multiplier for slopes: 1.2, 1.4 / 0.9, 0.6

				U.S. (Customa	ary					
Restau	Accelerat	ion Lane Len	gth, L (ft)	for Desigr	Speed of	Controllin	g Feature	on Ramp,	V' (mph)		
Highway		Stop	15	20	25	30	35	40	45	50	
Design Speed,	Merge Speed, V _a (mph)	Average Running Speed (i.e., Initial Speed) at Controlling Feature on Ramp, V'_{s} (mph)									
V(mph)		0	14	18	22	26	30	36	40	44	
30	23	180	140	N. 27 19 19	ant <u>Ca</u> nta					1842	
35	27	280	220	160	0 0 21 0 0	13 <u>19</u> (1)	Were N	noq ea m	1010 <u></u> 1971	0 24	
40	31	360	300	270	210	120	nees Tism	contra 4	10 1000 her	bill a	
45	35	560	490	440	380	280	160	-	1 -11	-	
50	39	720	660	610	550	450	350	130	_	_	
55	43	960	900	810	780	670	550	320	150	1999	
60	47	1200	1140	1100	1020	910	800	550	420	180	
65	50	1410	1350	1310	1220	1120	1000	770	600	370	
70	53	1620	1560	1520	1420	1350	1230	1000	820	580	
75	55	1790	1730	1630	1580	1510	1420	1160	1040	780	
80	57	2000	1900	1800	1750	1680	1600	1340	1240	980	

			ι	J.S. Cus	stomary	'		-	1///	
Decele	ration Lane	e Length, <i>L</i> _	(ft) for D	esign Sp	eed of C	Controllin	g Featur	e on Rar	np, v (n	ipn)
Highway Design Speed, V(mph)	Diverge Speed, V _a (mph)	Stop	15	20	25	30	35	40	45	50
		Average Running Speed at Controlling Feature on Ramp, V'_{a} (mph)								
		0	14	18	22	26	30	36	40	44
30	28	235	200	170	140	12/10/201	_	-		
35	32	280	250	210	185	150	_	_		-
40	36	320	295	265	235	185	155	_	-	
45	40	385	350	325	295	250	220			
50	44	435	405	385	355	315	285	225	175	
55	48	480	455	440	410	380	350	285	235	-
60	52	530	500	480	460	430	405	350	300	240
65	55	570	540	520	500	470	440	390	340	280
70	58	615	590	570	550	520	490	440	390	340
75	61	660	635	620	600	575	535	490	440	390
80	64	705	680	665	645	620	580	535	490	440



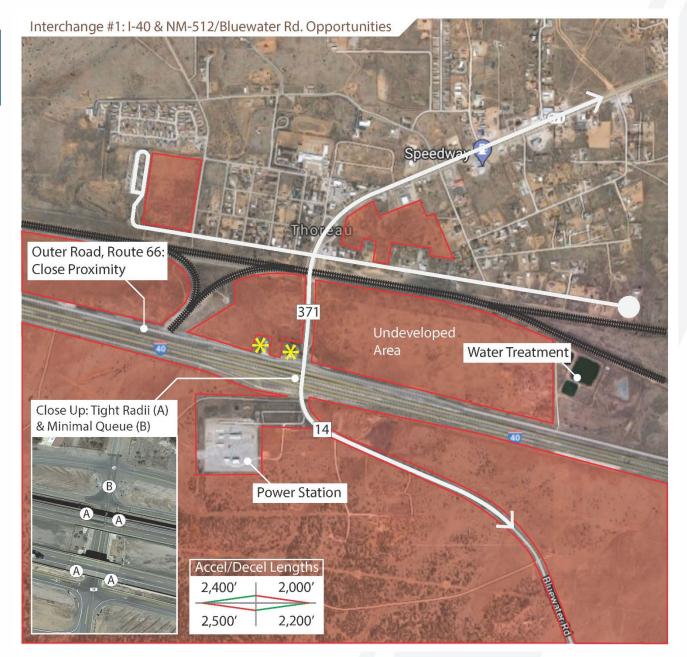
#1: Bluewater Road

Outer Road close proximity ~75'

Tight on/off ramp radii & queue lengths

Power Station at SW quadrant

Grade separated RR crossing





I-40 Corridor Issues & Opportunities

I-40 & Bluewater Road Interchange in Thoreau, NM

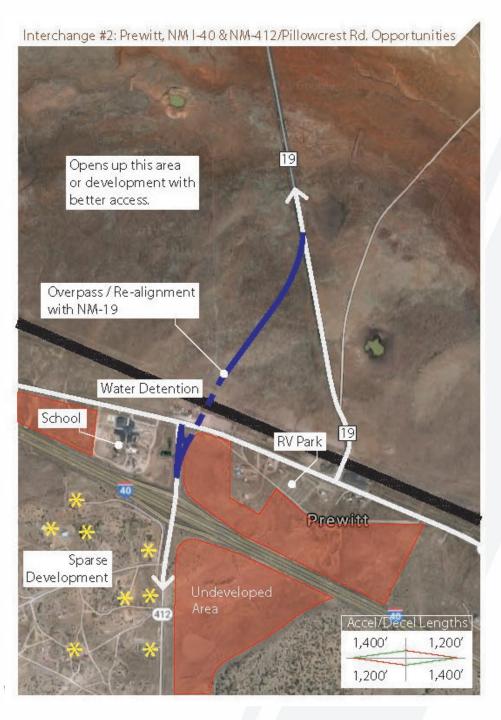




#2: Pillowcrest Road

At-grade RR crossing & minimal SB queue (280')

Overpass opportunity to realign & remove 2 intersections



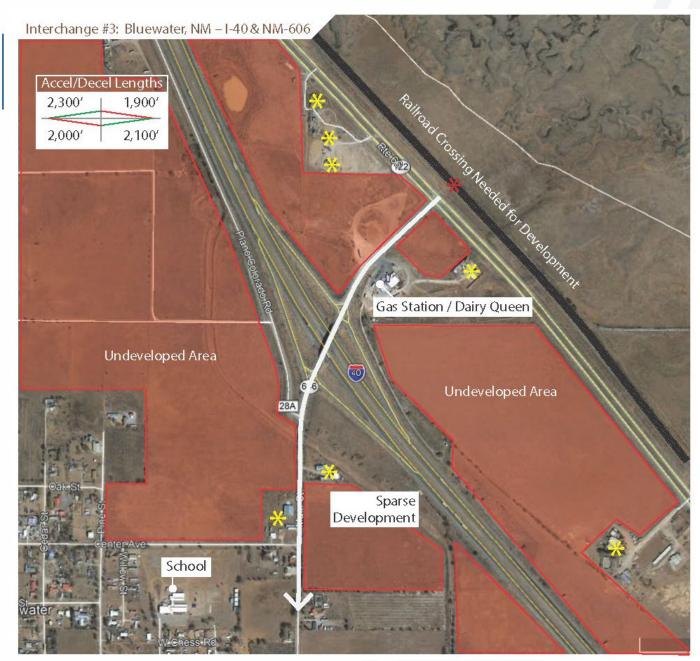


#3: NM-606

Lacking connection to the NE across RR tracks

At-grade RR crossing 1 mile north

Surrounding residential development





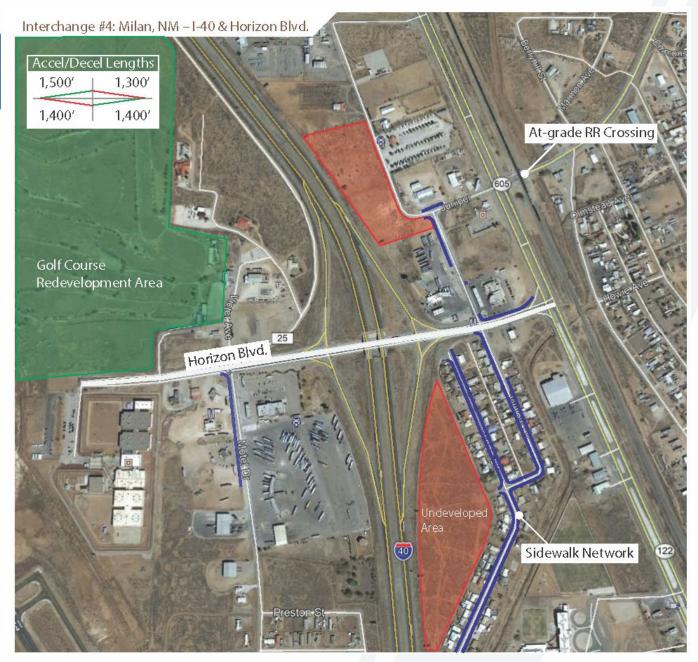
#4: Horizon Boulevard

Most continuous sidewalk network present

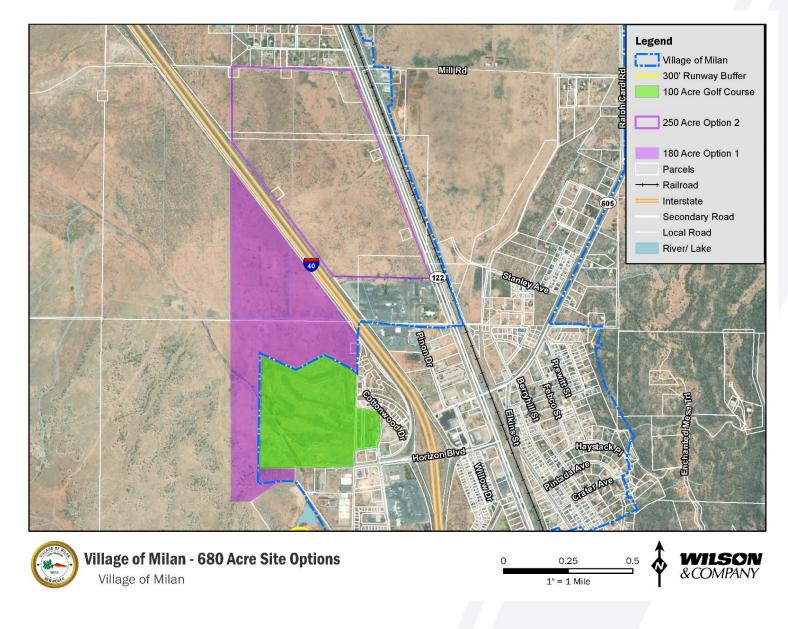
Redevelopment opportunity present with the Golf Course property

Conceptual study completed

Need improved lighting before we push a ped network









EXISTING ROAD
EXISTING RAILROAD (RR)
PROPOSED INDUSTRIAL PARK
PROPOSED ROAD
PROPOSED BUILDING
PROPOSED MULTI-USE TRAIL
OPEN SPACE

LAND USE NOTES

KEY

-The Comp Plan suggested heavy uses to the south since the Detention Center is very well lit 24/7 and overall activity.

-'Neighborhood office' is being utilized as a transitional land use between mixed-use/residential area and industrial/manufacturing to the north.

-Park spaces are utilized to buffer heavy industrial uses and to provide a 'pocket park' feel for residential area.

-Entrance to the site is split for freight to continue west and the local residential and light commercial to continue north/nw. This removes the potential of overlap and maintains a level of quietness for the residential area.

-23 homes are roughly 0.75 acre lots after a loss for ROW.

-Smallest IND lots are roughlt 8-10 acres







Industrial Park Master Plan - Land Use



0.6

□ Miles

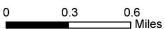








Industrial Park Master Plan - Site Plan



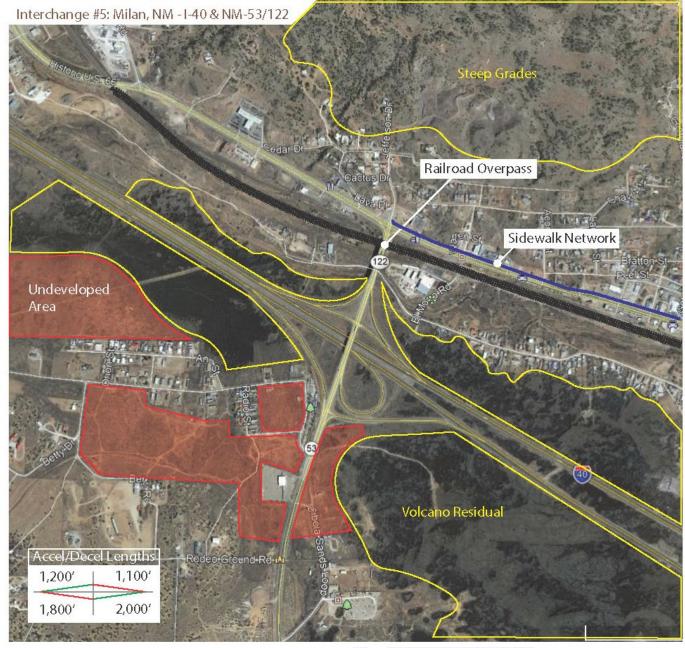


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#5: NM-122 & 53

Limited developable area with volcanic rock, steep grades and nearby residential development





#6: NM-117

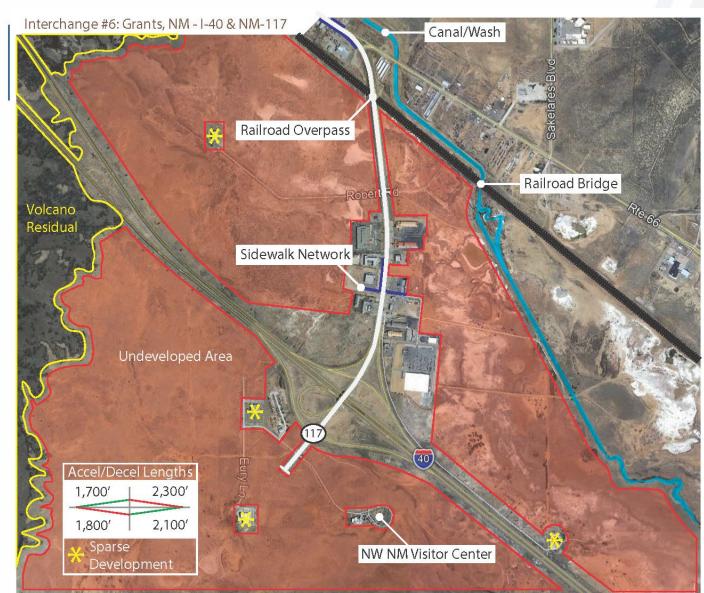
Ample development opportunity

Limited railroad access

Infrastructure not in place to grow to the SW

30-75mph = 1,510'/3,130'

590' = ~52mph

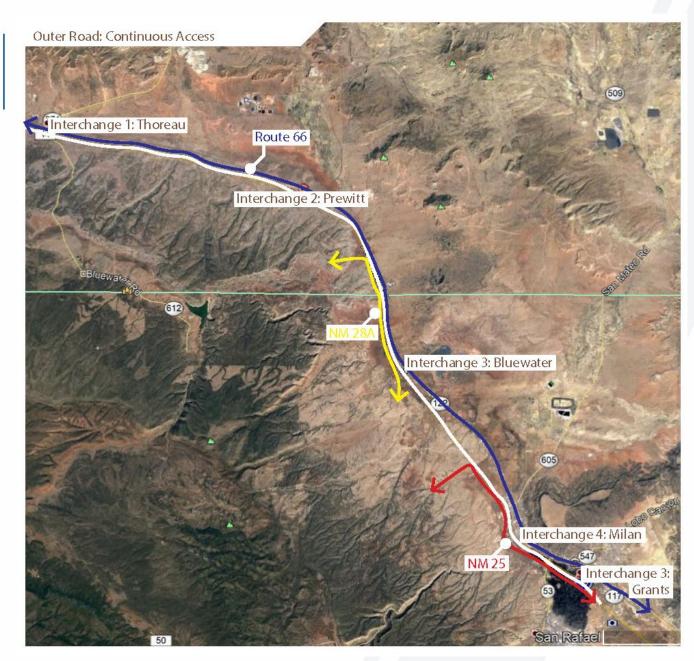




I-40 Outer Roads: Maintaining emergency access benefit – not hindrance

Route 66 provides a continuous route that parallels I-40 to the north/east

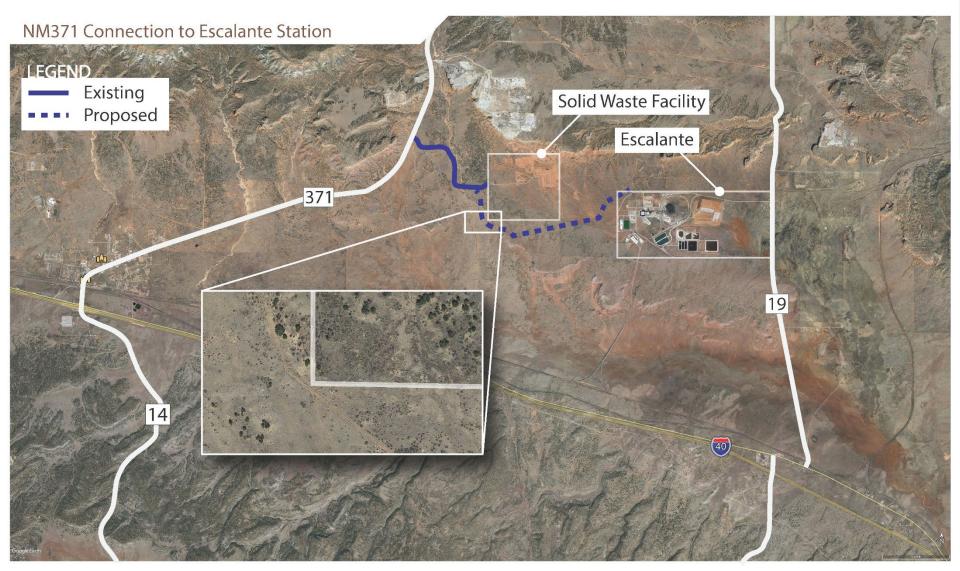
NM-28A & NM-25 provide limited alternate access





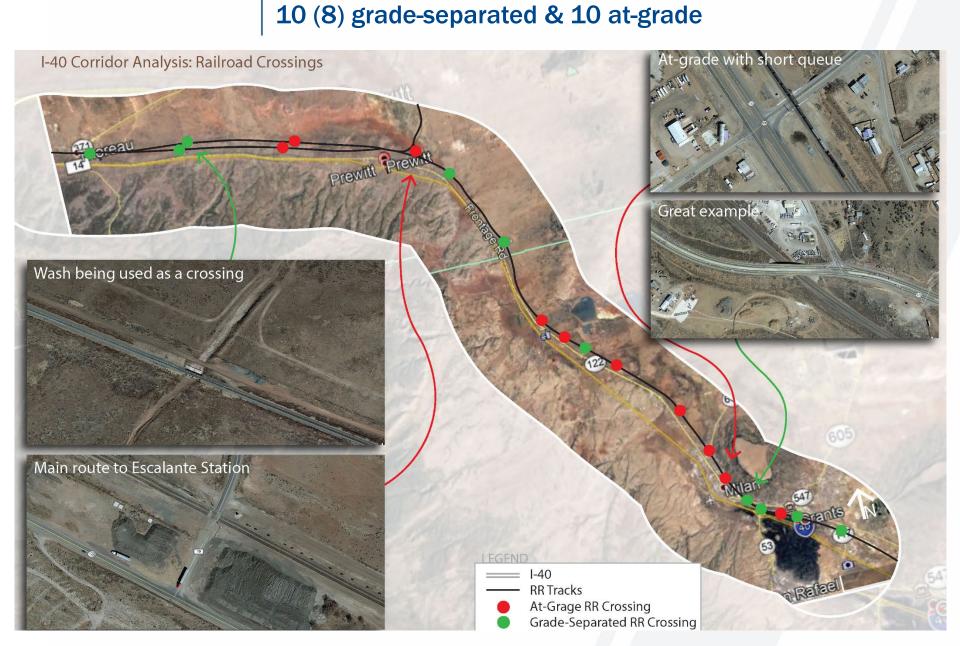
NM-317 Connection for Escalante Plant:

Provides an access point from the east to relieve traffic flow from NM-19 and the dangerous at-grade RR crossing / short queue (280').





Railroad crossings





Electric Vehicle Charging Stations

6 in the corridor area

Significant factor to an industrial park?

Regional draw to consider for future park?





What did we miss?

- Other economic development areas?
- Locations with road safety issues?
- Railroad-related issues?

Project Website





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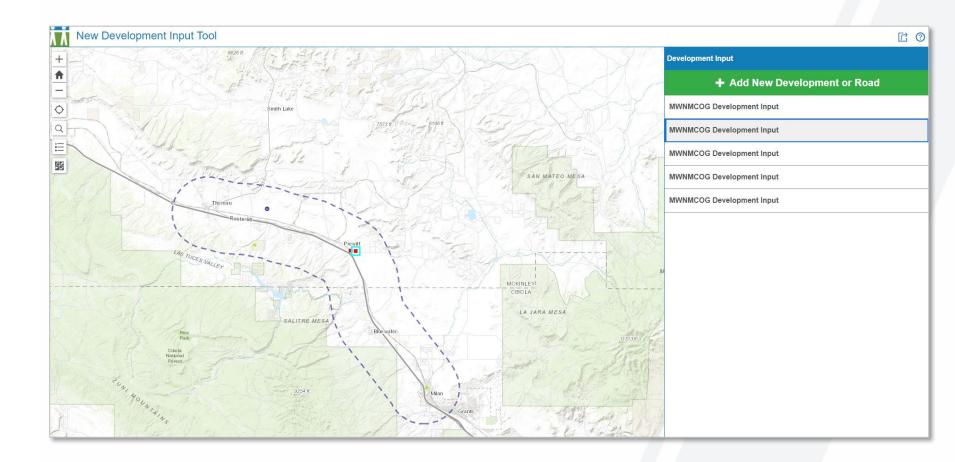
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INTERACTIVE MAP - ADD THE TRANSPORTATION PROJECTS YOU WANT TO SEE

PROJECT SCHEDULE



Interactive Map





Project Website

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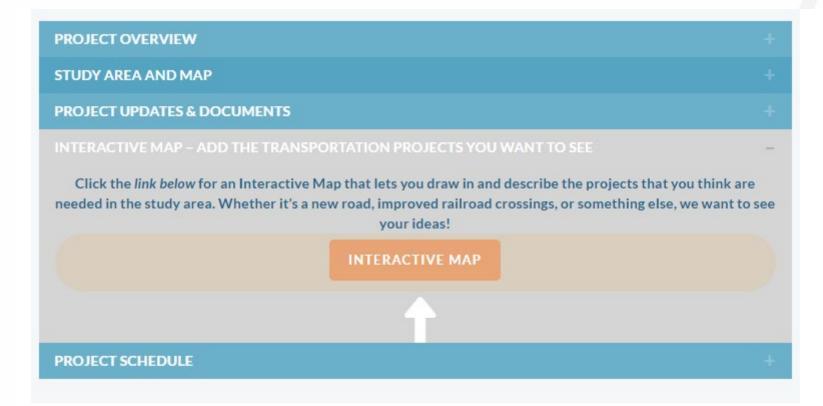
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PROJECT SCHEDULE



Project Website



Project Schedule





Schedule

PROJECT SCHEDULE: Prewitt-Milan Transportation Master Plan

	2021											2022			
TASKS	Jan.	Feb.	Mar.	Apr.	May June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.
NOTICE TO PROCEED	۵														
1. Work Plan	Area Influer Study Area Schedule Wor		Tech Memo	o#1 TWG#1 Review	w TWG Meeting		TWG#2 F	Review TWG#	3 Review						
2. Promotional Plan		Prepare Rep	port (BLLP)												
3. Stakeholder Outreach Plan	ID Stakehold			Stakeholder Ir	put Focus Gr	oup/Public Me	eting	+ Focus Group/	Public Meet	ing					
4. Form PAC and TWG		_	F	PAC/TWG Mtg	#1		PAC/TWG	Mtg #2 PAC/TV	NG Mtg #3			PAC/TWG M	tg #4		
5. Public Outreach	Promotio	onal Strateg	gy/Public Ever	nts	+ Focus Gr	oup/Public Me	eting	• Focus Group/	Public Meet	ing		◆ Focus	s Group/Pub	lic Meeting	
6. a.) Current Conditions Assessment	Data Collect	tion	Assets Inven	ntory		Tech Mer	mo #2								
b.) Future Conditions Forecast				(Demand & GIP Netw	vork Model (D0	OT Model)	Review/Appro	oval Tech Me	mo #2/#3 E	xisting and	Future Cond	tions		
7. Ranking of Projects					Project	Ranking Criter	ia 20-Year	Timeframe							
8. Website	Set Up Webs	site				Monthly Up	odates								
9. Monitoring System					Coordina	ition with NMD	OT District	6/Monitoring M	emo/System	Implementa	ation				
10. Draft Master Plan									Draft Mas	ter Plan/Pow	verPoint/Br	Review ochure		0	
11. Final Master Plan												Final M	aster Plan/P	owerPoint/Br	rochure



Next Steps

- Technical memo #2 summary of analysis so far, initial list of projects
- TWG meeting #3 late October

Thank you!

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Previous Recommendations & Studies

Prewitt Industrial Park (2020)

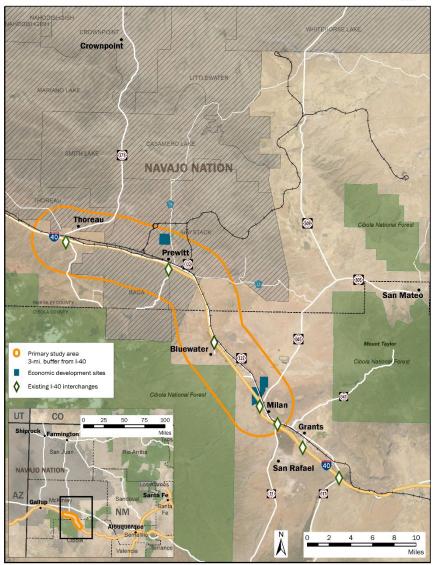
- 626-acre site north of the community of Prewitt, in McKinley County, New Mexico
- Commonly referred to as the County Road 19 Site, just south of the Escalante power plant in Prewitt





TWG Vision

When you look at the Study Area, what types of transportation investments would help you achieve your economic development goals?





Previous Recommendations & Studies

Statewide/Regional Plans

New Mexico 2040 Plan (statewide LRTP)

New Mexico Freight Plan

New Mexico Statewide Freight Plan

New Mexico DOT STIP

NW New Mexico Regional Transportation Plan

Local Plans

Village of Milan Comprehensive Plan (2017)

Comprehensive Plan for Cibola County (2015)

McKinley County Comprehensive Plan Update (2012)

Navajo Nation Plans

Navajo Nation LRTP & TTIP

Navajo Nation Inland Port

Chapter Community Land Use Plans (CLUPs)

Development Plans/Site Reports

Prewitt & Milan industrial park master plans

Solid Waste Authority Site Report



I-40 & Bluewater Road Interchange in Thoreau, NM





I-40 & Horizon Blvd in Milan







At-grade crossing, NM 605, Milan

NM 371 overpass, Thoreau



Alternative Acceleration Calculations

75 mph corridor

AASHTO vs NCHRP

'Speed Reached' for merging

				US	Customa	ary				
		Accelerat	ion lengti	h, L (ft) for	r entrance	curve de	sign speed	d (mph)		
High	way	Stop condition	15	20	25	30	35	40	45	50
Design	Speed reached,				and initia	I speed, i	V_a^\prime (mph)			
speed, V (mph)	V_a (mph)	0	14	18	22	26	30	36	40	44
30	23	180	140	-	-	_	-	_	-	_
35	27	280	220	160	-	-	_	_	_	_
40	31	360	300	270	210	120	_	_	_	_
45	35	560	490	440	380	280	160	_	_	_
50	39	720	660	610	550	450	350	130	-	_
55	43	960	900	810	780	670	550	320	150	_
60	47	1200	1140	1100	1020	910	800	550	420	180
65	50	1410	1350	1310	1220	1120	1000	770	600	370
70	53	1620	1560	1520	1420	1350	1230	1000	820	580
75	55	1790	1730	1630	1580	1510	1420	1160	1040	780

TABLE 2 Acceleration Lane Lengths Calculated in NCHRP Report 505 using the TSPM for a 180 lb/hp Truck on a Zero Percent Grade (3)

Hwy Design	Speed Reached,	Acceleration Length, ft, for Entrance Curve Design Speed, mph												
	mph	Stop	15	20	25	30	35	40	45	50				
mph		Entrance Curve Initial Speed, mph												
		0	14	18	22	26	30	36	40	44				
30	23	275	160											
35	27	400	300	230		6								
40	31	590	475	400	310	170								
45	35	800	700	630	540	400	240		-					
50	39	1100	1020	950	850	720	560	200						
55	43	1510	1400	1330	1230	1100	920	580	240					
60	47	2000	1900	1830	1740	1600	1430	1070	760	330				
65	50	2490	2380	2280	2230	2090	1920	1560	1220	800				
70	53	3060	2960	2900	2800	2670	2510	2140	1810	1260				
75	55	3520	3430	3360	3260	3130	2960	2590	2290	1850				



		U.S.	Customary					
Design Speed			Decelera	tion Lanes				
of Highway (mph)			th on Level ve (mph)a					
All Speeds	3	to 4% upgra 0.9	de	3 to 4% downgrade 1.2				
All Speeds	5	to 6% upgra 0.8	de	5 to 6% downgrade 1.35				
Design Speed		Contract Market	Accelera	tion Lanes				
of Highway (mph)			ength on Gr ign Speed of		gth on Level Irve (mph)*			
ap. n	20	30	40	50	All Speeds			
100 A.B. 100	1.3.2.8.	3 to 4%	Upgrade	Station of the	3 to 4% Downgrade			
40	1.3	1.3	-	-	0.7			
45	1.3	1.35		-	0.675			
50	1.3	1.4	1.4	-	0.65			
55	1.35	1.45	1.45	-	0.625			
60	1.4	1.5	1.5	1.6	0.6			
65	1.45	1.55	1.6	1.7	0.6			
70	1.5	1.6	1.7	1.8	0.6			
75	1.6	1.7	1.8	2.0	0.6			
80	1.7	1.8	2.0	2.1	0.6			
A REAL PROPERTY OF	the state of the	5 to 6%	Upgrade	and the second	5 to 6% Downgrad			
40	1.5	1.5	-	-	0.6			
45	1.5	1.6	-	-	0.575			
50	1.5	1.7	1.9	-	0.55			
55	1.6	1.8	2.05	-	0.525			
60	1.7	1.9	2.2	2.5	0.5			
	1.85	2.05	2.4	2.75	0.5			
65	2.0	2.2	2.6	3.0	0.5			
70	2.15	2.35	2.8	3.25	0.5			
75 80	2.13	2.5	3	3.5	0.5			

1. 10.4 or Table 10-6 gives length of speed change lane on