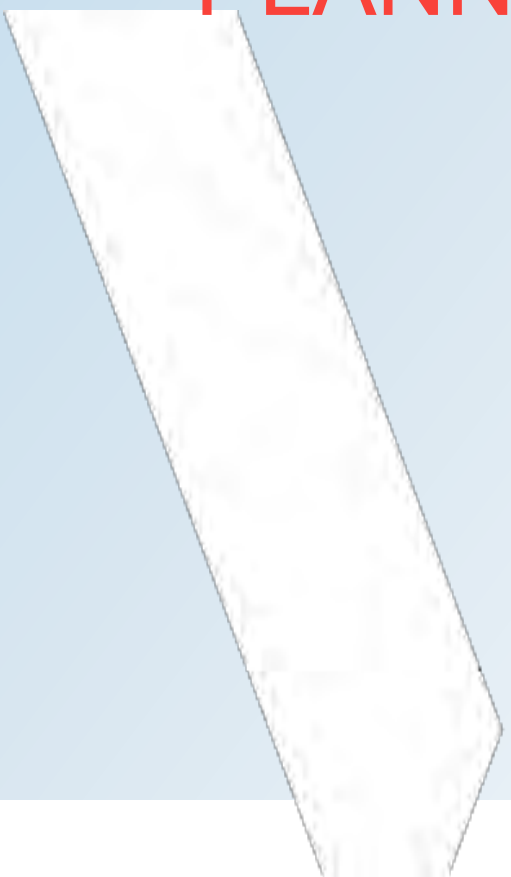
APPENDIX

A ALBUQUERQUE PLANNING MAPS



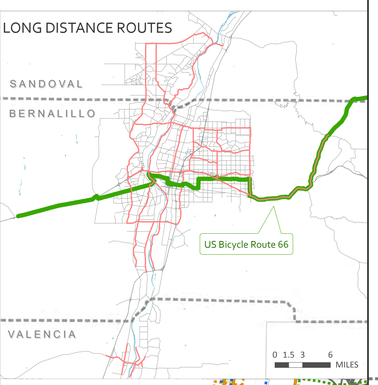
Futures 2040
Metropolitan Transportation Plan

MRMPO
Mid-Region Metropolitan Planning Organization

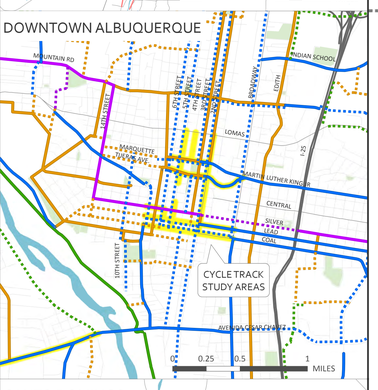
2040 Long Range Bikeway System

- Proposed Overpass/Underpass
- Existing Overpass/Underpass
- Existing, Bicycle Boulevard
- Existing, Bicycle Lane
- Existing, Bicycle Route
- Existing, Paved Trail; Existing
- Proposed, Bicycle Boulevard
- Proposed, Bicycle Lane
- Proposed, Bicycle Route
- Proposed, Paved Trail
- 50 Mile Loop

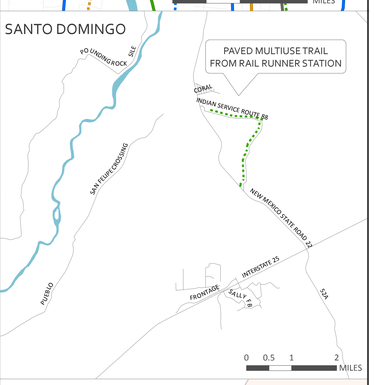
LONG DISTANCE ROUTES



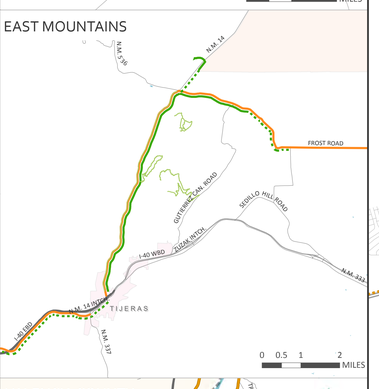
DOWNTOWN ALBUQUERQUE



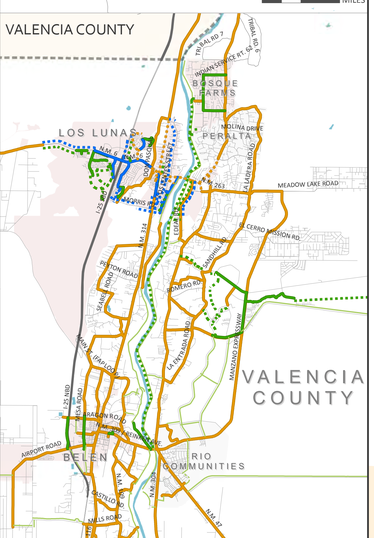
SANTO DOMINGO

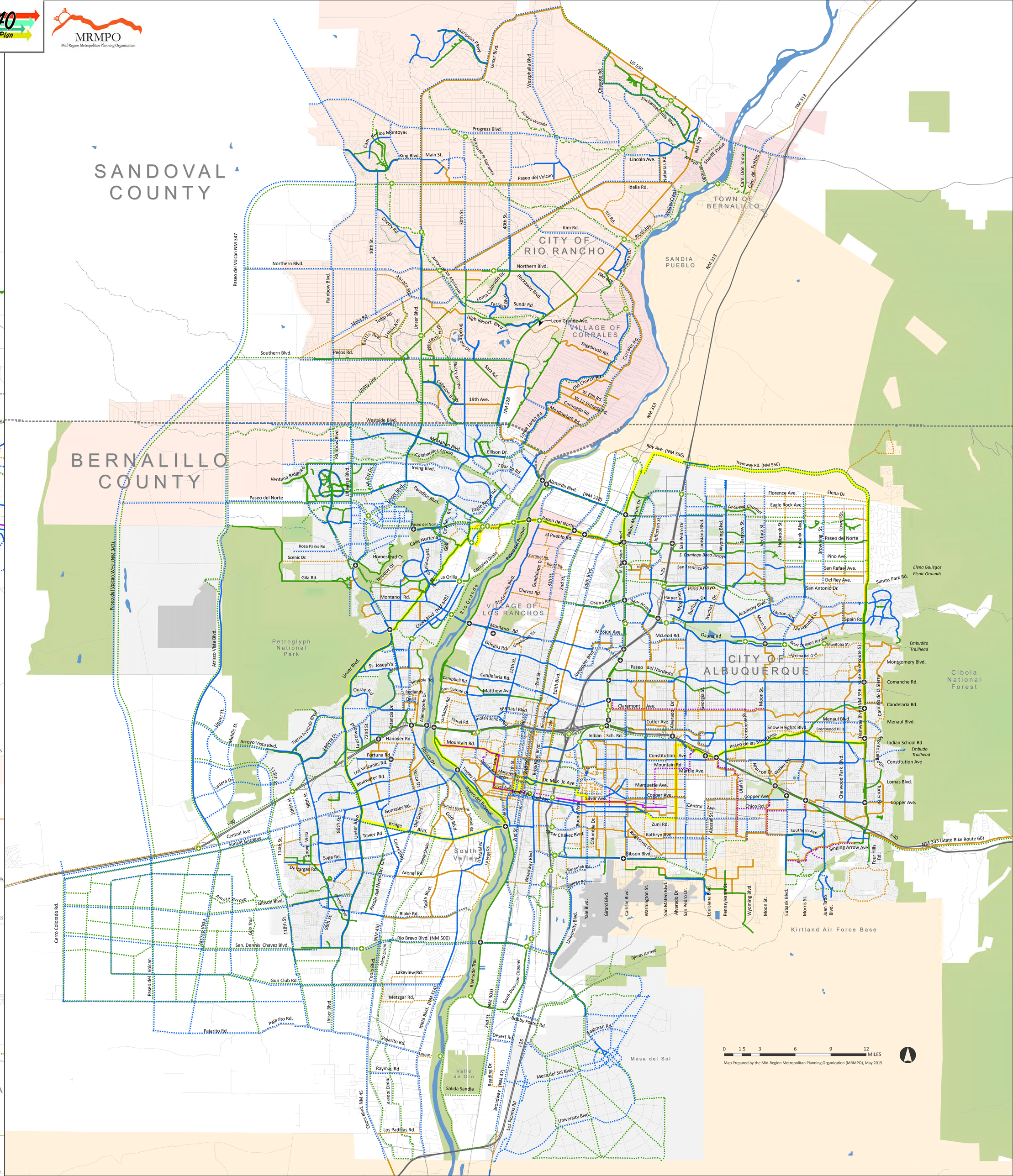


EAST MOUNTAINS



VALENCIA COUNTY





Mid-Region Council of Governments

Functional Classification in the Albuquerque Metropolitan Planning Area

Approved by Metropolitan Transportation Board on April 25, 2014
Approved by Federal Highway Administration on February 5, 2015
Update Approved by Federal Highway Administration on March 15, 2016

Roadway Functional Classification

- Interstate
- Principal Arterial
- Proposed Principal Arterial
- Minor Arterial
- Major Collector
- Proposed Major Collector
- Minor Collector
- Local
- NHS
- NHS Connector
- NHS STRAHNET

- Albuquerque Urbanized Area (Adjusted)
- Los Lunas Urbanized Area (Adjusted)
- Urban Clusters (Edgewood, Santo Domingo Pueblo)
- Tribal Areas
- National Forest/Park
- Dept. of Defense
- Valles Caldera Nat. Preserve
- AMPA Boundary
- MRCOG Boundary
- County Boundaries
- Airports
- Rio Grande
- Rail Lines

0 1 2 3 4 5 Miles

SANDOVAL COUNTY
SANTA ANA PUEBLO
SAN FELIPE PUEBLO
SANDIA PUEBLO
TO'HAJIILEE NAVAJO RESERVATION
BERNALILLO COUNTY
LAGUNA PUEBLO
ISLETA PUEBLO
VALENCIA COUNTY
Rio Rancho
Bernalillo
Corrales
Los Ranchos
Albuquerque
Petroglyph Nat'l Mon
Cibola National Forest
Tijeras
Kirtland Air Force Base
Bosque Farms
Los Lunas
Peralta
Belen
Rio Communities
Rio Grande

North AMPA Inset
Albuquerque Downtown Inset
I-40 Frontage Roads Inset

MRMPO
Mid-Region Metropolitan Planning Organization

Mid-Region Council of Governments
809 Copper Ave. NW
Albuquerque, NM 87102
505-247-1750

2017 Traffic Flows
for the Greater Albuquerque Area

Map prepared by the Mid-Region Council of Governments (MRCOG) in cooperation with the New Mexico Department of Transportation, the local governments in the Albuquerque Metropolitan Planning Area, and the U.S. Department of Transportation, Federal Highway Administration. Map prepared September 2018.

An online version of this map with complete and historic traffic count information and additional maps can be found at: **www.mrcog-nm.gov**

Mid-Region Council of Governments
809 Copper Ave. NW
Albuquerque, NM 87102
505-247-1750

MRMPO
Mid-Region Metropolitan Planning Organization

Average Weekday Traffic

Standard Data
9500
Link Volume is based on traffic count data accepted by the NM Department of Transportation Traffic Monitoring System (TMS) as standard in accordance with the New Mexico State Traffic Monitoring Standards (NMSTMS).

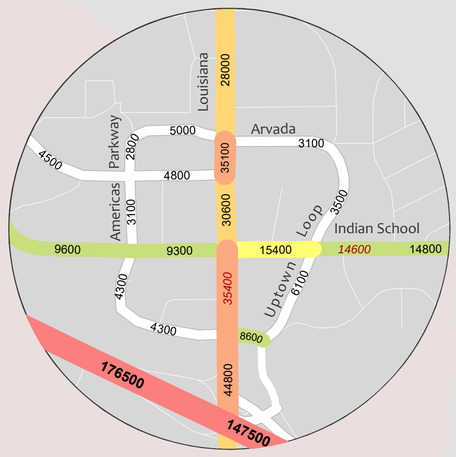
Non-Standard Data
9500
Link Volume is based either on traffic count data not in compliance with the NMSTMS or on professional judgement. NMDOT recommends that nonstandard data be used with caution.

Link volumes have been rounded to the nearest 10th, with some count volumes being the average of two shorter segments.

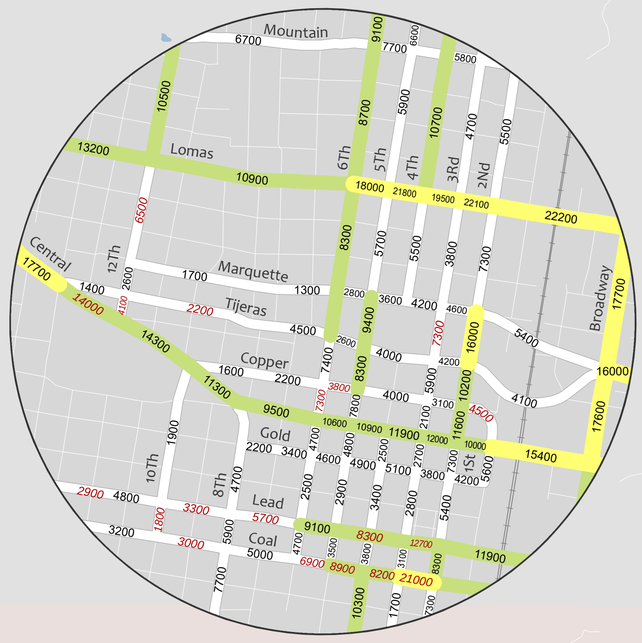
Santa Ana Pueblo
Sandia Pueblo
Isleta Pueblo
SANDOVAL CO.
BERNALILLO CO.
RIO RANCHO
CORRALES
BERNALILLO
LOS RANCHOS DE ALBUQUERQUE
ALBUQUERQUE
UPTOWN
See Inset
DOWNTOWN
See Inset

Paseo del Volcan (NM 347)
US 550
Chayote Rd.
Santa Fe Hills Blvd.
Enchanted Hills Rd.
Lincoln Ave.
Santa Ana Rd.
NM 165
Camino Don Tomas
S. Hill Rd.
Mariposa Pkwy.
King Blvd.
Center Rd.
10th St.
Cherry Rd.
17th Ave.
Unser Blvd.
Broadmoor Dr.
Idalia Rd.
Kim Rd.
Iris Rd.
Willow Cr. Rd.
Riverside Dr.
NM 528
Northern Blvd.
Saratoga Dr.
Loma Colorado Dr.
Rockaway Blvd.
Chessman Dr.
Rainbow Blvd.
Tulip Rd.
Baltic Ave.
5th St.
Abrazo Rd.
Western Hills Dr.
Sundt Rd.
Rio Vista Dr.
Todos Juntos Rd.
NM 448
SAN DIA VISTA
High Resort Blvd.
Leon Grande Ave.
Vila Verde Dr.
Pecos Lp.
Lisbon
Tarpon
Nicklaus
Southern Blvd.
Cabezon Blvd.
Westside Blvd.
Sara Rd.
Loma Larga
Corrales Rd. (NM 448)
Meadowlark Ln.
19th Ave.
Golf Course Rd.
NM 528
Lomas Larga Rd.
NM 313
McMahon Blvd.
Ellison Dr.
Irving Blvd.
Coors By-pass
Ventana Ridge Rd.
Ventana West Pkwy.
Rainbow Blvd.
Universe Blvd.
La Paz Dr.
Paradise Blvd.
Unser Blvd.
Eagle Ranch
Paseo del Norte
Ortega Rd.
Alameda Rd.
Alameda Blvd.
San Diego Ave.
Balloon Fiesta Pkwy
Roy Ave. (NM 556)
Tramway Rd. (NM 556)
4th St.
2nd St.
Barstow St.
Ventura St.
Holbrook St.
Modesto Ave.
Browning St.
Tennyson St.
Pedro Dr.
San Pedro Dr.
Willow Cr. Rd.
Idalia Rd.
Taylor Ranch Dr.
Golf Course Rd.
Coors Blvd. (NM 45)
Rio Grande Blvd.
Edith Blvd.
Jefferson St.
Chappell Dr.
Singer Blvd.
Alexander Blvd.
McLeod Rd.
Osuna Rd.
Harper Dr.
Harper Rd.
San Antonio Dr.
Lowell St.
Academy Blvd.
Spain Rd.
Montgomery Blvd.
Comanche Rd.
Candelaria Rd.
Menaul Blvd.
Indian School Rd.
Monte Largo Dr.
Constitution Ave.
Lomas Blvd.
Turner Dr.
Copper Ave.
Encantado Rd.
Central Ave.
Bridge Blvd.
Tower Rd.
Sage Rd.
Gibson Blvd.
Ridgecrest Dr.
Coal
Zuni Rd.
Kathryn Ave.
Southern Ave.
Gibson Blvd. W.
Arenal Rd.
Woodward Rd.
Sunport Blvd.
Randolph Rd.
Tramway Blvd. (NM 556)
Montano Rd.
Dellyne Ave.
Griegos Rd.
Western Trail
St. Joseph's
Candelaria Rd.
Sequoia Rd.
Matthew Rd.
Ouray Rd.
Ladera Dr.
Tierra Pintada Blvd.
Arroyo Vista Blvd.
Atrisco Vista Blvd.
Unser
Iliff Rd.
Hanover Rd.
Atrisco Rd.
Yucca Dr.
Bluewater Rd.
98th St.
114th St.
86th St.
118th St.
Sen. Dennis Chavez Blvd.
Blake Rd.
Barcelona Rd.
Rio Bravo Blvd.
(NM 500)
Gun Club Rd.
Don Felipe Rd.
Pajarito Rd.
Isleta Blvd.
2nd St. (NM 303)
Desert Rd.
Raymac Rd.
Broadway (NM 47)
Los Padillas Rd.
Malpais Rd.
Tingley Dr.
Sunset Rd.
Goff Blvd.
Old Coors Dr.
Isleta Blvd.
Tapia Blvd.
Yale Blvd.
Girard Blvd.
Carlisle Blvd.
Washington St.
San Mateo Blvd.
San Pedro Dr.
Louisiana Blvd.
Pennsylvania St.
Wyoming Blvd.
Moon St.
Eubank Blvd.
Morris St.
Juan Tabo Blvd.
Chelwood Park Blvd.
Tramway Blvd.
NM 333

Uptown Inset



Downtown Inset



Average Weekday Traffic

- 0 - 2999
- 3000 - 7999
- 8000 - 14999
- 15000 - 24999
- 25000 - 34999
- 35000 - 49999
- >50000 + Highways

0 0.75 1.5 3 MILES

APPENDIX

B CITY OF ALBUQUERQUE DPM STANDARDS (SUMMARIZED)

Albuquerque, New Mexico
Development Process Manual
October 2008 Revision
Published by:

American Legal Publishing Corporation
432 Walnut Street, 12th Floor
Cincinnati, Ohio 45202
Tel: (800) 445-5588
Fax: (513) 763-3562
Email: customerservice@amlegal.com
Internet: http://www.amlegal.com

SELECT SECTIONS TAKEN FROM THE CITY OF ALBUQUERQUE DPM

Chapter 23
TRANSPORTATION DESIGN
INTRODUCTION

Transportation in an urban environment is a complex interplay of different modes of travel, trip purposes, and variability of transportation characteristics through time. This chapter presents criteria established for use in the design of street systems and related features to accommodate these differing needs. These criteria are intended to assure acceptable levels of comfort, safety, quality and durability in completed designs.
Material presented is intended for use by qualified design professionals familiar with municipal street design. A brief overview of important governing regulations is presented together with references to commonly accepted standard publications related to the subject. Designers and others using this manual are expected to familiarize themselves fully with the following regulations, other pertinent regulations and the standard reference publications cited herein.
The purpose of this chapter is to promote consistently sound design of street systems having acceptable performance characteristics, to encourage innovative design, and to assert the need for exercise of sound, responsible, professional judgment by the designer.
While the use of minimum design standards typically results in the lowest cost for a project, the use of above minimum design may result in a more effective design with operational benefits and a more economic life cycle cost. The design values in this chapter represent the minimum standard. However the project designer is encouraged to use values above this minimum.

Table 23.2.1A
Public Right-of-Way and Pavement Width Standards
(For All Streets except Local Residential Streets)

Street or Element Classification (as defined by Subdivision Ordinance)	***Minimum Required Right-of-Way Width (see notes: 1, 2, 3, 4, 5, 7, 8, 9, 10, 11, 12)***	***Recommended Bike Facility (see note 11)***	***Minimum Required Sidewalk (See note 7)***	***Required Pavement Width (See notes 2, 3, 4, 5, 6) (Flowline to Flowline)***
Principal Arterial	a)* As required by LRRS[(1)], if not established therein, or b)* 124 feet in Established and Redeveloping Areas, or c)* 156 feet elsewhere d)* Add 12 feet for bike lanes if road is on bikeway system (1, 2, 3, 4, 5, 7, 8, 9, 10, 11)	6-foot minimum bike lane or 5-foot paved shoulder bikeway for posted speeds of 35 mph or less; 7-foot bike lane or 6-foot paved shoulder bikeway for posted speeds of 40 mph or greater	6 feet with a 6-foot setback from back of curb (7)	a) As required by LRRS, or b) As required by Traffic Engineer/Development (2, 3, 4, 5, 6)
Minor Arterial	a)* As required by LRRS[(1)], if not established therein, or b)* 91 feet c)* Add 12 feet for bike lanes if road is on bikeway system (1, 2, 3, 4, 5, 7, 8, 9, 10, 11)	6-foot minimum bike lane or 5-foot paved shoulder bikeway for posted speeds of 35 mph or less; 7-foot bike lane or 6-foot paved shoulder bikeway for posted speeds of 40 mph or greater	6 feet with a 6-foot setback from back of curb (7)	a) As required by LRRS, or b) 66 feet to 74 feet including gutter and median/center turn lane (2, 3, 4, 5, 6)

Collector	a)* As required by LRRS[1], if not established therein, or b)* 73 feet c)* Add 12 feet for bike lanes if road is on bikeway system (1, 2, 3, 4, 5, 7, 8, 9, 10, 11)	6-foot bike lane or 4-foot paved shoulder bikeway (min.)	6 feet with a 6-foot setback from back of curb (7)	a) As required by LRRS, or b) 48 feet (2, 3, 4, 5, 6)
Major Local	See Table 23.2.1B for local street standards (Major, Normal, and Access)			
Local Streets – Abutting Lands Zones R-2, 3 – All others** ** One side development only or cul-de-sac	57 feet * 61 feet 53 feet [57' x 100']	—	4 feet with a 6-foot setback from back of curb [7, 10]	36 feet 40 feet 32 feet (36')[10] (2, 3, 4, 5, 6)
Alley	* 20 feet (paved, valley gutter)	—	N/A	20 feet (paved, valley gutter)
Primary Trail (on separate right-of- way)	* 18 feet minimum	—	N/A	10 feet minimum
Secondary Trail (on separate right-of-way)	* 15 feet	—	—	10 feet
Pedestrian Access Route to a street from a stub street, a cul-de-sac, or from between lots	Minimum 12 feet (18 feet for pedestrian access routes longer than 120 feet) (12)			6 feet (12)

Section 3. ENGINEERING DESIGN CRITERIA

The criteria presented within this chapter are major controlling factors in the design of streets. It is expected that designers will carefully apply, with attention to detail, these criteria to individual design circumstances. Suitable transitional elements must be provided between changes in geometric configuration, pavement and curb character, and drainage carrying aspects of the ultimate street design.

In the following, the major criteria governing design speed, horizontal and vertical geometrics, sight distance, curvature and superelevation, gradients, and comfort controls are presented in table form first, followed by explanatory discussions of applications of the criteria. These materials are followed by sections treating the design of special elements related to streets.

The guidelines contained herein are intended to provide direction in the design of transportation facilities. While most of the design parameters that should be used are provided in the following pages, unusual conditions may occur in some projects. When additional guidance and explanation is needed, the designer should refer to the following publications or the most current edition thereof:

1. A Policy on Geometric Design of Streets and Highways, American Association of State Highway and Transportation Officials, 1990.
2. Traffic Engineering Handbook, Institute of Transportation Engineers, Fourth Edition, 1992.
3. Transportation Planning Handbook, Institute of Transportation Engineers, 1992
4. Roadside Design Guide, AASHTO, October 1988.

5. Highway Capacity Manual, Special Report 209, Transportation Research Board, 1994.
6. Trip Generation, 5th Edition, Institute of Transportation Engineering, 1991.
7. Manual on Uniform Traffic Control Devices, FHWA, 1988.
8. Transportation and Land Development, ITE, 1988.
9. Guide for Design of Pavement Structures, AASHTO, 1986.

B. Geometric Criteria

In general, criteria for the horizontal and vertical geometrics of street design given in Table 23.3.1 will be the minimum acceptable values. Other factors must also be considered in a balanced design:

1. Vertical Alignment

Long, flat gradients are undesirable because of poor drainage characteristics. The minimum desirable gradient consistent with acceptable drainage is 0.5 percent and, as such, should be observed as a general design principle. Grades in valley areas and other special circumstances may be flatter than 0.5 percent if approved by the City Engineer and the Traffic Engineer. Long, steep gradients are also undesirable since such are difficult for heavier vehicles to negotiate at desirable traffic speeds.

Vertical curve criteria stated in Table 23.3.1 are intended to provide adequate safety consistent with applicable design speeds. In the application of these criteria, the designer will be expected to apply good judgment in combining vertical geometry with horizontal geometry. Extreme vertical undulation is not acceptable. Vertical changes in grade occurring simultaneously with horizontal alignment changes must be carefully considered to preserve the maximum sight distance consistent with the design speed of the street. Horizontal curvature should not be introduced at or near the top of a crest vertical curve. Intersection sight distances must be maintained in all designs. Intersections on vertical curves should be placed at the crest where visibility in both directions can be maintained.

Table 23.3.1 GENERAL DESIGN CRITERIA FOR STREETS
(Numbers in parentheses apply to footnotes below)
VERTICAL CURVE REQUIREMENTS(4)

MINIMUM CENTERLINE RADIUS - FEET(5) | VERTICAL CURVATURE DESIGN VALUE K(2)

STREET CLASSIFICATION	DESIGN SPEED M.P.H	WITH 0.02 FT./FT/ SUPER-ELEVATION	WITH NORMAL CROWN (7)	MINIMUM LENGTH VERTICAL CURVE (FEET) (1)	FOR CREST STOPPING SIGHT DISTANCE (6)	FOR SAG STOPPING SIGHT DISTANCE	FOR SAG COMFORT CONTROL (3)(6)	MAXIMUM GRADE CHANGE ALLOWED WITHOUT VERTICAL CURVE - %	MAXIMUM GRADE ALLOWED %
PRINCIPAL ARTERIAL	50(11)	(10)	(10)	150	160	110	N/A	0.4	6
MINOR ARTERIAL	45(11)	800	1,100	135	120	90	N/A	0.4	7
COLLECTOR	35(11)	450	650	100	50	50	26	0.7	8
MAJOE LOCAL	30	--	300	100	30	40	19	0.8	8
LOCAL RESIDENTIAL	25	--	180(9)	75	20	30	13	1.0	8
LOCAL RESIDENTIAL: ACCESS STREETS(12) CUL-DE-SACS & ALLEYS	20	--	120(9)	60	10	20	9	1.0	12
LOCAL INDUSTRIAL/ COMMERCIAL	30	--	380	90	30	40	19	1.0	8
LOCAL LEG OF "T" INTERSECTION	15	N/A	N/A	45	5	9	5	1.0	12

2. Horizontal Alignment

Normal crown is generally preferred in urban streets to promote control of drainage and nuisance flows. This preference will lead to the use of longer radius horizontal curves in most major street circumstances. The use of superelevation (i.e., outside edge of pavement higher than inside edge) requires the careful design of transition reaches leading from normal crown sections to superelevated sections. Designs involving such transitions should show sufficient detail to demonstrate that drainage traps are avoided and to provide sufficient information for adequate construction staking to ensure the desired result. This will normally involve providing special vertical profile lines for all curblines as well as detailed superelevation run-out plans.

D. Intersection Design Criteria

1. Angle of Intersection

Streets must be designed to intersect at right angles (as nearly as practical) consistent with topography and sound design. The acute angles at intersections for all streets shall be 80o or greater.

2. Spacing of Intersections

Intersections of streets along arterial streets are to be minimized. Following are limiting values to be observed:

a. Continuous streets* intersecting arterials must generally be spaced no closer than 900 feet on center.

b. Intersections of streets which are not on continuous alignment through the street intersected are to be spaced as follows:

(1) Intersections of non-continuous streets must be spaced at least 150' between centerlines of streets on local streets.

(2) Three hundred feet (300') on collector streets

(3) Four hundred feet (400') on all arterial streets

c. Variances from these criteria will require approval of the Traffic Engineer.

*Continuous streets - Intersections where the streets on two side of the principal roadway are directly opposite each other that is not 'T' intersections.

3. Curb Return Radii

Minimum acceptable curb return radii are presented in Table 23.3.3. The given criteria are intended as requirements in new developments and as desirable where feasible in redeveloping areas. All radii are measured to the flowline of the curb section as defined in the Standard Details.

The selection of appropriate curb return radii at intersections depends largely upon the governing design vehicle expected to negotiate turning movements about the return and its effect on traffic flow. Streets commonly expected to experience large commercial vehicles or bus traffic will require larger radii at intersections than local streets.

The designer should consult the Traffic Engineer prior to beginning design of any intersection involving principal or minor arterials and collector streets with streets of like classifications. Radii requirements for intersections in commercial or industrial areas should also be reviewed with the Traffic Engineer prior to design. These classifications of streets frequently experience special traffic circumstances for which the Traffic Engineer will require the use of larger radii.

Table 23.3.3
STANDARD CURB RETURN RADII (AT FLOWLINE)
AND RIGHT-OF-WAY AT INTERSECTIONS

INTERSECTING STREETS	PRINCIPAL ARTERIAL	MINOR ARTERIAL	MAJOR COLLECTOR	LOCAL LOCAL	LOCAL-INDUSTRIAL RESIDENTIAL	LOCAL-INDUSTRIAL COMMERCIAL
PRINCIPAL ARTERIAL	(3) MIN.*	35'*	35'*	30'	30'	30'*
MINOR ARTERIAL	35'*	35'*	30'*	30'	30'	30'*
COLLECTOR	35'*	30'*	25'	25'	25'	30'*
MAJOR LOCAL	30'	30'	25'	20'	20'	30'*
LOCAL RESIDENTIAL	30'	30'	25'	20'	20'	N/A
LOCAL INDUSTRIAL COMMERCIAL	30'*	30'*	30'	30'	N/A	30'*

ALLEY RETURNS Shall match the radii requirements for design vehicles expected - 25' minimum

* MAY BE INCREASED OR DECREASED AT DISCRETION OF THE TRAFFIC ENGINEER.

Curb Return Radii may be adjusted to allow sidewalk bulb-outs for street crosswalk areas at intersections with Major Local Streets.

NOTES:

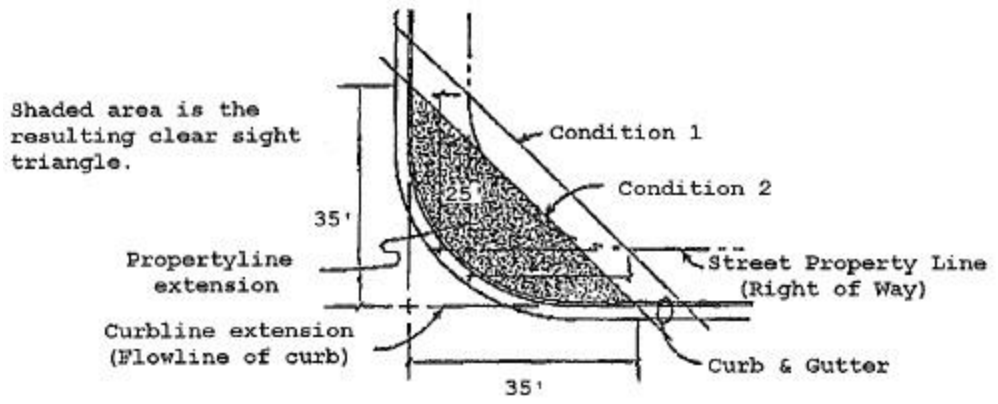
1. Radii needs to be evaluated in terms of design vehicle where significant percentages of WB-40, 50, and 60 vehicles are probable. 2- centered or 3-centered curves should be used to provide turning paths.
2. Intersecting property lines at intersections must be designed to allow construction of full-sized standard handicapped access ramps wholly within the public right-of-way. Ramps must conform to the Standard Details.
3. Flared transitions must be provided where local residential streets having less than 32 feet wide paving intersect other streets. The transition must provide for a 1 25:1 taper from the narrower street width to a full 32 feet pavement width at the ends of the curb returns on the narrow street leg of the intersection. Curb return radii will normally be 25 feet measured to the flowline.
4. Use three centered asymmetric curves with channelized right-turn lane. Island shall be large enough for pedestrian facilities and Traffic Control devices. A 180'-60'-300' three centered curve should be used. Contact the Traffic engineer for details.

---

5. Intersection Sight Distance

a. Intersection designs must provide for clear sight distances in the horizontal plane. Minimum intersection visibility should comply with the following specific language from Section 2-15 of the Traffic Code:

"No such obstruction to view between three and eight feet above the gutter line shall be placed or maintained within a triangular area at the street corner, which area is bounded by: (1) the street property lines of the corner lot and a line connecting points twenty-five feet distant from the intersection of the property lines of such lot, or (2) the curb lines of an intersection and a line connecting points thirty-five feet distant from the corner of the intersection and such corner is determined by projecting the curb lines out to a specific point, whichever is the lesser."



b. Intersections of local streets with major streets classified as collector or above shall not be located at or near horizontal curves without special evaluation of intersection sight distance. The location of an intersection on the "inside" of a horizontal curve is a situation that will typically result in intersection visibility problems. The location of any property lines, fences or other obstructions will need to be evaluated to ensure that the minimum sight distance is maintained. See figure IX-40 p 762, A Policy on Geometric Design of Highways and Streets, AASHTO, or latest update.

Section 5. MISCELLANEOUS STREET DESIGN CRITERIA

A. Sidewalks

Refer to Tables 23.2.1.A and 23.2.1.B for detailed information about sidewalk widths and location.

Sidewalks must be provided for all properties within the City of Albuquerque as required by the Sidewalk Ordinance. The fundamental requirements governing sidewalk design are established by this ordinance. Sidewalk designs must provide for the mobility, safety and comfort of the pedestrian and provide for adequate pedestrian access to abutting property. Pertinent sidewalk design criteria are collected herein for the convenience of the designer.

1. *Sidewalk Widths

a. Six feet (6') width is required when constructed with streets designated as follows:

(1) Arterial - except that sidewalks on arterial streets adjacent to Major Activity Centers and Community Activity Centers, as defined in the Albuquerque/Bernalillo County Comprehensive Plan, shall be a minimum of 10' wide.

(2) Collector - except that sidewalks on collector streets adjacent to Major Activity Centers and Community Activity Centers, as defined in the Albuquerque/Bernalillo County Comprehensive Plan, shall be a minimum of 9' wide.

(3) Major Local.

(4) Local - abutting grounds of schools or churches, lands zoned SU-3, or land zoned for a greater residential density than R-T Residential Zone.

b. Four feet (4') width where constructed with local or collector streets for lands zoned other than those designated above.

c. Special widths as per adopted plans

C. Median Cuts and Left Turn Lanes

1. On all streets with medians, the allowable minimum distance between the ends of adjacent median cuts is 300'. Since median cuts vary from 60' to 96', the allowable minimum centerline to centerline spacing of median cuts varies from 360' to 396'. At intersections with arterial streets, the allowable minimum distance is

normally increased to 400' (centerline to centerline spacing of approximately 500'). A median cut will not be approved automatically because it meets the spacing requirements; type of development, internal circulation and traffic operating conditions (existing or projected) on the street also will be considered.

G. Lighting and Signage

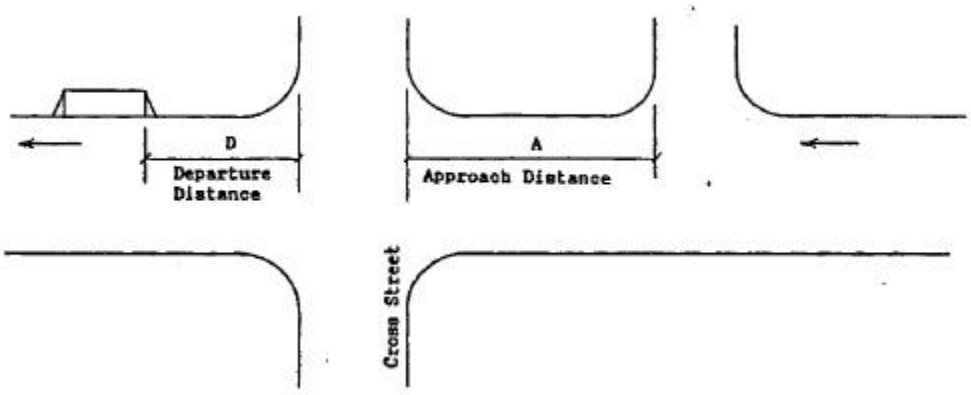
1. Street Lighting

The policy of the City is that arterial (and selected collector) streets be lit to Illuminating Engineering Society standards for arterial streets. On all other streets, 100 watt High Pressure Sodium Vapor lights shall be located at all intersections, on cul-de-sac streets over 200' in length, at right angle turns, and at mid-block locations where block lengths exceed 500'. In new subdivisions, the developer submits a copy of the plat with required street lighting marked to the Traffic Engineer. This is then forwarded to PNM for street light installation plat to Public Service Company of New Mexico (PNM) for design of the street lighting system. PNM then submits it to the Traffic Engineer for approval. Following approval, PNM installs the street lights in conjunction with the installation of electrical service to the subdivision. A fixed fee per street light is paid to PNM by the developer for the installation of these lights.

Section 6. CURB CUTS AND DRIVEPADS

5. Location of Drives

Drive locations are to be somewhat evenly spaced where there is a proposal for more than 1 drive. The following distances should be used as minimums from an intersection.



Cross Street Classification						
	Arterial		Collector		Local*	
	A	D	A	D	A	D
Principal Arterial	**300'**	**200'**	**200'**	**150'**	**150'**	**100'**
Minor Arterial	**200'**	**150'**	**150'**	**100'**	**100'**	**100'**
Collector	**150'**	**150'**	**100'**	**100'**	**75'**	**75'**
Local*	**50'**	**50'**	**50'**	**50'**	**25'**	**25'**

A - approach distance, D - departure distance

* Additional distance may be required based upon queuing

APPENDIX

C INTERSECTION TURNING MOVEMENT COUNTS

Mike Henderson Consulting, LLC
5301 Camino Sandia NE
Albuquerque, NM 87111
(505) 275-5706

Collected by: MH
NB Direction of 98th St

File Name : 98th & NB Benavides
Site Code :
Start Date : 9/18/2018
Page No : 1

Groups Printed- Car - Truck

	Benavides Ave Eastbound					Benavides Ave Westbound					98th St Northbound					98th St Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:30	38	5	0	0	43	0	6	10	0	16	4	239	0	1	244	0	0	0	1	1	304
06:45	30	8	0	0	38	0	6	7	1	14	0	251	3	1	255	0	0	0	0	0	307
Total	68	13	0	0	81	0	12	17	1	30	4	490	3	2	499	0	0	0	1	1	611
07:00	44	8	0	0	52	0	13	9	0	22	1	283	1	0	285	0	0	0	0	0	359
07:15	45	18	0	0	63	0	5	14	0	19	2	289	6	1	298	0	0	0	0	0	380
07:30	34	43	0	0	77	0	6	18	8	32	3	240	6	1	250	0	0	0	0	0	359
07:45	18	58	0	1	77	0	11	39	34	84	2	189	15	11	217	0	0	0	0	0	378
Total	141	127	0	1	269	0	35	80	42	157	8	1001	28	13	1050	0	0	0	0	0	1476
08:00	29	61	0	1	91	0	13	42	8	63	2	166	18	7	193	0	0	0	0	0	347
08:15	20	10	0	0	30	0	6	10	0	16	5	180	3	0	188	0	0	0	0	0	234
08:30	36	6	0	0	42	0	2	9	0	11	2	188	2	1	193	0	0	0	0	0	246
08:45	25	7	0	0	32	0	3	6	1	10	4	157	2	1	164	0	0	0	0	0	206
Total	110	84	0	1	195	0	24	67	9	100	13	691	25	9	738	0	0	0	0	0	1033
09:00	20	7	0	0	27	0	7	2	0	9	2	125	5	0	132	0	0	0	0	0	168
09:15	15	4	0	0	19	0	6	8	0	14	1	135	3	0	139	0	0	0	0	0	172
09:30	23	10	0	0	33	0	6	7	1	14	1	134	0	1	136	0	0	0	0	0	183
09:45	20	4	0	0	24	0	4	8	0	12	0	105	3	0	108	0	0	0	0	0	144
Total	78	25	0	0	103	0	23	25	1	49	4	499	11	1	515	0	0	0	0	0	667
10:00	13	4	0	0	17	0	3	3	1	7	0	114	1	2	117	0	0	0	0	0	141
10:15	26	6	0	0	32	0	0	4	2	6	1	116	3	0	120	0	0	0	0	0	158
10:30	12	3	0	0	15	0	4	4	0	8	3	123	1	0	127	0	0	0	0	0	150
10:45	15	4	0	0	19	0	5	9	0	14	3	99	1	0	103	0	0	0	0	0	136
Total	66	17	0	0	83	0	12	20	3	35	7	452	6	2	467	0	0	0	0	0	585
11:00	16	5	0	0	21	0	4	7	1	12	1	93	1	0	95	0	0	0	0	0	128
11:15	11	9	0	0	20	0	6	8	0	14	1	103	3	0	107	0	0	0	0	0	141
11:30	14	5	0	0	19	0	1	9	0	10	3	116	2	0	121	0	0	0	0	0	150
11:45	11	6	0	0	17	0	6	7	1	14	5	110	1	1	117	0	0	0	0	0	148
Total	52	25	0	0	77	0	17	31	2	50	10	422	7	1	440	0	0	0	0	0	567
12:00	8	10	0	0	18	0	4	5	0	9	4	106	1	0	111	0	0	0	0	0	138
12:15	20	7	0	0	27	0	3	7	0	10	1	125	0	0	126	0	0	0	1	1	164
12:30	17	6	0	0	23	0	4	8	0	12	4	119	2	0	125	0	0	0	0	0	160
12:45	13	9	0	0	22	0	3	5	1	9	4	112	2	0	118	0	0	0	0	0	149
Total	58	32	0	0	90	0	14	25	1	40	13	462	5	0	480	0	0	0	1	1	611

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Groups Printed- Car - Truck

	Benavides Ave Eastbound					Benavides Ave Westbound					98th St Northbound					98th St Southbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
13:00	11	8	0	0	19	0	5	6	2	13	5	119	1	0	125	0	0	0	0	0	157
13:15	11	5	0	0	16	0	4	7	0	11	3	120	0	0	123	0	0	0	0	0	150
13:30	24	6	0	0	30	0	10	2	2	14	2	110	4	1	117	0	0	0	0	0	161
13:45	11	8	0	0	19	0	4	3	0	7	5	115	2	0	122	0	0	0	0	0	148
Total	57	27	0	0	84	0	23	18	4	45	15	464	7	1	487	0	0	0	0	0	616
14:00	28	14	0	0	42	0	4	8	0	12	4	132	1	0	137	0	0	0	0	0	191
14:15	33	13	0	0	46	0	11	6	0	17	2	156	3	1	162	0	0	0	0	0	225
14:30	16	14	0	0	30	0	5	6	1	12	3	164	10	0	177	0	0	0	0	0	219
14:45	22	30	0	0	52	0	7	7	6	20	4	219	16	2	241	0	0	0	3	3	316
Total	99	71	0	0	170	0	27	27	7	61	13	671	30	3	717	0	0	0	3	3	951
15:00	20	29	0	0	49	0	13	45	36	94	1	163	9	37	210	0	0	0	0	0	353
15:15	29	15	0	0	44	0	13	19	3	35	4	160	5	1	170	0	0	0	0	0	249
15:30	24	12	0	0	36	0	7	25	1	33	2	142	5	0	149	0	0	0	2	2	220
15:45	20	7	0	0	27	0	8	15	0	23	8	154	4	2	168	0	0	0	0	0	218
Total	93	63	0	0	156	0	41	104	40	185	15	619	23	40	697	0	0	0	2	2	1040
16:00	30	10	0	0	40	0	12	7	1	20	3	177	4	4	188	0	0	0	0	0	248
16:15	26	15	0	0	41	0	6	21	0	27	5	155	4	0	164	0	0	0	0	0	232
16:30	24	11	0	0	35	0	10	7	1	18	2	157	2	2	163	0	0	0	0	0	216
16:45	18	5	0	0	23	0	4	6	2	12	3	158	4	2	167	0	0	0	0	0	202
Total	98	41	0	0	139	0	32	41	4	77	13	647	14	8	682	0	0	0	0	0	898
17:00	27	11	0	0	38	0	6	12	2	20	6	155	3	1	165	0	0	0	0	0	223
17:15	22	8	0	0	30	0	13	12	0	25	1	156	5	0	162	0	0	0	0	0	217
17:30	26	8	0	0	34	0	10	8	1	19	4	184	3	1	192	0	0	0	0	0	245
17:45	29	10	0	0	39	0	14	9	2	25	6	160	2	1	169	0	0	0	0	0	233
Total	104	37	0	0	141	0	43	41	5	89	17	655	13	3	688	0	0	0	0	0	918
18:00	32	13	0	0	45	0	14	8	0	22	10	164	1	0	175	0	0	0	0	0	242
18:15	16	11	0	0	27	0	5	6	0	11	4	171	2	0	177	0	0	0	0	0	215
Grand Total	1072	586	0	2	1660	0	322	510	119	951	146	7408	175	83	7812	0	0	0	7	7	10430
Apprch %	64.6	35.3	0	0.1		0	33.9	53.6	12.5		1.9	94.8	2.2	1.1		0	0	0	100		
Total %	10.3	5.6	0	0	15.9	0	3.1	4.9	1.1	9.1	1.4	71	1.7	0.8	74.9	0	0	0	0.1	0.1	
Car	1040	554	0	2	1596	0	298	504	119	921	140	7256	172	83	7651	0	0	0	7	7	10175
% Car	97	94.5	0	100	96.1	0	92.5	98.8	100	96.8	95.9	97.9	98.3	100	97.9	0	0	0	100	100	97.6
Truck	32	32	0	0	64	0	24	6	0	30	6	152	3	0	161	0	0	0	0	0	255
% Truck	3	5.5	0	0	3.9	0	7.5	1.2	0	3.2	4.1	2.1	1.7	0	2.1	0	0	0	0	0	2.4

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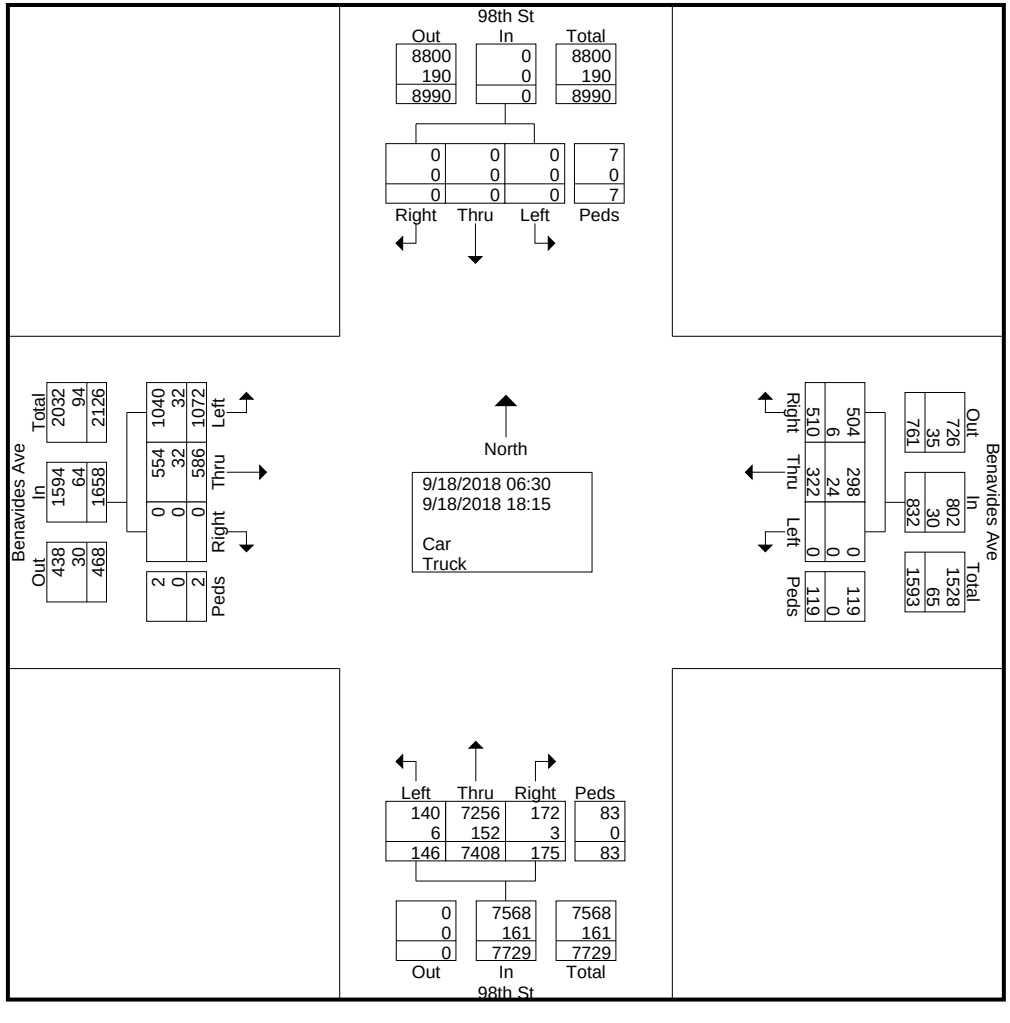

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Page No : 4

	Benavides Ave Eastbound				Benavides Ave Westbound				98th St Northbound				98th St Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:30 to 09:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:00																	
07:00	44	8	0	52	0	13	9	22	1	283	1	285	0	0	0	0	359
07:15	45	18	0	63	0	5	14	19	2	289	6	297	0	0	0	0	379
07:30	34	43	0	77	0	6	18	24	3	240	6	249	0	0	0	0	350
07:45	18	58	0	76	0	11	39	50	2	189	15	206	0	0	0	0	332
Total Volume	141	127	0	268	0	35	80	115	8	1001	28	1037	0	0	0	0	1420
% App. Total	52.6	47.4	0		0	30.4	69.6		0.8	96.5	2.7		0	0	0		
PHF	.783	.547	.000	.870	.000	.673	.513	.575	.667	.866	.467	.873	.000	.000	.000	.000	.937
Car	140	122	0	262	0	33	80	113	8	984	28	1020	0	0	0	0	1395
% Car	99.3	96.1	0	97.8	0	94.3	100	98.3	100	98.3	100	98.4	0	0	0	0	98.2
Truck	1	5	0	6	0	2	0	2	0	17	0	17	0	0	0	0	25
% Truck	0.7	3.9	0	2.2	0	5.7	0	1.7	0	1.7	0	1.6	0	0	0	0	1.8
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:15																	
12:15	20	7	0	27	0	3	7	10	1	125	0	126	0	0	0	0	163
12:30	17	6	0	23	0	4	8	12	4	119	2	125	0	0	0	0	160
12:45	13	9	0	22	0	3	5	8	4	112	2	118	0	0	0	0	148
13:00	11	8	0	19	0	5	6	11	5	119	1	125	0	0	0	0	155
Total Volume	61	30	0	91	0	15	26	41	14	475	5	494	0	0	0	0	626
% App. Total	67	33	0		0	36.6	63.4		2.8	96.2	1		0	0	0		
PHF	.763	.833	.000	.843	.000	.750	.813	.854	.700	.950	.625	.980	.000	.000	.000	.000	.960
Car	58	27	0	85	0	13	25	38	14	463	5	482	0	0	0	0	605
% Car	95.1	90.0	0	93.4	0	86.7	96.2	92.7	100	97.5	100	97.6	0	0	0	0	96.6
Truck	3	3	0	6	0	2	1	3	0	12	0	12	0	0	0	0	21
% Truck	4.9	10.0	0	6.6	0	13.3	3.8	7.3	0	2.5	0	2.4	0	0	0	0	3.4
Peak Hour Analysis From 14:00 to 18:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 14:30																	
14:30	16	14	0	30	0	5	6	11	3	164	10	177	0	0	0	0	218
14:45	22	30	0	52	0	7	7	14	4	219	16	239	0	0	0	0	305
15:00	20	29	0	49	0	13	45	58	1	163	9	173	0	0	0	0	280
15:15	29	15	0	44	0	13	19	32	4	160	5	169	0	0	0	0	245
Total Volume	87	88	0	175	0	38	77	115	12	706	40	758	0	0	0	0	1048
% App. Total	49.7	50.3	0		0	33	67		1.6	93.1	5.3		0	0	0		
PHF	.750	.733	.000	.841	.000	.731	.428	.496	.750	.806	.625	.793	.000	.000	.000	.000	.859
Car	85	81	0	166	0	36	76	112	12	686	38	736	0	0	0	0	1014
% Car	97.7	92.0	0	94.9	0	94.7	98.7	97.4	100	97.2	95.0	97.1	0	0	0	0	96.8
Truck	2	7	0	9	0	2	1	3	0	20	2	22	0	0	0	0	34
% Truck	2.3	8.0	0	5.1	0	5.3	1.3	2.6	0	2.8	5.0	2.9	0	0	0	0	3.2

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Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
06:30	0	40	3	0	43	4	3	0	0	7	0	0	0	3	3	5	71	11	1	88	141
06:45	0	34	9	0	43	5	1	0	0	6	0	0	0	1	1	4	120	10	0	134	184
Total	0	74	12	0	86	9	4	0	0	13	0	0	0	4	4	9	191	21	1	222	325
07:00	0	44	8	0	52	10	4	0	0	14	0	0	0	0	0	6	124	15	0	145	211
07:15	0	53	3	0	56	2	5	0	0	7	0	0	0	1	1	14	103	3	0	120	184
07:30	0	47	5	0	52	3	7	0	0	10	0	0	0	1	1	32	113	12	0	157	220
07:45	0	37	11	0	48	4	13	0	0	17	0	0	0	10	10	44	106	15	0	165	240
Total	0	181	27	0	208	19	29	0	0	48	0	0	0	12	12	96	446	45	0	587	855
08:00	0	35	5	0	40	6	14	0	0	20	0	0	0	2	2	54	104	8	0	166	228
08:15	0	24	2	1	27	4	8	0	0	12	0	0	0	0	0	7	86	17	0	110	149
08:30	0	41	13	0	54	0	2	0	0	2	0	0	0	1	1	3	98	7	0	108	165
08:45	0	25	2	0	27	3	4	0	0	7	0	0	0	1	1	7	75	7	0	89	124
Total	0	125	22	1	148	13	28	0	0	41	0	0	0	4	4	71	363	39	0	473	666
09:00	0	23	4	0	27	4	5	0	0	9	0	0	0	1	1	4	71	11	0	86	123
09:15	0	16	2	0	18	1	5	0	0	6	0	0	0	0	0	3	81	17	0	101	125
09:30	0	27	4	0	31	4	4	0	0	8	0	0	0	0	0	6	61	21	0	88	127
09:45	0	22	2	0	24	3	1	0	0	4	0	0	0	0	0	1	71	10	0	82	110
Total	0	88	12	0	100	12	15	0	0	27	0	0	0	1	1	14	284	59	0	357	485
10:00	0	15	3	0	18	1	4	0	0	5	0	0	0	2	2	1	58	13	0	72	97
10:15	0	26	1	0	27	0	1	0	0	1	0	0	0	0	0	6	65	15	0	86	114
10:30	0	14	5	1	20	2	5	0	0	7	0	0	0	0	0	3	71	8	1	83	110
10:45	0	14	1	0	15	1	7	0	0	8	0	0	0	0	0	3	75	12	0	90	113
Total	0	69	10	1	80	4	17	0	0	21	0	0	0	2	2	13	269	48	1	331	434
11:00	0	18	3	0	21	2	3	0	0	5	0	0	0	0	0	4	86	12	0	102	128
11:15	0	13	5	0	18	3	4	0	0	7	0	0	0	0	0	6	100	10	0	116	141
11:30	0	17	0	0	17	0	5	0	0	5	0	0	0	0	0	3	74	14	0	91	113
11:45	0	12	0	0	12	3	8	0	0	11	0	0	0	1	1	5	97	22	0	124	148
Total	0	60	8	0	68	8	20	0	0	28	0	0	0	1	1	18	357	58	0	433	530
12:00	0	10	3	0	13	2	7	0	0	9	0	0	0	0	0	9	98	7	0	114	136
12:15	0	22	2	0	24	1	4	0	0	5	0	0	0	0	0	6	110	13	1	130	159
12:30	0	16	2	0	18	3	6	0	0	9	0	0	0	0	0	6	102	20	0	128	155
12:45	0	14	2	0	16	3	6	0	0	9	0	0	0	0	0	8	96	16	0	120	145
Total	0	62	9	0	71	9	23	0	0	32	0	0	0	0	0	29	406	56	1	492	595

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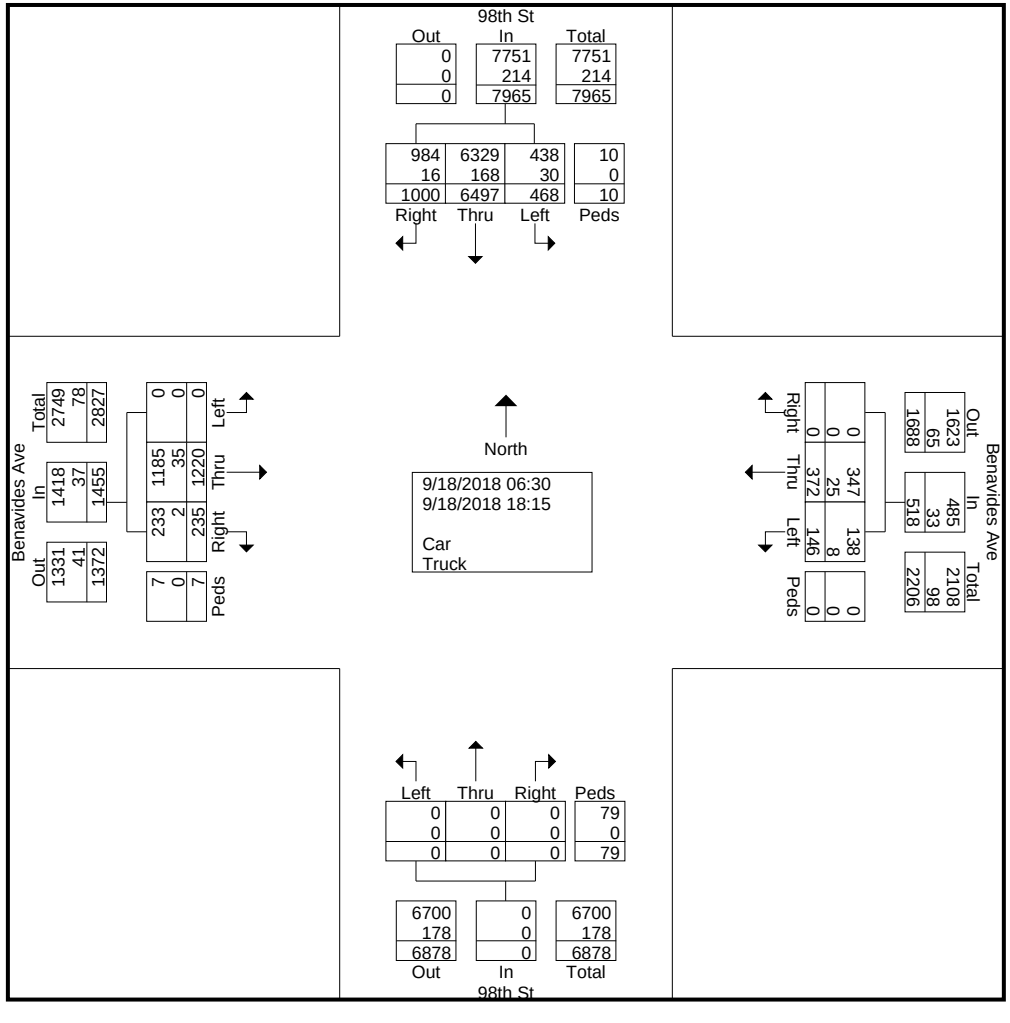
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
13:00	0	12	4	0	16	0	10	0	0	10	0	0	0	1	1	7	95	12	0	114	141
13:15	0	12	6	0	18	2	5	0	0	7	0	0	0	0	0	4	99	24	0	127	152
13:30	0	24	3	0	27	5	10	0	0	15	0	0	0	1	1	7	119	16	0	142	185
13:45	0	14	9	0	23	2	7	0	0	9	0	0	0	0	0	5	123	24	0	152	184
Total	0	62	22	0	84	9	32	0	0	41	0	0	0	2	2	23	436	76	0	535	662
14:00	0	36	11	0	47	2	7	0	0	9	0	0	0	0	0	7	119	20	0	146	202
14:15	0	36	6	0	42	7	9	0	0	16	0	0	0	1	1	8	162	27	0	197	256
14:30	0	18	4	0	22	1	8	0	0	9	0	0	0	0	0	14	149	19	0	182	213
14:45	0	29	11	0	40	2	16	0	0	18	0	0	0	1	1	30	174	33	3	240	299
Total	0	119	32	0	151	12	40	0	0	52	0	0	0	2	2	59	604	99	3	765	970
15:00	0	21	8	5	34	6	14	0	0	20	0	0	0	35	35	30	144	31	0	205	294
15:15	0	31	4	0	35	6	11	0	0	17	0	0	0	2	2	13	165	32	4	214	268
15:30	0	26	4	0	30	1	10	0	0	11	0	0	0	2	2	10	194	33	0	237	280
15:45	0	20	5	0	25	5	11	0	0	16	0	0	0	2	2	7	196	30	0	233	276
Total	0	98	21	5	124	18	46	0	0	64	0	0	0	41	41	60	699	126	4	889	1118
16:00	0	33	6	0	39	4	12	0	0	16	0	0	0	4	4	9	202	27	0	238	297
16:15	0	30	5	0	35	3	9	0	0	12	0	0	0	0	0	10	237	39	0	286	333
16:30	0	28	7	0	35	2	11	0	0	13	0	0	0	2	2	7	239	45	0	291	341
16:45	0	20	10	0	30	2	6	0	0	8	0	0	0	2	2	4	270	34	0	308	348
Total	0	111	28	0	139	11	38	0	0	49	0	0	0	8	8	30	948	145	0	1123	1319
17:00	0	32	5	0	37	2	12	0	0	14	0	0	0	1	1	8	241	35	0	284	336
17:15	0	21	3	0	24	3	13	0	0	16	0	0	0	0	0	6	275	32	0	313	353
17:30	0	29	3	0	32	2	14	0	0	16	0	0	0	0	0	7	254	48	0	309	357
17:45	0	34	7	0	41	7	13	0	0	20	0	0	0	1	1	6	239	37	0	282	344
Total	0	116	18	0	134	14	52	0	0	66	0	0	0	2	2	27	1009	152	0	1188	1390
18:00	0	37	7	0	44	7	20	0	0	27	0	0	0	0	0	11	239	39	0	289	360
18:15	0	18	7	0	25	1	8	0	0	9	0	0	0	0	0	8	246	37	0	291	325
Grand Total	0	1220	235	7	1462	146	372	0	0	518	0	0	0	79	79	468	6497	1000	10	7975	10034
Apprch %	0	83.4	16.1	0.5		28.2	71.8	0	0		0	0	0	100		5.9	81.5	12.5	0.1		
Total %	0	12.2	2.3	0.1	14.6	1.5	3.7	0	0	5.2	0	0	0	0.8	0.8	4.7	64.7	10	0.1	79.5	
Car	0	1185	233	7	1425	138	347	0	0	485	0	0	0	79	79	438	6329	984	10	7761	9750
% Car	0	97.1	99.1	100	97.5	94.5	93.3	0	0	93.6	0	0	0	100	100	93.6	97.4	98.4	100	97.3	97.2
Truck	0	35	2	0	37	8	25	0	0	33	0	0	0	0	0	30	168	16	0	214	284
% Truck	0	2.9	0.9	0	2.5	5.5	6.7	0	0	6.4	0	0	0	0	0	6.4	2.6	1.6	0	2.7	2.8

Mike Henderson Consulting, LLC

5301 Camino Sandia NE
Albuquerque, NM 87111
(505) 275-5706

Collected by: MH
SB Direction of 98th St

File Name : 98th & SB Benavides
Site Code :
Start Date : 9/18/2018
Page No : 3



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SB Direction of 98th St

File Name : 98th & SB Benavides
Site Code :
Start Date : 9/18/2018
Page No : 4

	Benavides Ave Eastbound				Benavides Ave Westbound				98th St Northbound				98th St Southbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 06:30 to 09:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:15																	
07:15	0	53	3	56	2	5	0	7	0	0	0	0	14	103	3	120	183
07:30	0	47	5	52	3	7	0	10	0	0	0	0	32	113	12	157	219
07:45	0	37	11	48	4	13	0	17	0	0	0	0	44	106	15	165	230
08:00	0	35	5	40	6	14	0	20	0	0	0	0	54	104	8	166	226
Total Volume	0	172	24	196	15	39	0	54	0	0	0	0	144	426	38	608	858
% App. Total	0	87.8	12.2		27.8	72.2	0		0	0	0		23.7	70.1	6.2		
PHF	.000	.811	.545	.875	.625	.696	.000	.675	.000	.000	.000	.000	.667	.942	.633	.916	.933
Car	0	168	24	192	15	37	0	52	0	0	0	0	142	408	38	588	832
% Car	0	97.7	100	98.0	100	94.9	0	96.3	0	0	0	0	98.6	95.8	100	96.7	97.0
Truck	0	4	0	4	0	2	0	2	0	0	0	0	2	18	0	20	26
% Truck	0	2.3	0	2.0	0	5.1	0	3.7	0	0	0	0	1.4	4.2	0	3.3	3.0
Peak Hour Analysis From 10:00 to 13:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 13:00																	
13:00	0	12	4	16	0	10	0	10	0	0	0	0	7	95	12	114	140
13:15	0	12	6	18	2	5	0	7	0	0	0	0	4	99	24	127	152
13:30	0	24	3	27	5	10	0	15	0	0	0	0	7	119	16	142	184
13:45	0	14	9	23	2	7	0	9	0	0	0	0	5	123	24	152	184
Total Volume	0	62	22	84	9	32	0	41	0	0	0	0	23	436	76	535	660
% App. Total	0	73.8	26.2		22	78	0		0	0	0		4.3	81.5	14.2		
PHF	.000	.646	.611	.778	.450	.800	.000	.683	.000	.000	.000	.000	.821	.886	.792	.880	.897
Car	0	61	21	82	9	29	0	38	0	0	0	0	21	422	76	519	639
% Car	0	98.4	95.5	97.6	100	90.6	0	92.7	0	0	0	0	91.3	96.8	100	97.0	96.8
Truck	0	1	1	2	0	3	0	3	0	0	0	0	2	14	0	16	21
% Truck	0	1.6	4.5	2.4	0	9.4	0	7.3	0	0	0	0	8.7	3.2	0	3.0	3.2
Peak Hour Analysis From 14:00 to 18:15 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:15																	
17:15	0	21	3	24	3	13	0	16	0	0	0	0	6	275	32	313	353
17:30	0	29	3	32	2	14	0	16	0	0	0	0	7	254	48	309	357
17:45	0	34	7	41	7	13	0	20	0	0	0	0	6	239	37	282	343
18:00	0	37	7	44	7	20	0	27	0	0	0	0	11	239	39	289	360
Total Volume	0	121	20	141	19	60	0	79	0	0	0	0	30	1007	156	1193	1413
% App. Total	0	85.8	14.2		24.1	75.9	0		0	0	0		2.5	84.4	13.1		
PHF	.000	.818	.714	.801	.679	.750	.000	.731	.000	.000	.000	.000	.682	.915	.813	.953	.981
Car	0	119	20	139	18	58	0	76	0	0	0	0	27	998	155	1180	1395
% Car	0	98.3	100	98.6	94.7	96.7	0	96.2	0	0	0	0	90.0	99.1	99.4	98.9	98.7
Truck	0	2	0	2	1	2	0	3	0	0	0	0	3	9	1	13	18
% Truck	0	1.7	0	1.4	5.3	3.3	0	3.8	0	0	0	0	10.0	0.9	0.6	1.1	1.3

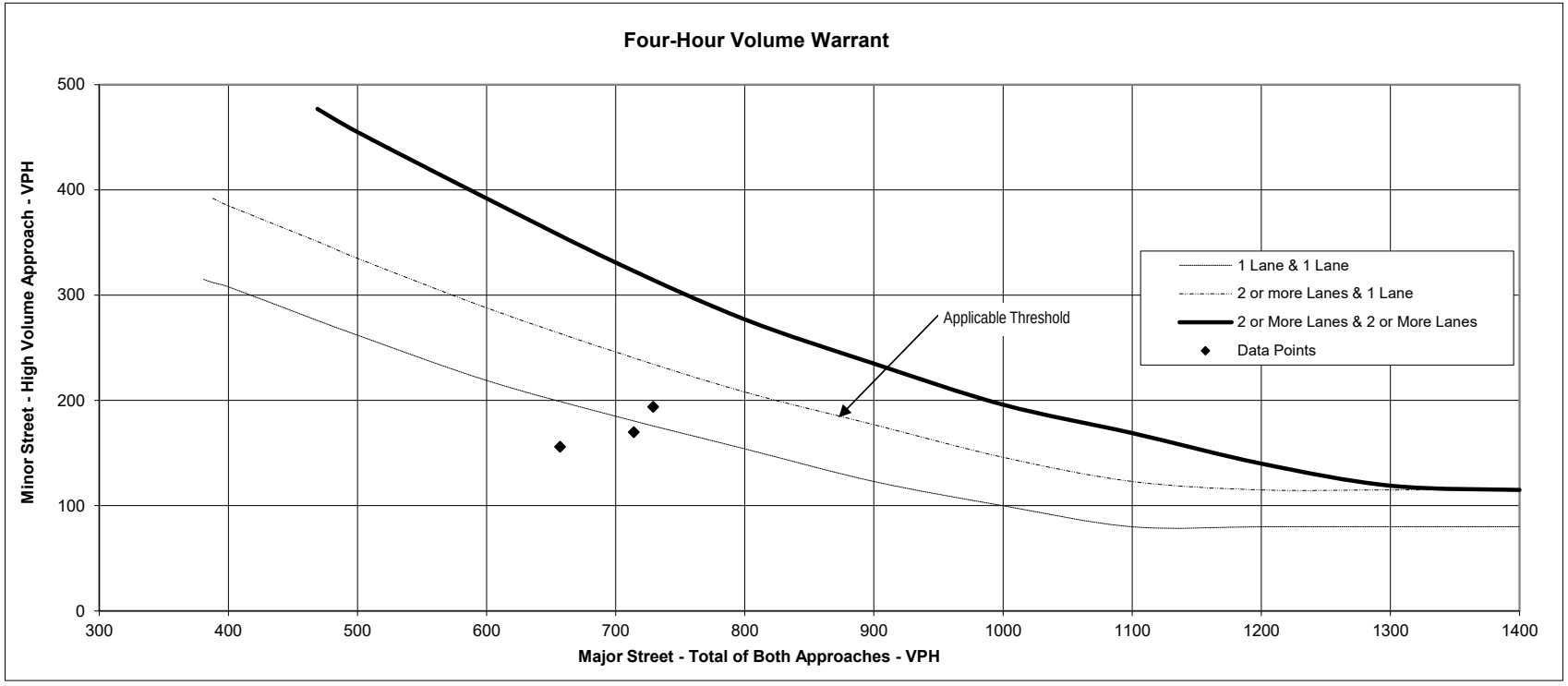
APPENDIX

D TRAFFIC SIGNAL WARRANT SUMMARY

FOUR-HOUR VEHICULAR VOLUME SIGNAL WARRANT ANALYSIS

Scenario: Existing Conditions
Intersection 98th St / Benavides Rd Intersection
Approach Type: 2 or More Lanes & 1 Lane
Major Street (Name): 98th St
Major Street (Orientatio North-South
Minor Street (Name): Benavides Rd
Minor Street (Orientatio East-West

	Minor Street Approach Volume			Major Street Approach Volume			Satisfies
Time Period	EB	WB	High Vol Approach	NB	SB	NB+SB	Warrant 2?
7:00 - 8:00	268	115	268	1,037	0	1,037	No
8:00 - 9:00	194	91	194	729	0	729	No
15:00 - 16:00	156	145	156	657	0	657	No
14:00 - 15:00	170	54	170	714	0	714	No



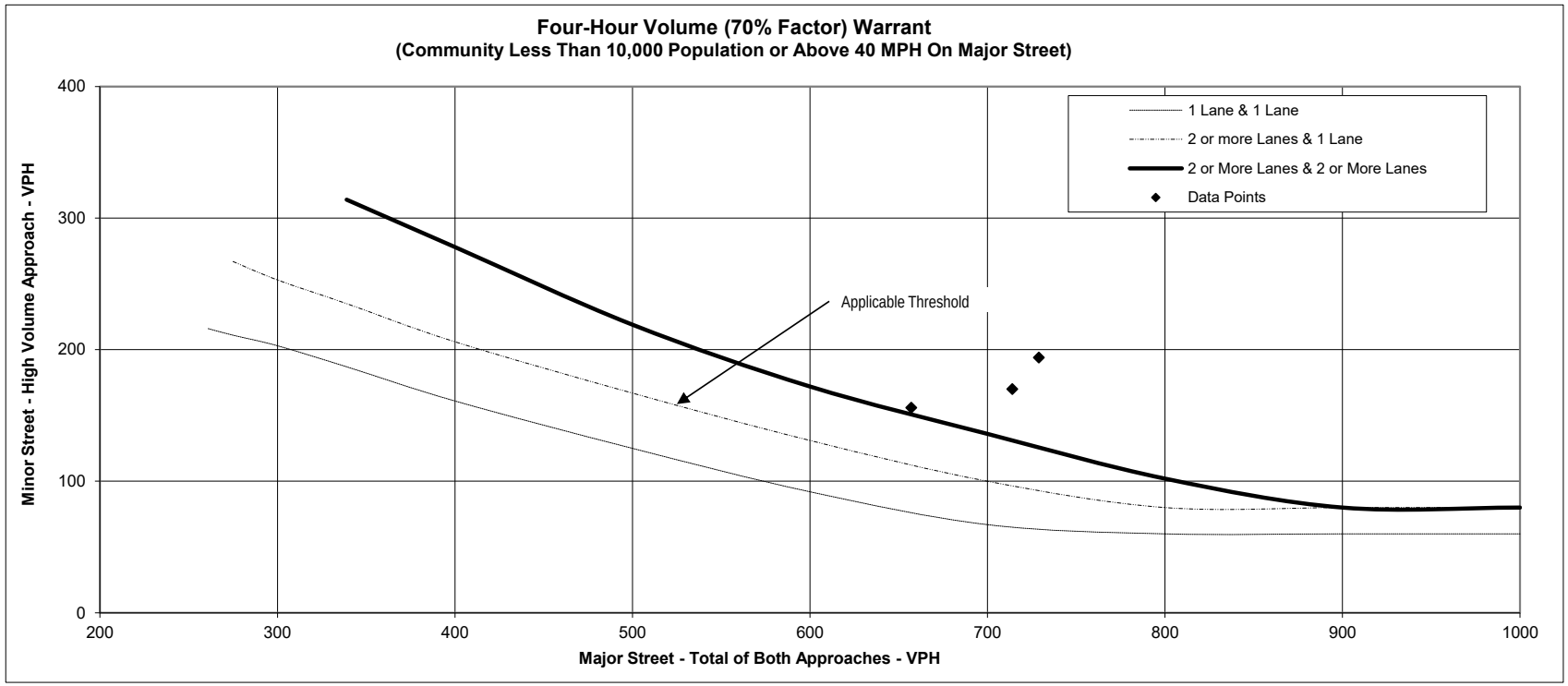
Note: 115 vph applies as the lower threshold for minor street approach with 2 or more lanes and 80 vph as the threshold for a minor street approach with one lane.

FOUR-HOUR VEHICULAR VOLUME (70% FACTOR) SIGNAL WARRANT ANALYSIS

(Speed Limit or 85th % Speed > 40mph or Population < 10,000 people)

Scenario: Existing Conditions
Intersection 98th St / Benavides Rd Intersection
Approach Type: 2 or More Lanes & 1 Lane
Major Street (Name): 98th St
Major Street (Orientatio North-South
Minor Street (Name): Benavides Rd
Minor Street (Orientatio East-West

	Minor Street Approach Volume			Major Street Approach Volume			Satisfies
Time Period	EB	WB	High Vol Approach	NB	SB	NB+SB	Warrant 2?
7:00 - 8:00	268	115	268	1,037	0	1,037	Yes
15:45 - 16:45	194	91	194	729	0	729	Yes
7:15 - 8:15	156	145	156	657	0	657	Yes
14:45 - 13:45	170	54	170	714	0	714	Yes



Note: 80 vph applies as the lower threshold for minor street approach with 2 or more lanes and 60 vph as the threshold for a minor street approach with one lane.

EIGHT-HOUR VEHICULAR VOLUME SIGNAL WARRANT ANALYSIS

Condition A - Minimum Vehicular Volume					
Time Period	Vehicles per Hour on Major Street	Threshold	Vehicles per Hour on High-Volume Minor Street Approach	Threshold	Condition Met
7:00 - 8:00	1,037	600	268	150	Met
8:00 - 9:00	729	600	194	150	Met
15:00 - 16:00	657	600	156	150	Met
14:00 - 15:00	714	600	170	150	Met
17:00 - 18:00	685	600	141	150	Not Met
16:00 - 17:00	674	600	139	150	Not Met
9:00 - 10:00	514	600	103	150	Not Met
13:00 - 14:00	486	600	84	150	Not Met

Condition B - Interruption of Continuous Traffic					
Time Period	Vehicles per Hour on Major Street	Threshold	Vehicles per Hour on High-Volume Minor Street Approach	Threshold	Condition Met
7:00 - 8:00	1,037	900	268	75	Met
8:00 - 9:00	729	900	194	75	Not Met
15:00 - 16:00	657	900	156	75	Not Met
14:00 - 15:00	714	900	170	75	Not Met
17:00 - 18:00	685	900	141	75	Not Met
16:00 - 17:00	674	900	139	75	Not Met
9:00 - 10:00	514	900	103	75	Not Met
13:00 - 14:00	486	900	84	75	Not Met

Combination Condtion A and Condition B							
Time Period	Vehicles per Hour on Major Street	Threshold		Vehicles per Hour on High-Volume Minor Street	Threshold		Condition Met
		A	B		A	B	
7:00 - 8:00	1,037	480	720	268	120	60	Met
8:00 - 9:00	729	480	720	194	120	60	Met
15:00 - 16:00	657	480	720	156	120	60	Not Met
14:00 - 15:00	714	480	720	170	120	60	Not Met
17:00 - 18:00	685	480	720	141	120	60	Not Met
16:00 - 17:00	674	480	720	139	120	60	Not Met
9:00 - 10:00	514	480	720	103	120	60	Not Met
13:00 - 14:00	486	480	720	84	120	60	Not Met

EIGHT-HOUR VEHICULAR VOLUME SIGNAL WARRANT ANALYSIS
(Speed Limit or 85th % Speed > 40mph or Population < 10,000 people)

Condition A - Minimum Vehicular Volume					
Time Period	Vehicles per Hour on Major Street	Threshold	Vehicles per Hour on High-Volume Minor Street Approach	Threshold	Condition Met
7:00 - 8:00	1,037	420	268	105	Met
8:00 - 9:00	729	420	194	105	Met
15:00 - 16:00	657	420	156	105	Met
14:00 - 15:00	714	420	170	105	Met
17:00 - 18:00	685	420	141	105	Met
16:00 - 17:00	674	420	139	105	Met
9:00 - 10:00	514	420	103	105	Not Met
13:00 - 14:00	486	420	84	105	Not Met

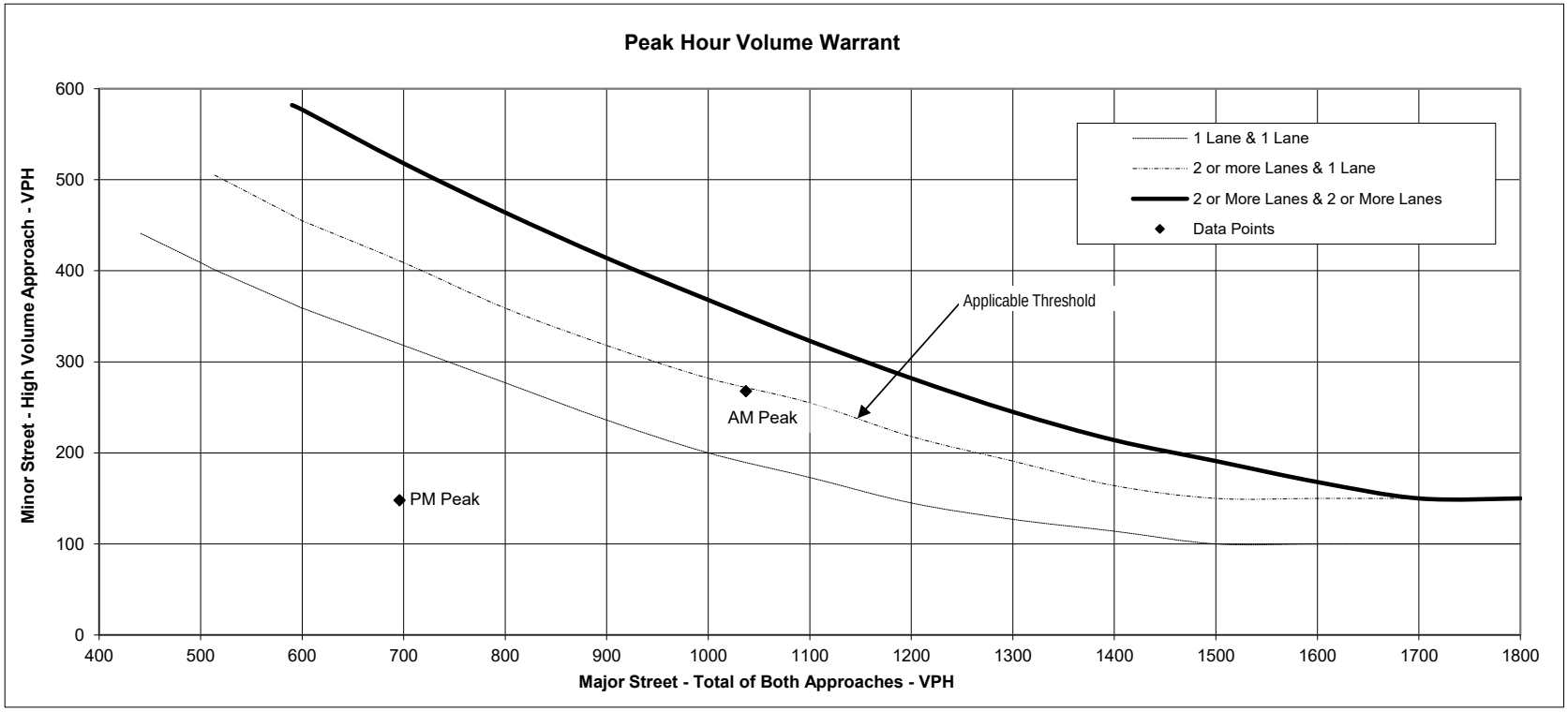
Condition B - Interruption of Continuous Traffic					
Time Period	Vehicles per Hour on Major Street	Threshold	Vehicles per Hour on High-Volume Minor Street Approach	Threshold	Condition Met
7:00 - 8:00	1,037	630	268	53	Met
8:00 - 9:00	729	630	194	53	Met
15:00 - 16:00	657	630	156	53	Met
14:00 - 15:00	714	630	170	53	Met
17:00 - 18:00	685	630	141	53	Met
16:00 - 17:00	674	630	139	53	Met
9:00 - 10:00	514	630	103	53	Not Met
13:00 - 14:00	486	630	84	53	Not Met

Combination Condtion A and Condition B						
Time Period	Vehicles per Hour on Major Street	Threshold		Vehicles per Hour on High-Volume Minor Street	Threshold		Condition Met
		A	B		A	B	
7:00 - 8:00	1,037	336	504	268	84	42	Met
8:00 - 9:00	729	336	504	194	84	42	Met
15:00 - 16:00	657	336	504	156	84	42	Met
14:00 - 15:00	714	336	504	170	84	42	Met
17:00 - 18:00	685	336	504	141	84	42	Met
16:00 - 17:00	674	336	504	139	84	42	Met
9:00 - 10:00	514	336	504	103	84	42	Met
13:00 - 14:00	486	336	504	84	84	42	Not Met

PEAK HOUR VOLUME SIGNAL WARRANT ANALYSIS

Scenario: Existing Conditions
Intersection 98th St / Benavides Rd Intersection
Approach Type: 2 or More Lanes & 1 Lane
Major Street (Name): 98th St
Major Street (Orientatio North-South
Minor Street (Name): Benavides Rd
Minor Street (Orientatio East-West

	Minor Street Approach Volume			Major Street Approach Volume			Satisfies
Time Period	EB	WB	High Vol Approach	NB	SB	NB+SB	Warrant 3?
AM Peak	268	115	268	1,037	0	1,037	No
PM Peak	148	88	148	696	0	696	No



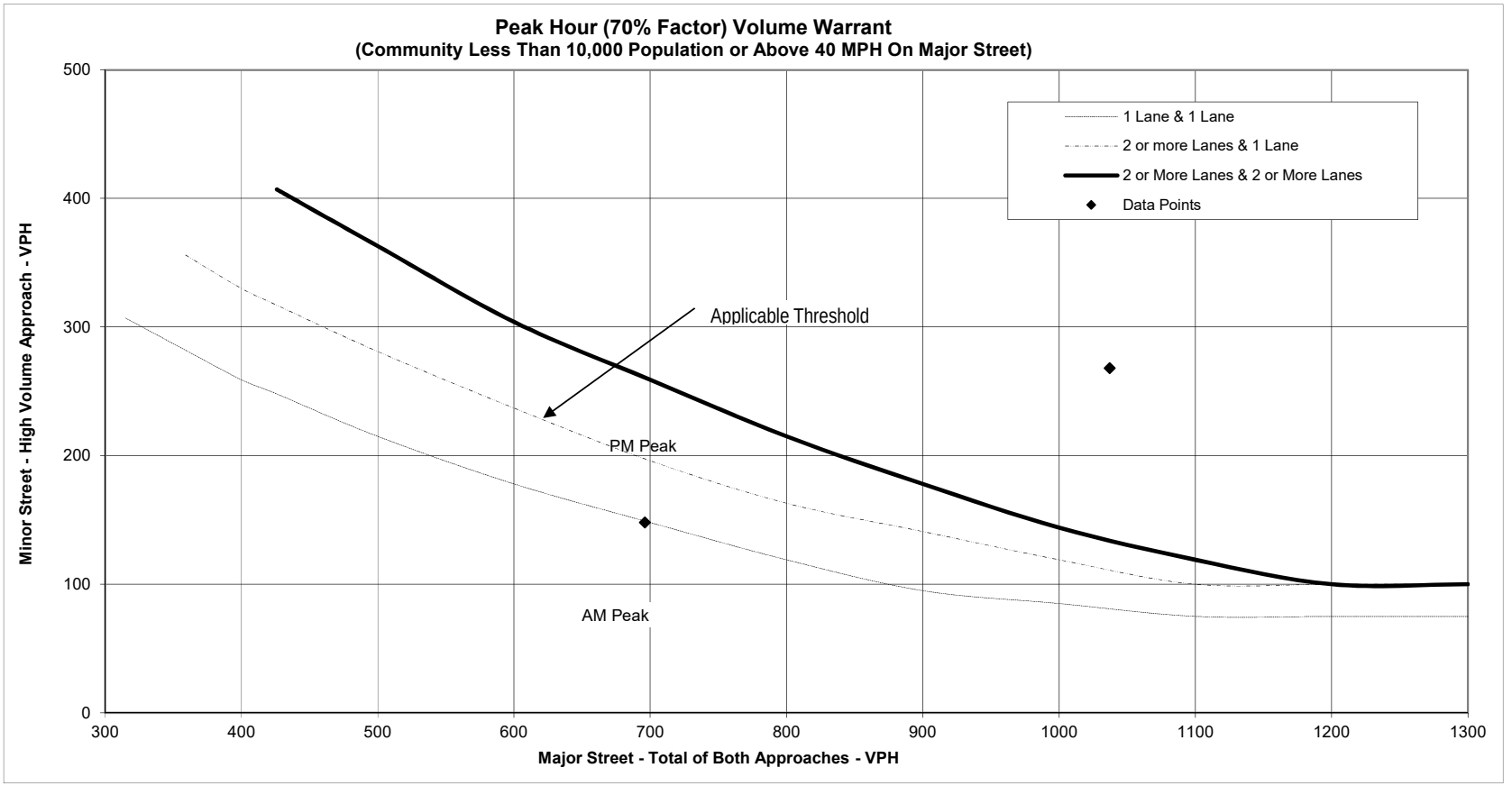
Note: 150 VPH applies as the lower threshold for minor street approach with 2 or more lanes & 100 VPH as the threshold for a minor street approach with one lane

PEAK HOUR (70% FACTOR) VOLUME SIGNAL WARRANT ANALYSIS

(Speed Limit or 85th % Speed > 40mph or Population < 10,000 people)

Scenario: Existing Conditions
Intersection 98th St / Benavides Rd Intersection
Approach Type: 2 or More Lanes & 1 Lane
Major Street (Name): 98th St
Major Street (Orientatio North-South
Minor Street (Name): Benavides Rd
Minor Street (Orientatio East-West

	Minor Street Approach Volume			Major Street Approach Volume			Satisfies
Time Period	EB	WB	High Vol Approach	NB	SB	NB+SB	Warrant 3?
AM Peak	268	115	268	1,037	0	1,037	No
PM Peak	148	88	148	696	0	696	No

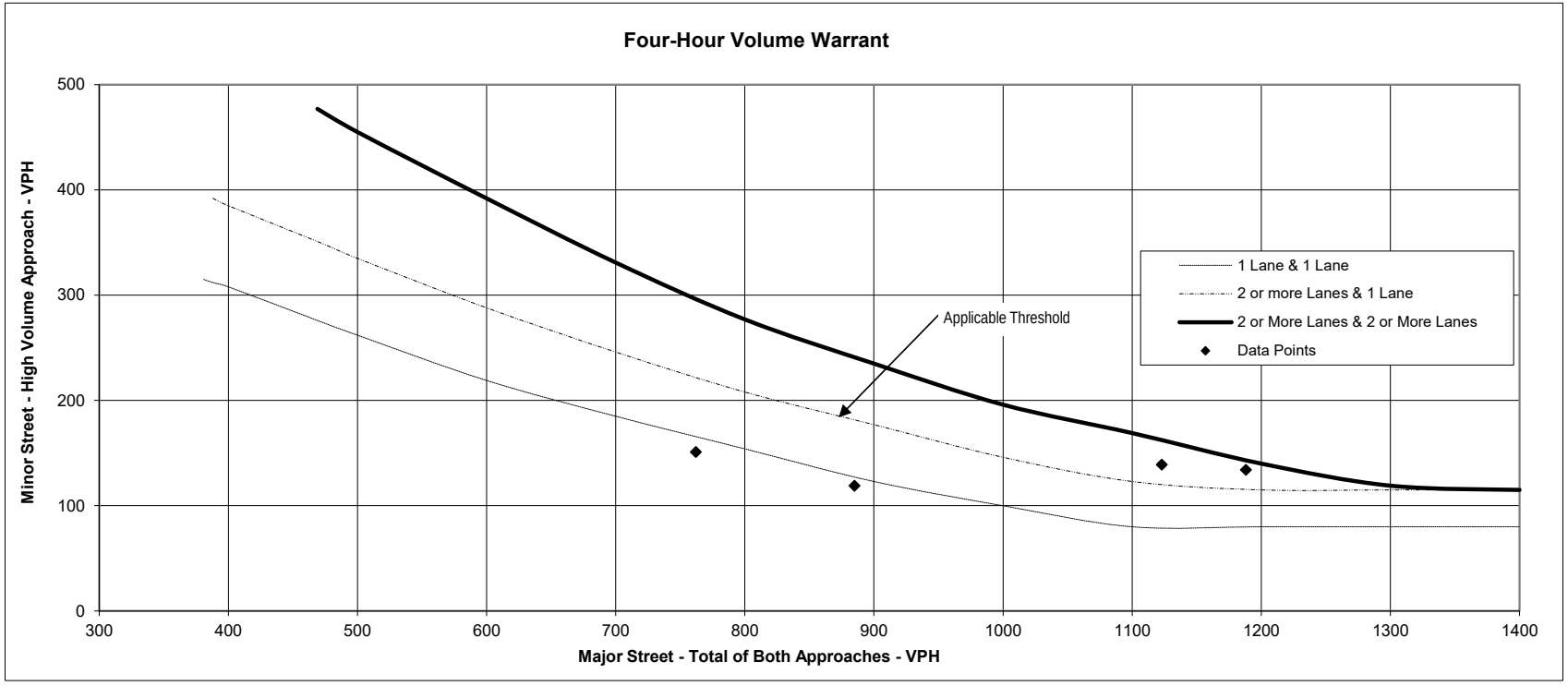


Note: 100 VPH applies as the lower threshold for minor street approach with 2 or more lanes & 75 VPH as the threshold for a minor street approach with one lane

FOUR-HOUR VEHICULAR VOLUME SIGNAL WARRANT ANALYSIS

Scenario: Existing Conditions
Intersection 98th St / Benavides Rd Intersection
Approach Type: 2 or More Lanes & 1 Lane
Major Street (Name): 98th St
Major Street (Orientatio North-South
Minor Street (Name): Benavides Rd
Minor Street (Orientatio East-West

	Minor Street Approach Volume			Major Street Approach Volume			Satisfies
Time Period	SB	WB	High Vol Approach	NB	SB	NB+SB	Warrant 2?
17:00 - 18:00	134	66	134	0	1,188	1,188	No
16:00 - 17:00	139	49	139	0	1,123	1,123	No
15:00 - 16:00	119	64	119	0	885	885	No
14:00 - 15:00	151	52	151	0	762	762	No



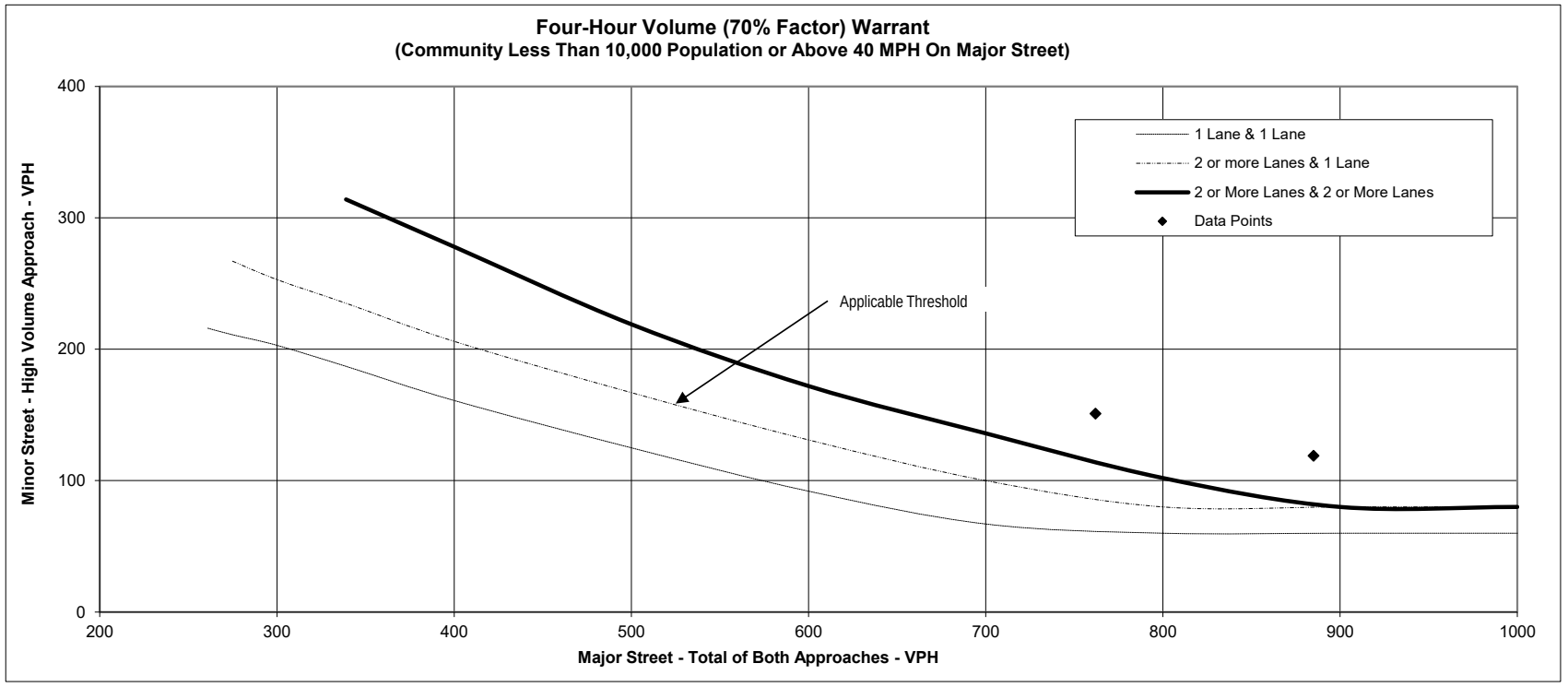
Note: 115 vph applies as the lower threshold for minor street approach with 2 or more lanes and 80 vph as the threshold for a minor street approach with one lane.

FOUR-HOUR VEHICULAR VOLUME (70% FACTOR) SIGNAL WARRANT ANALYSIS

(Speed Limit or 85th % Speed > 40mph or Population < 10,000 people)

Scenario: Existing Conditions
Intersection 98th St / Benavides Rd Intersection
Approach Type: 2 or More Lanes & 1 Lane
Major Street (Name): 98th St
Major Street (Orientatio North-South
Minor Street (Name): Benavides Rd
Minor Street (Orientatio East-West

	Minor Street Approach Volume			Major Street Approach Volume			Satisfies
Time Period	EB	WB	High Vol Approach	NB	SB	NB+SB	Warrant 2?
17:00 - 18:00	134	66	134	0	1,188	1,188	Yes
15:45 - 16:45	139	49	139	0	1,123	1,123	Yes
7:15 - 8:15	119	64	119	0	885	885	Yes
14:45 - 13:45	151	52	151	0	762	762	Yes



Note: 80 vph applies as the lower threshold for minor street approach with 2 or more lanes and 60 vph as the threshold for a minor street approach with one lane.

EIGHT-HOUR VEHICULAR VOLUME SIGNAL WARRANT ANALYSIS

Condition A - Minimum Vehicular Volume					
Time Period	Vehicles per Hour on Major Street	Threshold	Vehicles per Hour on High-Volume Minor Street Approach	Threshold	Condition Met
17:00 - 18:00	1,188	600	134	150	Not Met
16:00 - 17:00	1,123	600	139	150	Not Met
15:00 - 16:00	885	600	119	150	Not Met
14:00 - 15:00	762	600	151	150	Met
7:00 - 8:00	587	600	208	150	Not Met
18:00 - 19:00	580	600	69	150	Not Met
8:00 - 9:00	473	600	147	150	Not Met
13:00 - 14:00	535	600	84	150	Not Met

Condition B - Interruption of Continuous Traffic					
Time Period	Vehicles per Hour on Major Street	Threshold	Vehicles per Hour on High-Volume Minor Street Approach	Threshold	Condition Met
17:00 - 18:00	1,188	900	134	75	Met
16:00 - 17:00	1,123	900	139	75	Met
15:00 - 16:00	885	900	119	75	Not Met
14:00 - 15:00	762	900	151	75	Not Met
7:00 - 8:00	587	900	208	75	Not Met
18:00 - 19:00	580	900	69	75	Not Met
8:00 - 9:00	473	900	147	75	Not Met
13:00 - 14:00	535	900	84	75	Not Met

Combination Condtion A and Condition B							
Time Period	Vehicles per Hour on Major Street	Threshold		Vehicles per Hour on High-Volume Minor Street	Threshold		Condition Met
		A	B		A	B	
17:00 - 18:00	1,188	480	720	134	120	60	Met
16:00 - 17:00	1,123	480	720	139	120	60	Met
15:00 - 16:00	885	480	720	119	120	60	Not Met
14:00 - 15:00	762	480	720	151	120	60	Met
7:00 - 8:00	587	480	720	208	120	60	Not Met
18:00 - 19:00	580	480	720	69	120	60	Not Met
8:00 - 9:00	473	480	720	147	120	60	Not Met
13:00 - 14:00	535	480	720	84	120	60	Not Met

EIGHT-HOUR VEHICULAR VOLUME SIGNAL WARRANT ANALYSIS
(Speed Limit or 85th % Speed > 40mph or Population < 10,000 people)

Condition A - Minimum Vehicular Volume					
Time Period	Vehicles per Hour on Major Street	Threshold	Vehicles per Hour on High-Volume Minor Street Approach	Threshold	Condition Met
17:00 - 18:00	1,188	420	134	105	Met
16:00 - 17:00	1,123	420	139	105	Met
15:00 - 16:00	885	420	119	105	Met
14:00 - 15:00	762	420	151	105	Met
7:00 - 8:00	587	420	208	105	Met
18:00 - 19:00	580	420	69	105	Not Met
8:00 - 9:00	473	420	147	105	Met
13:00 - 14:00	535	420	84	105	Not Met

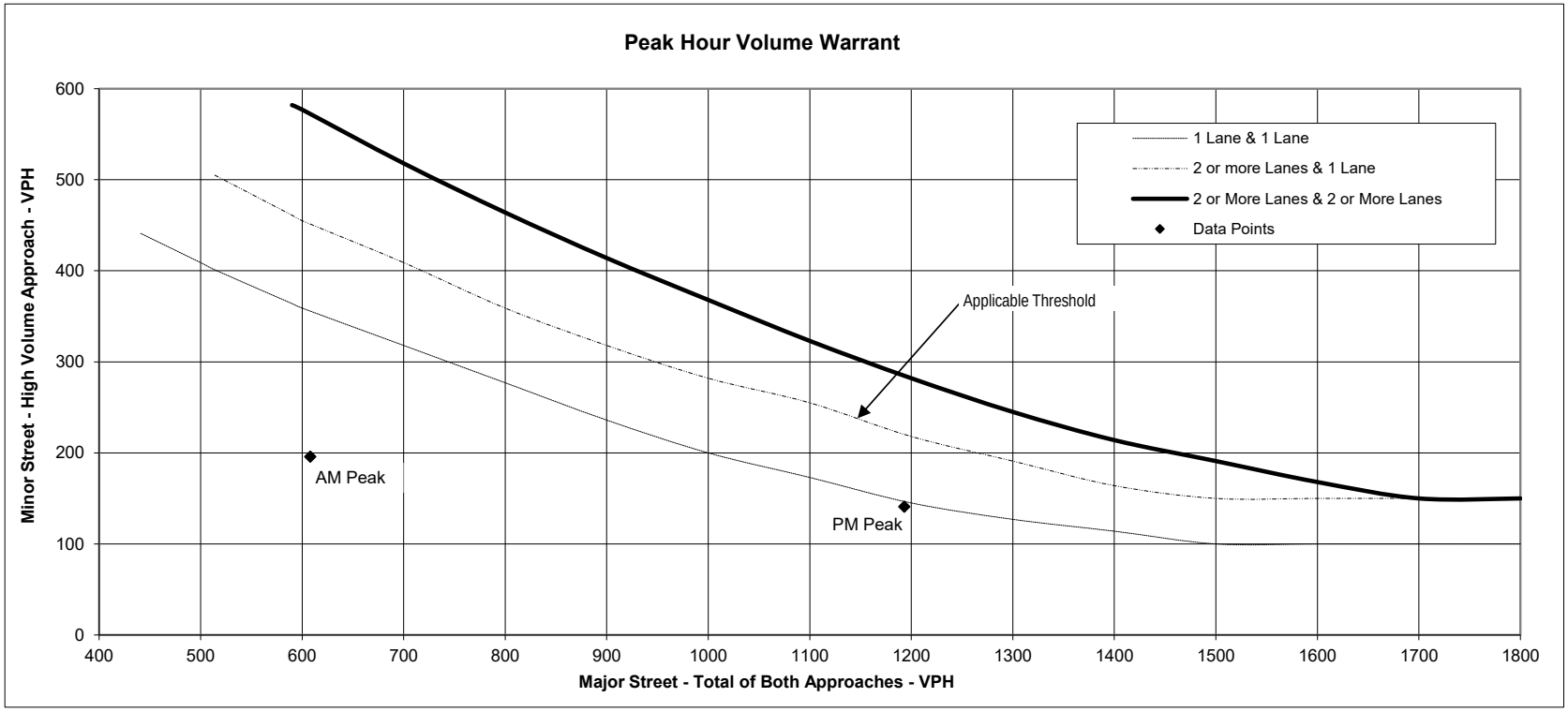
Condition B - Interruption of Continuous Traffic					
Time Period	Vehicles per Hour on Major Street	Threshold	Vehicles per Hour on High-Volume Minor Street Approach	Threshold	Condition Met
17:00 - 18:00	1,188	630	134	53	Met
16:00 - 17:00	1,123	630	139	53	Met
15:00 - 16:00	885	630	119	53	Met
14:00 - 15:00	762	630	151	53	Met
7:00 - 8:00	587	630	208	53	Not Met
18:00 - 19:00	580	630	69	53	Not Met
8:00 - 9:00	473	630	147	53	Not Met
13:00 - 14:00	535	630	84	53	Not Met

Combination Condtion A and Condition B						
Time Period	Vehicles per Hour on Major Street	Threshold		Vehicles per Hour on High-Volume Minor Street	Threshold		Condition Met
		A	B		A	B	
17:00 - 18:00	1,188	336	504	134	84	42	Met
16:00 - 17:00	1,123	336	504	139	84	42	Met
15:00 - 16:00	885	336	504	119	84	42	Met
14:00 - 15:00	762	336	504	151	84	42	Met
7:00 - 8:00	587	336	504	208	84	42	Met
18:00 - 19:00	580	336	504	69	84	42	Not Met
8:00 - 9:00	473	336	504	147	84	42	Not Met
13:00 - 14:00	535	336	504	84	84	42	Not Met

PEAK HOUR VOLUME SIGNAL WARRANT ANALYSIS

Scenario: Existing Conditions
Intersection 98th St / Benavides Rd Intersection
Approach Type: 2 or More Lanes & 1 Lane
Major Street (Name): 98th St
Major Street (Orientatio North-South
Minor Street (Name): Benavides Rd
Minor Street (Orientatio East-West

	Minor Street Approach Volume			Major Street Approach Volume			Satisfies
Time Period	EB	WB	High Vol Approach	NB	SB	NB+SB	Warrant 3?
AM Peak	196	54	196	0	608	608	No
PM Peak	141	79	141	0	1,193	1,193	No



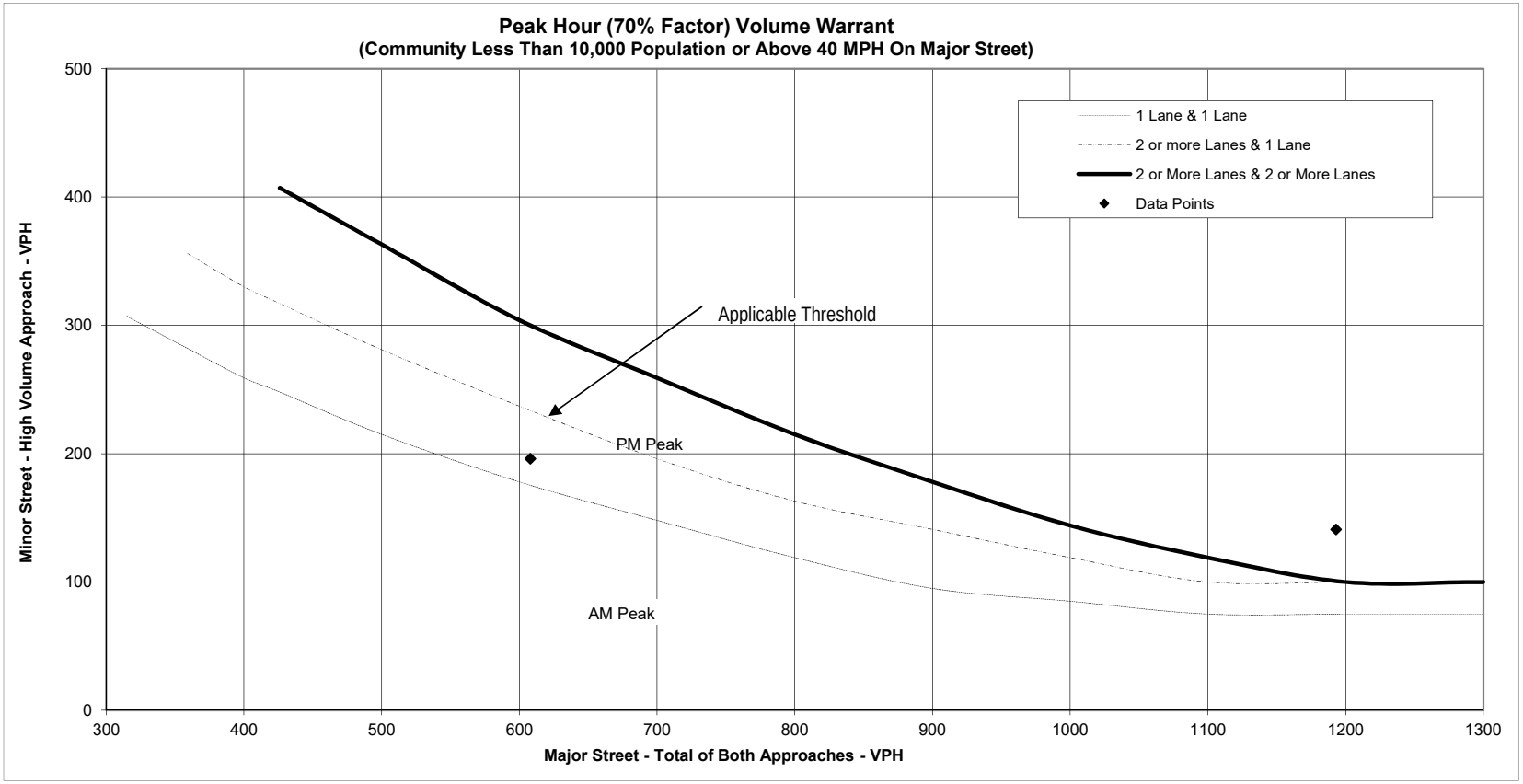
Note: 150 VPH applies as the lower threshold for minor street approach with 2 or more lanes & 100 VPH as the threshold for a minor street approach with one lane

PEAK HOUR (70% FACTOR) VOLUME SIGNAL WARRANT ANALYSIS

(Speed Limit or 85th % Speed > 40mph or Population < 10,000 people)

Scenario: Existing Conditions
Intersection 98th St / Benavides Rd Intersection
Approach Type: 2 or More Lanes & 1 Lane
Major Street (Name): 98th St
Major Street (Orientation North-South
Minor Street (Name): Benavides Rd
Minor Street (Orientation East-West

	Minor Street Approach Volume			Major Street Approach Volume			Satisfies
Time Period	EB	WB	High Vol Approach	NB	SB	NB+SB	Warrant 3?
AM Peak	196	54	196	0	608	608	No
PM Peak	141	79	141	0	1,193	1,193	No



Note: 100 VPH applies as the lower threshold for minor street approach with 2 or more lanes & 75 VPH as the threshold for a minor street approach with one lane

APPENDIX

E INTERSECTION SYCHRO LOS OUTPUT REPORTS

Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	181	27	19	29	0	0	0	0	96	446	45
Future Vol, veh/h	0	181	27	19	29	0	0	0	0	96	446	45
Peak Hour Factor	0.25	0.81	0.55	0.62	0.97	0.25	0.25	0.25	0.25	0.67	0.94	0.63
Heavy Vehicles, %	0	4	0	0	2	0	0	0	0	2	18	0
Mvmt Flow	0	223	49	31	30	0	0	0	0	143	474	71
Number of Lanes	0	1	0	0	1	0	0	0	0	1	2	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	3	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	3	1
HCM Control Delay	14.5	10.5	12.7
HCM LOS	B	B	B

Lane	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	40%	100%	0%	0%
Vol Thru, %	87%	60%	0%	100%	77%
Vol Right, %	13%	0%	0%	0%	23%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	208	48	96	297	194
LT Vol	0	19	96	0	0
Through Vol	181	29	0	297	149
RT Vol	27	0	0	0	45
Lane Flow Rate	273	61	143	316	230
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.474	0.115	0.244	0.519	0.347
Departure Headway (Hd)	6.258	6.847	6.137	5.907	5.434
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	578	524	587	614	663
Service Time	3.984	4.582	3.858	3.627	3.155
HCM Lane V/C Ratio	0.472	0.116	0.244	0.515	0.347
HCM Control Delay	14.5	10.5	10.8	14.8	11
HCM Lane LOS	B	B	B	B	B
HCM 95th-tile Q	2.5	0.4	1	3	1.5

Intersection	
Intersection Delay, s/veh	149
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	141	127	0	0	35	80	8	1001	28	0	0	0
Future Vol, veh/h	141	127	0	0	35	80	8	1001	28	0	0	0
Peak Hour Factor	0.25	0.67	0.51	0.78	0.55	0.25	0.67	0.87	0.47	0.25	0.25	0.25
Heavy Vehicles, %	0	2	0	1	5	0	0	17	0	0	0	0
Mvmt Flow	564	190	0	0	64	320	12	1151	60	0	0	0
Number of Lanes	0	1	0	0	1	0	0	2	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	208	25.8	151.3
HCM LOS	F	D	F

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	2%	0%	53%	0%
Vol Thru, %	98%	95%	47%	30%
Vol Right, %	0%	5%	0%	70%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	509	529	268	115
LT Vol	8	0	141	0
Through Vol	501	501	127	35
RT Vol	0	28	0	80
Lane Flow Rate	587	635	754	384
Geometry Grp	7	7	2	2
Degree of Util (X)	1.168	1.305	1.393	0.71
Departure Headway (Hd)	7.959	8.211	6.656	7.162
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	464	451	543	510
Service Time	5.659	5.911	4.753	5.162
HCM Lane V/C Ratio	1.265	1.408	1.389	0.753
HCM Control Delay	123.4	177.2	208	25.8
HCM Lane LOS	F	F	F	D
HCM 95th-tile Q	19.6	25.2	34.3	5.6

Intersection	
Intersection Delay, s/veh	63.5
Intersection LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	121	20	19	60	0	0	0	0	30	1007	156
Future Vol, veh/h	0	121	20	19	60	0	0	0	0	30	1007	156
Peak Hour Factor	0.25	0.82	0.71	0.68	0.75	0.25	0.25	0.25	0.25	0.68	0.92	0.81
Heavy Vehicles, %	0	4	0	0	2	0	0	0	0	2	18	0
Mvmt Flow	0	148	28	28	80	0	0	0	0	44	1095	193
Number of Lanes	0	1	0	0	1	0	0	0	0	1	2	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	3	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	3	1
HCM Control Delay	13.9	12.5	74.2
HCM LOS	B	B	F

Lane	EBLn1	WBLn1	SBLn1	SBLn2	SBLn3
Vol Left, %	0%	24%	100%	0%	0%
Vol Thru, %	86%	76%	0%	100%	68%
Vol Right, %	14%	0%	0%	0%	32%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	141	79	30	671	492
LT Vol	0	19	30	0	0
Through Vol	121	60	0	671	336
RT Vol	20	0	0	0	156
Lane Flow Rate	176	108	44	730	557
Geometry Grp	7	7	7	7	7
Degree of Util (X)	0.346	0.22	0.074	1.17	0.811
Departure Headway (Hd)	7.382	7.649	6.001	5.771	5.238
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	490	473	591	628	686
Service Time	5.082	5.349	3.797	3.567	3.035
HCM Lane V/C Ratio	0.359	0.228	0.074	1.162	0.812
HCM Control Delay	13.9	12.5	9.3	114.3	26.8
HCM Lane LOS	B	B	A	F	D
HCM 95th-tile Q	1.5	0.8	0.2	24.2	8.4

Intersection	
Intersection Delay, s/veh	14.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	109	39	0	0	51	37	21	664	11	0	0	0
Future Vol, veh/h	109	39	0	0	51	37	21	664	11	0	0	0
Peak Hour Factor	0.85	0.75	0.25	0.25	0.91	0.77	0.53	0.90	0.55	0.25	0.25	0.25
Heavy Vehicles, %	0	2	0	1	5	0	0	17	0	0	0	0
Mvmt Flow	128	52	0	0	56	48	40	738	20	0	0	0
Number of Lanes	0	1	0	0	1	0	0	2	0	0	0	0

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	1
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	1
HCM Control Delay	11.3	9.8	16.1
HCM LOS	B	A	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1
Vol Left, %	6%	0%	74%	0%
Vol Thru, %	94%	97%	26%	58%
Vol Right, %	0%	3%	0%	42%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	353	343	148	88
LT Vol	21	0	109	0
Through Vol	332	332	39	51
RT Vol	0	11	0	37
Lane Flow Rate	409	389	180	104
Geometry Grp	7	7	2	2
Degree of Util (X)	0.603	0.599	0.291	0.163
Departure Headway (Hd)	5.31	5.548	5.81	5.633
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	674	646	615	631
Service Time	3.089	3.327	3.885	3.721
HCM Lane V/C Ratio	0.607	0.602	0.293	0.165
HCM Control Delay	15.9	16.4	11.3	9.8
HCM Lane LOS	C	C	B	A
HCM 95th-tile Q	4.1	4	1.2	0.6

APPENDIX

F INTERSECTION SYNCHRO QUEUEING OUTPUT REPORTS

Intersection: 3: SB 98th Street SW & Benavides Road SW

Movement	EB	WB	SB	SB	SB
Directions Served	TR	LT	L	T	TR
Maximum Queue (ft)	50	31	20	84	53
Average Queue (ft)	38	12	20	62	40
95th Queue (ft)	58	37	20	89	56
Link Distance (ft)	1106	113		703	703
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			110		
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 6: NB 98th Street SW & Benavides Road SW

Movement	EB	WB	NB	NB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	114	42	189	163
Average Queue (ft)	90	23	118	120
95th Queue (ft)	125	41	207	165
Link Distance (ft)	113	1297	970	970
Upstream Blk Time (%)	4			
Queuing Penalty (veh)	10			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 10

Intersection: 3: SB 98th Street SW & Benavides Road SW

Movement	EB	WB	SB	SB	SB
Directions Served	TR	LT	L	T	TR
Maximum Queue (ft)	73	54	20	196	144
Average Queue (ft)	47	26	10	124	107
95th Queue (ft)	83	56	25	210	148
Link Distance (ft)	1106	113		703	703
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)			110		
Storage Blk Time (%)				13	
Queuing Penalty (veh)				4	

Intersection: 6: NB 98th Street SW & Benavides Road SW

Movement	EB	WB	NB	NB
Directions Served	LT	TR	LT	TR
Maximum Queue (ft)	28	46	86	115
Average Queue (ft)	28	22	74	68
95th Queue (ft)	28	46	91	110
Link Distance (ft)	113	1297	970	970
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 4

APPENDIX

G NMDOT CRASH DATA

CRASH REPORT NUMBER	CRASH DATE	TIME OF CRASH	DAY OF WEEK	PRIMARY STREET	SECONDARY STREET	CRASH DIRECTION	CRASH SEVERITY	CRASH CLASSIFICATION	CRASH ANALYSIS	HIGHEST FACTOR CONTRIBUTING TO CRASH	WEATHER	LIGHTING	HIT AND RUN CRASH	ALCOHOL INVOLVEMENT	DRUG INVOLVEMENT	PEDESTRIAN INVOLVEMENT	MOTORCYCLE INVOLVEMENT	PEDALCYCLE INVOLVEMENT	MAXIMUM VEHICLE DAMAGE
23229925	4/5/2012	13:15	Thursday	98TH ST NW	BENAVIDEZ ST	S	Property Damage Only Crash	Other Vehicle	Other Vehicle - From Same Direction/Both Going Straight	Driver Inattention	Clear	Daylight	Yes	Not Involved	Not Involved	Not Involved	Not Involved	Not Involved	Functional
710115081	6/22/2012	20:27	Friday	SNOW VISTA BLVD SW	BENAVIDES RD SW	S	Property Damage Only Crash	Other Vehicle	Other Vehicle - One Right Turn/Entering At Angle	None	Clear	Dark-Lighted	Yes	Not Involved	Not Involved	Not Involved	Not Involved	Not Involved	Appearance
23322553	9/12/2012	8:05	Wednesday	BENAVIDAS 98TH		E	Property Damage Only Crash	Other Vehicle	Other Vehicle - Both Going Straight/Entering At Angle	Missing Data	Raining	Daylight	No	Not Involved	Not Involved	Not Involved	Not Involved	Not Involved	Appearance
23331248	4/9/2013	15:02	Tuesday	BENEVIDES SW	98TH ST	W	Property Damage Only Crash	Other Vehicle	Other Vehicle - From Opposite Direction	Missing Data	Clear	Daylight	No	Not Involved	Not Involved	Not Involved	Not Involved	Not Involved	Missing Data
710126793	7/30/2013	22:00	Tuesday	SNOW VISTA BLVD SW	BENAVIDES RD SW	S	Property Damage Only Crash	Other Vehicle	Other Vehicle - Both Going Straight/Entering At Angle	Passed Stop Sign	Clear	Dark-Lighted	No	Not Involved	Not Involved	Not Involved	Not Involved	Not Involved	Disabling
710125287	10/19/2013	9:10	Saturday	SNOW VISTA BLVD SW	BENAVIDES RD SW	N	Property Damage Only Crash	Other Vehicle	Other Vehicle - From Same Direction/One Stopped	Driver Inattention	Clear	Daylight	No	Not Involved	Not Involved	Not Involved	Not Involved	Not Involved	Disabling
710182885	3/26/2014	7:33	Wednesday	BENAVIDES RD SW	SNOW VISTA BLVD SW	E	Injury Crash	Other Vehicle	Other Vehicle - From Same Direction/Both Going Straight	Driver Inattention	Clear	Daylight	No	Not Involved	Not Involved	Not Involved	Not Involved	Not Involved	Disabling
710185940	9/11/2014	11:15	Thursday	98TH ST SW	BENAVIDES RD BW	S	Property Damage Only Crash	Other Vehicle	Other Vehicle - Both Going Straight/Entering At Angle	Failed to Yield Right of Way	Clear	Daylight	No	Not Involved	Not Involved	Not Involved	Not Involved	Not Involved	Appearance
710211804	10/31/2014	18:05	Friday	98TH ST SW	BENAVIDES RD SW	S	Property Damage Only Crash	Other Vehicle	Other Vehicle - Both Going Straight/Entering At Angle	Excessive Speed	Clear	Dusk	No	Not Involved	Not Involved	Not Involved	Not Involved	Not Involved	Appearance
710241730	3/12/2015	7:49	Thursday	98TH ST NW	BENAVIDES RD SW	N	Injury Crash	Pedalcyclist	Vehicle Struck Pedalcyclist At Angle	Driver Inattention	Clear	Daylight	No	Not Involved	Not Involved	Not Involved	Not Involved	Involved	Appearance
710235784	5/16/2015	19:12	Saturday	BENAVIDES RD SW	SNOWVISTA SW	E	Property Damage Only Crash	Other Vehicle	Other Vehicle - One Left Turn/Entering At Angle	Other Improper Driving	Clear	Daylight	No	Not Involved	Not Involved	Not Involved	Not Involved	Not Involved	Missing Data
23403070	5/26/2015	15:00	Tuesday	SNOW VISTA	BENAVIDES	W	Property Damage Only Crash	Other Vehicle	Other Vehicle - From Opposite Direction	Missing Data	Left Blank	Left Blank	No	Not Involved	Not Involved	Not Involved	Not Involved	Not Involved	Functional
710252624	6/12/2015	13:21	Friday	BENAVIDES AVE SW		W	Property Damage Only Crash	Other Vehicle	Other Vehicle - From Same Direction/One Stopped	None	Clear	Daylight	Yes	Not Involved	Not Involved	Not Involved	Not Involved	Not Involved	Disabling
23402329	7/22/2015	8:00	Wednesday	BENAVIDES	98TH		Property Damage Only Crash	Left Blank	Invalid Code	Missing Data	Left Blank	Left Blank	Yes	Not Involved	Not Involved	Not Involved	Not Involved	Not Involved	Missing Data
710252664	8/20/2015	17:55	Thursday	SNOW VISTA CHANNEL	BENAVIDES RD SW	S	Injury Crash	Other Vehicle	Other Vehicle - From Same Direction/Both Going Straight	Driver Inattention	Clear	Daylight	No	Not Involved	Not Involved	Not Involved	Not Involved	Not Involved	Disabling
710190615	8/31/2015	7:44	Monday	SNOW VISTA BLVD SW	BENAVIDES RD SW	N	Property Damage Only Crash	Other Vehicle	Other Vehicle - From Same Direction/Both Going Straight	Following Too Closely	Clear	Daylight	No	Not Involved	Not Involved	Not Involved	Not Involved	Not Involved	Appearance
710241902	10/31/2015	21:51	Saturday	BENAVIDES RD SW	98TH ST SW	W	Injury Crash	Pedestrian	Pedestrian Collision - Vehicle Going Straight	Pedestrian Error	Clear	Dark-Lighted	No	Not Involved	Not Involved	Involved	Not Involved	Not Involved	Functional
710257309	11/30/2015	18:05	Monday	SNOW VISTA BLVD SW	BENAVIDES RD SW	S	Property Damage Only Crash	Other Vehicle	Other Vehicle - Both Going Straight/Entering At Angle	Failed to Yield Right of Way	Clear	Dark-Lighted	Yes	Not Involved	Not Involved	Not Involved	Not Involved	Not Involved	Functional
710278647	4/11/2016	20:32	Monday	BENAVEDEZ RD SW	98TH ST SW	S	Injury Crash	Other Vehicle	Other Vehicle - From Same Direction/Both Going Straight	Driver Inattention	Clear	Dark-Lighted	Yes	Not Involved	Not Involved	Not Involved	Not Involved	Not Involved	Functional
710366309	9/11/2016	8:40	Sunday	SNOW VISTA BLVD SW	BENAVIDES RD SW	S	Injury Crash	Other Vehicle	Other Vehicle - From Opposite Direction	Failed to Yield Right of Way	Clear	Daylight	No	Not Involved	Not Involved	Not Involved	Not Involved	Not Involved	Disabling
710280897	10/21/2016	20:48	Friday	98TH ST SW	BENAVIDES RD SW	N	Property Damage Only Crash	Other Vehicle	Other Vehicle - From Opposite Direction/Sideswipe Collision	Failed to Yield Right of Way	Clear	Dark-Not Lighted	Yes	Not Involved	Not Involved	Not Involved	Not Involved	Not Involved	Functional

APPENDIX

H INTERSECTION CONFIGURATION SUITABILITY ANALYSIS

INTERSECTION CONFIGURATION SUITABILITY ANALYSIS FOR 98TH STREET AND BENAVIDES ROAD

	No-Build	MUT	Signalization (Split Intersection)	Signalization (Single Intersection)	Roundabout
Cost	2	1	0	0	0
Pedestrian Safety/Connectivity	2	3	4	3	4
Pedestrian Infrastructure	2	4	4	4	4
Construction Impacts to Roadway	2	0	4	0	0
Operations	2	0	3	4	4
Driver Expectation	2	1	4	4	3
Maintenance	2	2	0	0	2
Compliance with DPM	2	0	3	4	4
Suitability Score	**16**	**11**	**19**	**15**	**17**

Impact Description	Rating
Significant Benefit	4
Minor Benefit	3
No Change from Existing	2
Minor Disasvantage	1
Significant Disadvantage	0