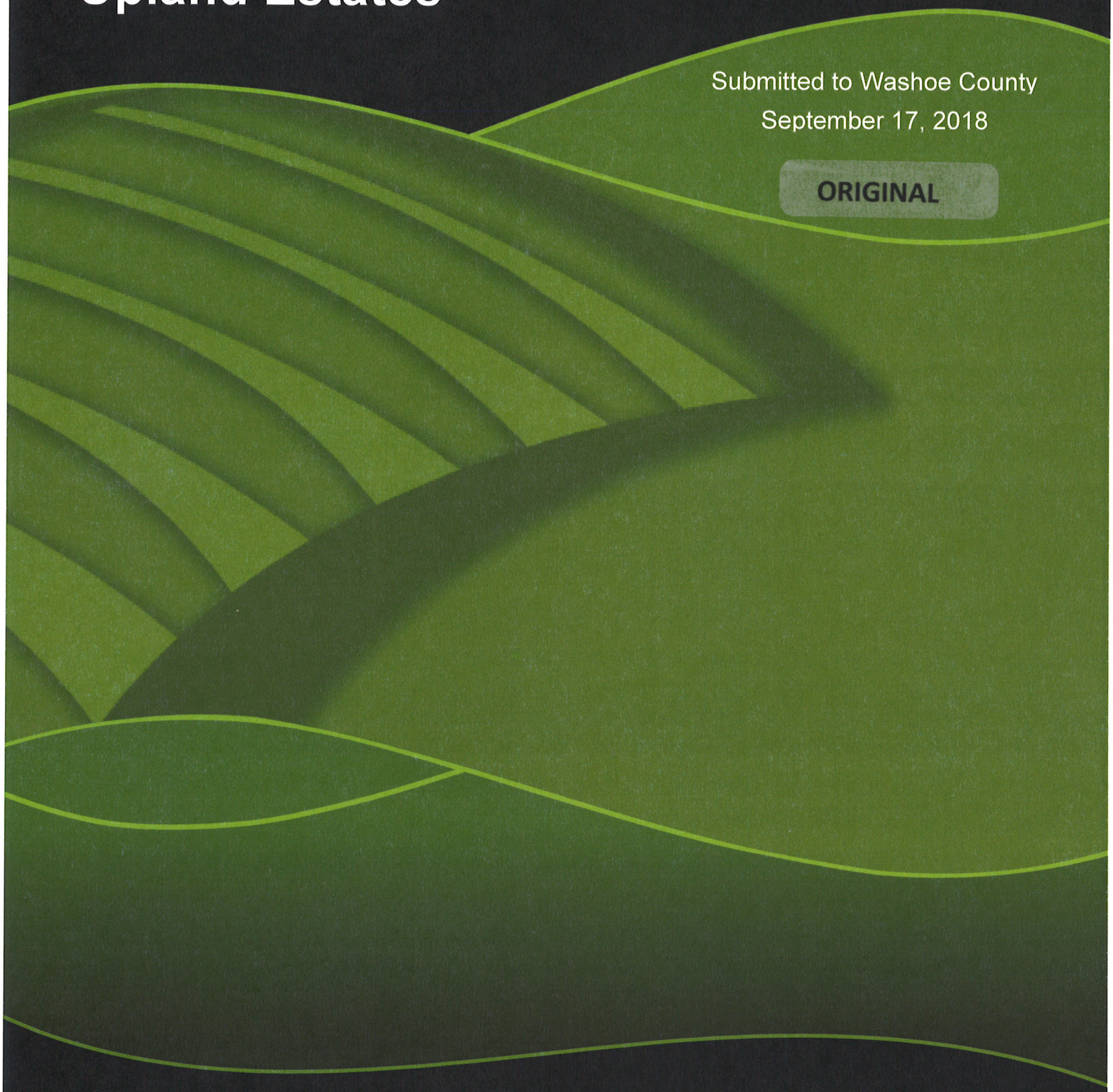
Master Plan Amendment and Rezone Application

Upland Estates

Submitted to Washoe County

September 17, 2018

ORIGINAL



Prepared for

Spanish Springs Associates L.P

550 West Plumb Lane, Ste B

Reno, NV 89509

Prepared by

WOOD RODGERS

BUILDING RELATIONSHIPS ONE PROJECT AT A TIME

1361 Corporate Blvd • Reno, NV 89502 • Tel: 775.823.4068 • www.woodrodgers.com

Table of Contents

Section 1

Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

Project Information	**Staff Assigned Case No.:**

Project Name: **Upland Estates**

Project Description: A request to 1) change the existing land use from Commercial to Suburban Residential; and 2) change the existing zoning from Neighborhood Commercial to Medium Density Suburban on properties located within the Spanish Springs Area Plan

Project Address: Neighborhood Way

Project Area (acres or square feet): 43.04 acres

Project Location (with point of reference to major cross streets **AND** area locator):

Approximately 1,700 feet north of intersection of Neighborhood Way and Eagle Canyon Dr

Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
532-031-16	11.214	532-032-05	20.75
532-032-03	11.08		

Section(s)/Township/Range: Portion of Section 34 & 35, T21N-R20E

Indicate any previous Washoe County approvals associated with this application:

Case No.(s). WTM18-0007 (Spanish Springs Associates)

Applicant Information (attach additional sheets if necessary)

Property Owner:		**Professional Consultant:**	
Name: Spanish Springs Associates LP		Name: Wood Rodgers, Inc	
Address: 550 West Plumb Lane, Ste B, Reno, NV 89509		Address: 1361 Corporate Blvd	
Reno, NV	Zip: 89509-3686	Reno, NV	Zip: 89502
Phone: 775-425-4422	Fax:	Phone: 823-5258	Fax: 823-4066
Email: jesse@hawcoproperties.com		Email: shuggins@woodrodgers.com	
Cell: 775-560-6922	Other:	Cell:	Other:
Contact Person: Jesse Haw		Contact Person: Stacie Huggins	
Applicant/Developer:		**Other Persons to be Contacted:**	
Name: SAME AS ABOVE		Name:	
Address:		Address:	
	Zip:		Zip:
Phone:	Fax:	Phone:	Fax:
Email:		Email:	
Cell:	Other:	Cell:	Other:
Contact Person:		Contact Person:	

For Office Use Only

Date Received:	Initial:	Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

Property Owner Affidavit

Applicant Name: Spanish Springs Associated Limited Partnership, a Nevada Limited Partnership By Hawco Development Company, A Nevada Corporation, General Partner

The receipt of this application at the time of submittal does not guarantee the application complies with all requirements of the Washoe County Development Code, the Washoe County Master Plan or the applicable area plan, the applicable regulatory zoning, or that the application is deemed complete and will be processed.

STATE OF NEVADA)
)
COUNTY OF WASHOE)

I, Jesse Haw ,
(please print name)

being duly sworn, depose and say that I am the owner* of the property or properties involved in this application as listed below and that the foregoing statements and answers herein contained and the information herewith submitted are in all respects complete, true and correct to the best of my knowledge and belief. I understand that no assurance or guarantee can be given by members of Planning and Development.

(A separate Affidavit must be provided by each property owner named in the title report.)

Assessor Parcel Number(s): 532-031-16, 532-032-05, and 532-032-03

Spanish Springs Limited Partnership,
a Nevada limited partnership

By: Hawco Development Company.
a Nevada corporation, General Partner

By; _____
Jesse Haw, President

Address 550 West Plumb Lane, Ste B,
Reno, NV 89509

Subscribed and sworn to before me this 12th day of September 2018.

_____
Notary Public in and for said county and state

(Notary Stamp)

P. HANSON
Notary Public - State of Nevada
Appointment Recorded in Washoe County
No: 96-3503-2 - Expires October 13, 2020

My commission expires: 10/13/20

*Owner refers to the following: (Please mark appropriate box.)

- ☐ Owner
- ☐ Corporate Officer/Partner (Provide copy of recorded document indicating authority to sign.)
- ☐ Power of Attorney (Provide copy of Power of Attorney.)
- ☐ Owner Agent (Provide notarized letter from property owner giving legal authority to agent.)
- ☐ Property Agent (Provide copy of record document indicating authority to sign.)
- ☐ Letter from Government Agency with Stewardship

Master Plan Amendment
Supplemental Information

(All required information may be separately attached)

Chapter 110 of the Washoe County Code is commonly known as the Development Code. Specific references to Master Plan amendments may be found in Article 820, Amendment of Master Plan.

The Washoe County Master Plan describes how the physical character of the County exists today and is planned for the future. The plan is adopted by the community and contains information, policies and a series of land use maps. The Master Plan provides the essential framework for creating a healthy community system and helps guide decisions about growth and development in the County. The following are general types of requests the County receives to amend the Master Plan. Please identify which type of amendment you are requesting:

☑	A request to change a master plan designation(s) from the adopted master plan and/or area plan maps
☐	A request to add, amend, modify or delete any of the adopted policies found in the elements of the Master Plan
☐	A request to add, amend, modify or delete any of the adopted policies in the area plans
☐	A request to add, amend, modify or delete specific language found in the area plans
☐	Other (please identify):

Please complete this questionnaire to ensure consistent review of your request to amend the Washoe County Master Plan. Staff will review the application to determine if the amendment request is in conformance with the policies and language within the elements and area plans of the Master Plan or if the information provided supports a change to the plan. Please provide a brief explanation to all questions.

1. What is the Master Plan amendment being requested at this time?

The request is to change the existing master plan from Commercial to Suburban Residential on approximately 43.04 acres of undeveloped land located approximately 1,700 feet north of the intersection of Eagle Canyon Road and Neighborhood Way.

2. What conditions have changed and/or new studies have occurred since the adoption of the Washoe County Master Plan that supports the need for the amendment request?

Truckee Meadows Housing study suggests need for additional residential throughout Washoe County.
A significant amount of commercial exists today in this area and in the area immediately surrounded by residential uses so request would be more compatible with surrounding area.

3. Please provide the following specific information.
   a. What is the location (address or distance and direction from nearest intersection)? Please attach a legal description.

The project site is approximately 1,700 feet north of intersection of Eagle Canyon Road and Neighborhood Way and approximately 1,000 feet west of Pyramid Highway.

   b. Please list the following (attach additional sheet if necessary):

APN of Parcel	Master Plan Designation	Existing Acres	Proposed Master Plan Designation	Proposed Acres
532-031-16	Commercial	11.214	Suburban Residential	11.21
532-032-05	Commercial	20.752	Suburban Residential	20.75
532-032-03	Commercial/Open Space	11.08	Suburban Residential	11.08

c. What are the adopted land use designations of adjacent parcels?

North	Suburban Residential
South	Commercial
East	Suburban Residential
West	Suburban Residential

4. Describe the existing conditions and uses located at the site or in the vicinity (i.e. vacant land, roadways, buildings, etc.):

The project area is currently undeveloped but surrounded primarily by single family residential development with a senior assisted living facility directly south/west. Lot sizes in the adjacent newly constructed neighborhoods to the north of the project site range in size with minimum 8,000 square foot lots directly adjacent to the property. Access to the project area is via Neighborhood Way, which is a paved two lane road with a median/turn lane, bike lanes, landscaping, and sidewalk on both sides.

5. Describe the natural resources associated with the site under consideration. Your description should include resource characteristics such as water bodies, vegetation, topography, minerals, soils and wildlife habitat.

The project site is in a nearly flat area with gentle sloping from the northwest to the southeast. The entire site is free of steep slopes with minimal sloping over 15%. The western portion of the site is divided by Neighborhood Way, a two-lane arterial street with a median/turn lanes, existing landscaping, sidewalks on both sides, and a concrete drainage ditch to the west. The eastern side of the project area is divided by an approximate 150-foot-wide drainage ditch commonly referred to as a conveyance system for the Spanish Springs Flood Plain Detention Facility. Although some of the site has been graded by past activities the site is characterized by native vegetation (primarily native shrubs, sagebrush, and grasses). There is also an exiting drainage ditch that follows the western boundary.

6. Describe whether any of the following natural resources or systems are related to the proposed amendment:

   a. Is property located in the 100-year floodplain? (If yes, please attach documentation of the extent of the floodplain and any proposed floodplain map revisions in compliance with Washoe County Development Code, Article 416, Flood Hazards, and consultation with the Washoe County Engineering.)

❑ Yes	■ No

   Explanation:

   b. Does property contain wetlands? (If yes, please attach a preliminary delineation map and describe the impact the proposal will have on the wetlands. Impacts to the wetlands may require a permit issued from the U.S. Army Corps of Engineers.)

❑ Yes	■ No

   Explanation:

   c. Does property contain slopes or hillsides in excess of 15 percent and/or significant ridgelines? (If yes, please note the slope analysis requirements contained in Article 424, Hillside Development of the Washoe County Development Code.)

❑ Yes	■ No

   Explanation:

d. Does property contain geologic hazards such as active faults; hillside or mountainous areas; is subject to avalanches, landslides, or flash floods; is near a stream or riparian area such as the Truckee River, and/or an area of groundwater recharge?

❑ Yes	■ No

Explanation:

e. Does property contain prime farmland; is within a wildfire hazard area, geothermal or mining area, and/or wildlife mitigation route?

❑ Yes	■ No

Explanation:

7. Please describe whether any archaeological, historic, cultural, or scenic resources are in the vicinity or associated with the proposed amendment:

❑ Yes	■ No

Explanation:

8. Do you own sufficient water rights to accommodate the proposed amendment? (Amendment requests in some groundwater hydrographic basins [e.g. Cold Springs, Warm Springs, etc.] require proof of water rights be submitted with applications. Please provide copies of all water rights documents, including chain of title to the original water right holder.)

■ Yes	❑ No

If yes, please identify the following quantities and documentation numbers relative to the water rights:

a. Permit #	68453, & 68454	acre-feet per year	48.44, & 4.94
b. Certificate #		acre-feet per year	
c. Surface Claim #		acre-feet per year	
d. Other #		acre-feet per year	

e. Please attach a copy(s) of the water rights title (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources):

Initial conversation with TMWA indicates approximately 52 acre feet of water would be required for the 129 lots. TMWA has indicated the applicant has sufficient water rights banked.

f. If the proposed amendment involves an intensification of land use, please identify how sufficient water rights will be available to serve the additional development.

The proposed amendment is proposing a land use that would reduce the existing intensity by changing commercial to residential. This residential land use requires less water rights than the existing land use.

9. Please describe the source and timing of the water facilities necessary to serve the amendment:

   a. System Type:

❑ Individual wells		
❑ Private water	Provider:	
■ Public water	Provider:	Truckee Meadows Water Authority

   b. Available:

■ Now	❑ 1-3 years	❑ 3-5 years	❑ 5+ years

   c. Washoe County Capital Improvements Program project?

❑ Yes	■ No

   d. If a public facility is proposed and is currently not listed in the Washoe County Capital Improvements Program and not available, please describe the funding mechanism for ensuring availability of water service:

10. What is the nature and timing of sewer services necessary to accommodate the proposed amendment?

   a. System Type:

❑ Individual septic		
■ Public system	Provider:	Washoe County

   b. Available:

■ Now	❑ 1-3 years	❑ 3-5 years	❑ 5+ years

   c. Washoe County Capital Improvements Program project?

❑ Yes	■ No

d. If a public facility is proposed and is currently not listed in the Washoe County Capital Improvements Program and not available, please describe the funding mechanism for ensuring availability of sewer service. If a private system is proposed, please describe the system and the recommended location(s) for the proposed facility.

N/A

11. Please identify the street names and highways near the proposed amendment that will carry traffic to the regional freeway system.

To access the freeway from the site residents will travel south down Neighborhood Way, then head east on Eagle Canyon Drive to Pyramid Highway. Traveling south on Pyramid Highway one can reach Interstate 80 or head west on McCarran Blvd to reach Interstate 580.

12. Will the proposed amendment impact existing or planned transportation systems? (If yes, a traffic report will be required. See attached Traffic Impact Report Guidelines.)

■ Yes	❑ No

13. Community Services (provided and nearest facility):

a. Fire Station	Truckee Meadows Fire Station 17
b. Health Care Facility	Renown Health Urgent Care - Los Altos
c. Elementary School	Alyce Taylor Elementary School
d. Middle School	Shaw Middle School
e. High School	Spanish Springs High School
f. Parks	Eagle Canyon, Desert Winds, and Gator Swamp Park
g. Library	Spanish Springs Library
h. Citifare Bus Stop	Sun Valley Blvd and 6th Avenue

14. Describe how the proposed amendment fosters, promotes or complies with the policies of the adopted area plans and elements of the Washoe County Master Plan:

a. Population Element:

Goal 1: SS.1.2 According to the Washoe County Department of Community Development, the SSAP has capacity for 1,144 units to be added within the plan boundary.

Based on the MDS zoning and the total acreage, approximately 129 lots could be developed on these parcels, which would still leave 1,015 unit within the SCMA for future development.

b. Conservation Element:

Goal Fourteen: Wetlands will be protected from the negative impacts of development to the standards established by state and federal agencies responsible for wetland regulation.

No wetlands exist on the project site and all future development will not have any negative impacts on the project area.

c. Housing Element:

Goal Seventeen: Truckee Meadows Housing study suggests a need for additional residential throughout Washoe County.

Significant amount of commercial exists today in this area and in the area immediately surrounded by residential uses so the request would be more compatible with surrounding area and provide much needed housing to the community.

d. Land Use and Transportation Element:

Goal Three: The request will help meet the levels of service for local transportation facilities by proposing a less intense use. The proposed residential land use is typically associated with less traffic than the current commercial land use designation.

e. Public Services and Facilities Element:

SS.16.1 All future development will connect to community sewer service.

The property is within the TMWA Retail Water Service Area. Public water and sewer is already available in the area. Truckee Meadows Fire Station 17 is in close proximity to the area.

f. Adopted area plan(s):

The proposed request complies with the following policies within the Spanish Springs Area Plan: SS.1.2, SS.1.3, SS.1.5, SS.1.6, SS.7.6, SS.11.3, SS.17.1, and SS.17.2. A more detailed description of how these policies are met can be found in the Project Description in Section 2 of this application.

15. If the area plan includes a Plan Maintenance component, address all policies and attach all studies and analysis required by the Plan Maintenance criteria.

This amendment is subject to Plan Maintenance as described under Goal Seventeen and Policies SS.17.1 and SS.17.2 of the Spanish Springs Area Plan. A response to the required findings related to the proposed text amendment is included in section 2 of the Project Description in this application packet.

Applicant Comments

This page can be used by the applicant to support the regulatory zone amendment request and should address, at a minimum, how one or more of the findings for an amendment are satisfied. (Please referrer to Article 820 of the Washoe County Development Code for the list of Findings.)

Responses to required Findings under Article 820 of the Washoe County Development Code and Plan Maintenance Findings in the Spanish Springs Area Plan are included in Section 2 of this submittal packet.

Regulatory Zone Amendment
Supplemental Information

(All required information may be separately attached)

Chapter 110 of the Washoe County Code is commonly known as the Development Code. Specific references to Regulatory Zone amendments may be found in Article 821, Amendment of Regulatory Zone.

Please complete this questionnaire to ensure consistent review of your request to amend the Washoe County Zoning Map. Please provide a brief explanation to all questions answered in the affirmative.

1. Please describe the Regulatory Zone amendment request:

The applicant is requesting a Regulatory Zone Amendment on 3 parcels. The current zoning designations are; Neighborhood Commercial, Open Space, and Medium Density Suburban. This request is proposing to change the entire project site (43.04± acres) to Medium Density Suburban (MDS).

This zoning amendment is being submitted along with a Master Plan Amendment to change the master plan designation to Suburban Residential (SR). The proposed MDS zoning is a conforming designation under the SR designation.

2. List the Following information regarding the property subject to the Regulatory Zone Amendment.

   a. What is the location (address, assessor's parcel number or distance and direction from nearest intersection)?

The project site is within unincorporated Washoe County, in the Spanish Springs area. The 43.04± acre site includes three parcels and are referred to as Washoe County Assessor Parcel Number (APN) 532-013-16, 532-032-03 , and 532-032-05. The site is generally located approximately ½ mile northwest of the intersection of Eagle Canyon Road and Pyramid Way Highway, within the Spanish Springs Area Plan/Spanish Springs Suburban Character Management Area. The site is bisected by Neighborhood Way.

b. Please list the following (attach additional sheet if necessary):

APN of Parcel	Master Plan Designation	Current Zoning	Existing Acres	Proposed Zoning	Proposed Acres
532-031-16	SR*	NC	11.21	MDS	11.21
532-032-05	SR*	MDS,OS, NC	20.75	MDS	20.75
532-032-03	SR*	OS, NC	11.08**	MDS	11.08
	*Pending MPA		**Pending BLA		

c. What are the regulatory zone designations of adjacent parcels?

	Zoning	Use (residential, vacant, commercial, etc,)
North	MDS	Single-Family/Shaw Middle School/Vacant Land
South	NC/PR	Vacant/Assisted Living & Eagle Canyon Park
East	MDS/OS	Single-Family/Open Space
West	MDS/C/PR/PSP	Single-Family/Assisted Living/Open Space/Eagle Canyon Park/Shaw Middle School

3. Describe the existing conditions and uses located at the site or in the vicinity (i.e. vacant land, roadways, easements, buildings, etc.):

The project site is in a nearly flat area with slight sloping from the northwest to the southeast. The entire site is free of steep slopes with minimal sloping over 15%. The western portion of the site is divided by Neighborhood Way, a two-lane arterial street with a median and turn lanes, existing landscaping, sidewalks on both sides, and a concrete drainage ditch to the west. The eastern side of the project area is divided by a 150-foot-wide drainage ditch commonly referred to as a conveyance system for the Spanish Springs Flood Plain Detention Facility. There is also an exiting drainage ditch that follows the western boundary. Several utility, drainage, and trail easements are located throughout the property. Mainly along the western boundary and Neighborhood Way.

4. Describe the natural resources associated with the site under consideration. Your description should include resource characteristics such as water bodies, vegetation, topography, minerals, soils and wildlife habitat.

The project site is an infill site. Some of the site has been graded by past activities however, the site is characterized by native vegetation (primarily native shrubs, sagebrush, and grasses).

5. Does the property contain development constraints such as floodplain or floodways, wetlands, slopes or hillsides in excess of 15%, geologic hazards such as active faults, significant hydrologic resources or major drainages or prime farmland?

❑ Yes	■ No

Explanation:

6. Please describe whether any archaeological, historic, cultural, or scenic resources are in the vicinity or associated with the proposed amendment:

❑ Yes	■ No

Explanation:

7. Do you own sufficient water rights to accommodate the proposed amendment? (Amendment requests in some groundwater hydrographic basins [e.g. Cold Springs, Warm Springs, etc.] require proof of water rights be submitted with applications. Please provide copies of all water rights documents, including chain of title to the original water right holder.)

■ Yes	❑ No

If yes, please identify the following quantities and documentation numbers relative to the water rights:

a. Permit #	68453, & 68454	acre-feet per year	48.44, & 4.94
b. Certificate #		acre-feet per year	
c. Surface Claim #		acre-feet per year	
d. Other #		acre-feet per year	

e. Title of those rights (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources):

Initial conversation with TMWA indicates approximately 52 acre feet of water would be required for the 129 lots. TMWA has indicated the applicant has sufficient water rights banked.

f. If the proposed amendment involves an intensification of land use, please identify how sufficient water rights will be available to serve the additional development.

The proposed amendment is proposing a zoning that would reduce the existing intensity by changing from a neighborhood commercial zoning designation to a medium density suburban designation. This zoning designation typically requires less water rights than the existing zoning.

8. Please describe the source and timing of the water facilities necessary to serve the amendment:

a. System Type:

❑ Individual wells		
❑ Private water	Provider:	
■ Public water	Provider:	Truckee Meadow Water Authourity

b. Available:

■ Now	❑ 1-3 years	❑ 3-5 years	❑ 5+ years

c. Is this part of a Washoe County Capital Improvements Program project?

❑ Yes	■ No

d. If a public facility is proposed and is currently not listed in the Washoe County Capital Improvements Program and not available, please describe the funding mechanism for ensuring availability of water service:

9. What is the nature and timing of sewer services necessary to accommodate the proposed amendment?

a. System Type:

❑ Individual septic		
■ Public system	Provider:	Washoe County

b. Available:

■ Now	❑ 1-3 years	❑ 3-5 years	❑ 5+ years

c. Is this part of a Washoe County Capital Improvements Program project?

❑ Yes	■ No

d. If a public facility is proposed and is currently not listed in the Washoe County Capital Improvements Program and not available, please describe the funding mechanism for ensuring availability of sewer service. If a private system is proposed, please describe the system and the recommended location(s) for the proposed facility.

N/A

10. Please identify the street names and highways near the proposed amendment that will carry traffic to the regional freeway system.

To access the freeway from the site residents will travel south down Neighborhood Way, then head east on Eagle Canyon Drive, then south to Pyramid Highway. Traveling south on Pyramid Highway one can reach Interstate 80 or head west on McCarran Blvd to reach Interstate 580.

11. Will the proposed amendment impact existing or planned transportation systems? (If yes, a traffic report will be required. See attached Traffic Impact Report Guidelines.)

■ Yes	❑ No

12. Community Services (provided and nearest facility):

a. Fire Station	Truckee Meadows Fire Station 17
b. Health Care Facility	Renown Health Urgent Care - Los Altos
c. Elementary School	Alyce Taylor Elementary School
d. Middle School	Shaw Middle School
e. High School	Spanish Springs High School
f. Parks	Eagle Canyon, Desert Winds, and Gator Swamp Park
g. Library	Spanish Springs Library
h. Citifare Bus Stop	Sun Valley Blvd and 6th Avenue

Projects of Regional Significance Information – for Regulatory Zone Amendments

Nevada Revised Statutes 278.026 defines "Projects of Regional Significance". Regulatory Zone amendment requests for properties within the jurisdiction of the Truckee Meadows Regional Planning Commission (TMRPC) must respond to the following questions. A "Yes" answer to any of the following questions may result in the application being referred first to the Truckee Meadows Regional Planning Agency for submission as a project of regional significance. Applicants should consult with County or Regional Planning staff if uncertain about the meaning or applicability of these questions.

1. Will the full development potential of the Regulatory Zone amendment increase employment by not less than 938 employees?

☐ Yes	■ No

2. Will the full development potential of the Regulatory Zone amendment increase housing by 625 or more units?

☐ Yes	■ No

3. Will the full development potential of the Regulatory Zone amendment increase hotel accommodations by 625 or more rooms?

☐ Yes	■ No

4. Will the full development potential of the Regulatory Zone amendment increase sewage by 187,500 gallons or more per day?

☐ Yes	■ No

5. Will the full development potential of the Regulatory Zone amendment increase water usage by 625 acre-feet or more per year?

☐ Yes	■ No

6. Will the full development potential of the Regulatory Zone amendment increase traffic by 6,250 or more average daily trips?

☐ Yes	■ No

7. Will the full development potential of the Regulatory Zone amendment increase the student population from kindergarten to 12th grade by 325 students or more?

☐ Yes	■ No

Applicant Comments

This page can be used by the applicant to support the regulatory zone amendment request and should address, at a minimum, how one or more of the findings for an amendment is satisfied. (Please refer to Article 821 of the Washoe County Development Code for the list of Findings.)

Responses to required Findings under Article 821 of the Washoe County Development Code and Plan Maintenance Findings in the Spanish Springs Area Plan are included in Section 2 of this submittal packet. Please refer to the attached Project Description.

Washoe County Treasurer
P.O. Box 30039 Reno, NV 89520-3039
ph: (775) 328-2510 fax: (775) 328-2500
Email: tax@washoecounty.us

Washoe County Treasurer
Tammi Davis

Account Detail

Back to Account Detail Change of Address Print this Page

Washoe County Parcel Information

Parcel ID	Status	Last Update
53203205	Active	9/14/2018 2:06:17 AM

Current Owner:
SPANISH SPRINGS ASSOCIATES LP

550 W PLUMB LN STE B
RENO, NV 89509-3686

SITUS:
0 PYRAMID WAY
WCTY NV

Taxing District
4000

Geo CD:

Legal Description

SubdivisionName _UNSPECIFIED Lot C Township 21 Range 20

Tax Bill (Click on desired tax year for due dates and further details)

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
2018	$5,883.17	$1,470.91	$0.00	$0.00	$4,412.26
2017	$5,883.31	$5,883.31	$0.00	$0.00	$0.00
2016	$5,883.18	$5,883.18	$0.00	$0.00	$0.00
2015	$5,883.02	$5,883.02	$0.00	$0.00	$0.00
2014	$5,882.98	$5,882.98	$0.00	$0.00	$0.00
				Total	$4,412.26

Important Payment Information

- ALERTS: If your real property taxes are delinquent, the search results displayed may not reflect the correct amount owing. Please contact our office for the current amount due.
- **Monday, August 20, is the due date for the first installment of 2018/19 property taxes. Payments will be accepted without penalty through August 30, 2018.**
- **Please be aware that Credit Card payments in excess of $25,000 and eChecks in excess of $100,000 will not process. Please contact our office for alternative payment methods.**
- For your convenience, online payment is available on this site. E-check payments are accepted without a fee. However, a service fee does apply for online credit card payments. See Payment Information for details.

Pay Online

Cart: $0.00

Pay By Check

Please make checks payable to:
WASHOE COUNTY TREASURER

Mailing Address:
P.O. Box 30039
Reno, NV 89520-3039

Overnight Address:
1001 E. Ninth St., Ste D140
Reno, NV 89512-2845

Washoe County Treasurer
Tammi Davis

Washoe County Treasurer
P.O. Box 30039, Reno, NV 89520-3039
ph: (775) 328-2510 fax: (775) 328-2500
Email: tax@washoecounty.us

Account Detail

Back to Account Detail | Change of Address | Print this Page

Washoe County Parcel Information

Parcel ID	Status	Last Update
53203116	Active	9/14/2018 2:06:17 AM

Current Owner:
SPANISH SPRINGS ASSOCIATES LP

550 W PLUMB LN STE B
RENO, NV 89509-3686

SITUS:
0 NEIGHBORHOOD WAY
WASHOE COUNTY NV

Taxing District
4000

Geo CD:

Legal Description

Township Section Lot 4 Block Range SubdivisionName _UNSPECIFIED

Tax Bill (Click on desired tax year for due dates and further details)

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
2018	$17,997.79	$4,499.56	$0.00	$0.00	$13,498.23
2017	$17,997.95	$17,997.95	$0.00	$0.00	$0.00
2016	$17,997.80	$17,997.80	$0.00	$0.00	$0.00
2015	$17,997.64	$17,997.64	$0.00	$0.00	$0.00
2014	$17,997.64	$17,997.64	$0.00	$0.00	$0.00
				Total	$13,498.23

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- **Monday, August 20, is the due date for the first installment of 2018/19 property taxes. Payments will be accepted without penalty through August 30, 2018.**
- **Please be aware that Credit Card payments in excess of $25,000 and eChecks in excess of $100,000 will not process. Please contact our office for alternative payment methods.**
- For your convenience, online payment is available on this site. E-check payments are accepted without a fee. However, a service fee does apply for online credit card payments. See Payment Information for details.

Pay Online

Cart: $0.00

Pay By Check

Please make checks payable to:
WASHOE COUNTY TREASURER

Mailing Address:
P.O. Box 30039
Reno, NV 89520-3039

Overnight Address:
1001 E. Ninth St., Ste D140
Reno, NV 89512-2845

Payment Information

Special Assessment District

Installment Date Information

Assessment Information

Washoe County Treasurer
Tammi Davis

Washoe County Treasurer
P.O. Box 30039 Reno, NV 89520-3039
ph: (775) 328-2510 fax: (775) 328-2500
Email: tre@washoecounty.us

Account Detail

Back to Account Detail | Change of Address | Print this Page

Washoe County Parcel Information

Parcel ID	Status	Last Update
53203203	Active	9/14/2018 2:06:17 AM

Current Owner:
SPANISH SPRINGS ASSOCIATES LP

550 W PLUMB LN STE B
RENO, NV 89509-3686

SITUS:
0 PYRAMID WAY
WCTY NV

Taxing District
4000

Geo CD:

Legal Description
Lot 4 SubdivisionName _UNSPECIFIED Township 21 Range 20

Tax Bill (Click on desired tax year for due dates and further details)

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
2018	$4,077.13	$4,077.13	$0.00	$0.00	$0.00
2017	$4,077.29	$4,077.29	$0.00	$0.00	$0.00
2016	$4,077.15	$4,077.15	$0.00	$0.00	$0.00
2015	$4,076.99	$4,076.99	$0.00	$0.00	$0.00
2014	$4,077.00	$4,077.00	$0.00	$0.00	$0.00
				Total	$0.00

Important Payment Information

- ALERTS: If your real property taxes are delinquent, the search results displayed may not reflect the correct amount owing. Please contact our office for the current amount due.
- **Monday, August 20, is the due date for the first installment of 2018/19 property taxes. Payments will be accepted without penalty through August 30, 2018.**
- **Please be aware that Credit Card payments in excess of $25,000 and eChecks in excess of $100,000 will not process. Please contact our office for alternative payment methods.**
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Pay Online

Cart: $0.00

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Payment Information

Special Assessment District

Installment Date Information

Assessment Information

Section 2

Project Description

Location

The project site is within unincorporated Washoe County, in the Spanish Springs area. The 43.04± acre site includes three parcels and are referred to as Washoe County Assessor Parcel Number (APN) 532-013-16, 532-032-03, and 532-032-0505 (APN 532-032-03 is currently pending a BLA and is subject to change upon recording). The site is generally located approximately ½ mile northwest of the intersection of Eagle Canyon Road and Pyramid Way Highway, within the Spanish Springs Area Plan/Spanish Springs Suburban Character Management Area. The site is bisected by Neighborhood Way and is generally bordered by an existing single-family neighborhood to the east, undeveloped commercial and an assisted living facility to the south, Eagle Canyon Park/Shaw Middle School to the west, and an existing and a newly constructed single-family neighborhood to the north, (*Refer to Vicinity Map, Assessor's Parcel Map and Site Aerial in Section 3 of this submittal packet).*

Background

The three parcels totaling 43.04± acres (project site) are within the Spanish Springs Area Plan (SSAP). The parcels were originally planned to provide commercial and medical services to the growing community. However, with other large commercial centers constructed south of the project area in the City of Sparks, the need for commercial/medical services within this area has decreased. At the same time, the region has been experiencing a housing shortage as the population continues to increase. To adjust for this change, and to help meet the needs of the community, the applicant is seeking a master plan and regulatory zone amendment to allow residential on the project site.

Washoe County Master Plan and Zoning

According to Washoe County mapping the current master plan designation consists of a mix of Commercial (C), Open Space (OS), and Suburban Residential (SR). Conforming with the existing master plan designations, the current zoning designations include Neighborhood Commercial (NC), OS, and Medium Density Suburban (MDS). *(Refer to Section 3 of the submittal packet for Existing and Proposed Zoning Maps).*

Project Request

The applicant is requesting a Master Plan Amendment and a Regulatory Zone Amendment on 3 parcels totaling 43.04± acres. The current land use designations, and conforming zoning designations, are generally considered to support more intense development when compared to a residential land use. Commercial uses typically generate more traffic and utility services (water and sewer) when compared to single family residential. To support single family residential development on this site, the following changes are requested:

Master Plan Designation

- Existing:
  - Commercial (C) — 40.46± Acres (94.0%)
  - Open Space (OS) — 2.08± Acres (4.8%)
  - Suburban Residential (SR) — 0.5± Acres (1.2%)
- Proposed:
  - Suburban Residential (SR) — 43.04± Acres (100%)

Zoning Designation

- Existing:
  - Neighborhood Commercial (NC) — 40.46± Acres (94.0%)
  - Open Space (OS) — 2.08± Acres (4.8%)
  - Medium Density Suburban (MDS) — 0.5± Acres (1.2%)
- Proposed:
  - Medium Density Suburban (MDS) — 43.04± Acres (100%)

The proposed change in land use and zoning designations compatible with the surrounding area and provide additional opportunity for residential development to help address regional housing needs. (*Refer to the Existing and Proposed Master Plan and Zoning Maps in Section 3 of this submittal packet.)*

Land Use Compatibility

The project site is located within the Spanish Springs Area Plan (SSAP). Surrounding land uses include existing single family residential to the north and east, vacant commercial to the south, and open space to the west. The current and proposed land use and zoning designations are conforming with and allowed within the SSAP.

ADJACENT PROPERTY DESCRIPTION			
	Land Use Designation	**Zoning**	**Use**
North	SR	MDS	Single-Family/Shaw Middle School/Vacant Land
South	SR/C	NC/PR	Vacant/Assisted Living & Eagle Canyon Park
East	SR/OS	MDS/OS	Single-Family/Open Space
West	SR/C	MDS/C/PR/PSP	Single-Family, Assisted Living, Open Space, Eagle Canyon Park, & Shaw Middle School

The proposed amendment on the Project Site will be compatible with the surrounding uses which include an under-construction single-family residential to the north, the senior/assisted living to the south, and Eagle Canyon Park and Shaw Middle School to the west.

Utilities

Public utilities currently exist and are located within Neighborhood Way, which is currently bisecting the project site. As the request at this time is only for land use and zoning and does not yet propose a development plan, it is not necessary to demonstrate the future ability to serve the project. However, as stated earlier, Neighborhood Way was constructed in anticipation of commercial development. Since residential is considered a less intense use when compared to commercial, it is not anticipated that the existing utilities will require any new improvements. The plan to extend utility service will be addressed with the tentative map process.

Public Services

Fire service is currently provided to the surrounding area by Truckee Meadows Fire District. The closest fire station is Truckee Meadows Fire Station 17 located approximately 1 mile to the east at the intersection of La Posada Drive and Rockwell Boulevard. Police is provided by Washoe County Sheriff.

Traffic Impact Report

A traffic analysis must be prepared for any amendments to the Spanish Springs Area Plan. To address this requirement, Solaegui Engineers assessed the magnitude of traffic impacts the proposed change would have on key intersections. The study looked at key intersections and trip generation rates based on the previously approved commercial land use compared to the proposed residential land use. The study found that the proposed land uses are anticipated to generate 1,218 average daily trips (ADT) versus the approved land uses, which were anticipated to generate 13,510 ADT.

While the proposed land use change may have some impacts on the existing street network, the impacts will be minimal compared to the impacts the existing commercial based land use designations would have on the surrounding area (see the *Upland Estates Traffic Study* included in Section 4 of this submittal).

Goals and Policies

The project meets the following goals and policies listed within the Spanish Springs Area Plan, (goals and policies not listed are not applicable to the project):

Goal One: The pattern of land use designations in the Spanish Springs Area Plan will implement and preserve the community character described in the Character Statement.

Response: The request is in substantial conformance with the Character Statement in the Spanish Spring Area Plan (SSAP), particularly the area described as the Suburban Character Management Area (SCMA). The project will continue the same residential character of the area with surrounding developments including an established residential development to the east and northeast, and a recently approved under-construction residential development to the north. Since the project site is located within the SCMA, the change to SR and MDS with a maximum density of 3 dwelling units per acre is appropriate. These designations serve as an appropriate transition from the commercial along Eagle Canyon Drive to the more suburban population located to the west of Pyramid Way and the more rural area located along the foothills and east of Pyramid Way.

Policies

SS1.2 **The Policy Growth Level for the Spanish Springs Suburban Character Management Area is 1,500 new residential units of land use capacity. Land use intensifications will not add more than 1,500 new units of Land Use Capacity through 2025. The Washoe County Department of Community Development will be responsible for tracking increasing land use potential to ensure this growth level is not exceeded.**

Response: According to the Washoe County Department of Community Development, the SSAP has capacity for 1,144 units to be added within the plan boundary.

Based on the MDS zoning and the total acreage, approximately 129 lots could be developed on these parcels, which would still leave 1,015 units within the SCMA for future development.

SS.1.3 **The following Regulatory Zones are permitted within the Spanish Springs Suburban Character Management Area:**
a. High Density Rural (HDR – One unit per 2.5 acres).

b. Low Density Suburban (LDS – One unit per acre).
c. Medium Density Suburban (MDS – Three units per acre).
d. High Density Suburban (HDS limited to the areas designated HDS prior to August 17, 2004)
e. Neighborhood Commercial/Office (NC).
f. General Commercial (GC) – GC limited to the areas designated GC prior to August 17, 2004.
g. Industrial (I).
h. Public/Semi-Public Facilities (PSP).
i. Parks and Recreation (PR).
j. General Rural (GR).
k. Open Space (OS).
l. Medium Density Rural (MDR – One unit per 5 acres).

Response: The regulatory zone that is proposed, Medium Density Suburban (MDS), is permitted within the SCMA. The proposed change on these parcels is consistent with the area surrounding the site and therefore compatible.

SS.1.5 **In some cases, the land uses available in certain regulatory zones in the Spanish Springs Area Plan differ from those in the same regulatory zones in the Development Code. Appendix C – Allowable Land Uses in the Spanish Springs Area Plan, lists the land uses available under each land use designation in the Spanish Springs Area Plan. Regulatory zones not listed above in.**

Response: In the Spanish Springs Area Plan (SSAP), table C-1 within Appendix C lists single family, detached as an allowed use under the MDS zoning designation. If approved the applicant intends to submit a Tentative Map to allow development of a single family, detached neighborhood, designed in accordance with the SSAP standards.

SS.1.6 **Staff will review any proposed Master Plan Amendment against the findings identified in the Plan Maintenance section of this plan and make a recommendation to the Planning Commission. At a minimum, the Planning Commission must make each of these findings in order to recommend approval of the amendment to the Board of County Commissioners.**

Response: The request is able to make all of the findings. A list and response to each finding is provided in detail below.

Goal Seven: The Spanish Springs planning area will contain an extensive system of parks and trails that provides the community and the region with a broad range of recreational opportunities; provides connections between major developments, recreational facilities, the Regional Trail System, public lands and schools; and contributes to the preservation and implementation of the community character.

Response: As part of the Regional Trail System, Washoe County Parks Master Plan has identified a future trail along the northwestern corner of APN 532-031-16. This trail is secured by an existing 20-foot wide trail easement. This easement will be maintained as part of this request. Furthermore, with a Tentative Map it is likely that new sidewalks throughout the

development will be provided and will connect to the existing sidewalks along Neighborhood Way, providing connection to surrounding neighborhoods.

Policies

SS.7.6 **Access to existing trails will be protected and improved whenever possible. During the process of development review, the Washoe County Departments of Community Development and Parks and Recreation will request dedication of property and/or easements when appropriate trail alignments have been identified that link significant nodes within the Spanish Springs planning area or connect existing trails.**

Response: There is an existing 20-foot wide trail easement in the northwest corner of APN 532-031-16. This easement runs along the north and west sides of the existing drainage ditch parallel to the perimeter of the property. This trail is identified on the Washoe County Parks Trails Map and provides connection from Eagle Canyon Park to Nightingale Way. Currently the trail is not developed and as part of this request, the easement will remain. Any future development will be designed in a way that will continue the easement through common area.

Goal Eleven: Personal and economic losses associated with flooding will be minimized. Development in the Spanish Springs planning area will be protected from the 100-year flood event.

Response: The request is not located within the 100-year flood plain. In fact, the Regional Channel which is designed to address storm water flows bifurcates the project site. This channel will not be impacted by this request, or any future development of the properties.

Policies

SS.11.3 **Development in areas where the land use designations have changed subsequent to the 2004 baseline will provide on-site mitigation to ensure that the North Spanish Springs Floodplain Detention Facility and appurtenant conveyance structures remain hydraulically equivalent to the baseline design.**

Response: On-site mitigation will be provided as necessary with future development. Since this is a deintensification of land use there is expected to be less impact to the existing infrastructure. The master plan and regulatory zoning map amendment will not directly result in any changes to the detention facility ensuring everything remains hydraulically equivalent to the baseline design.

Findings

Goal Seventeen: Amendments to the Spanish Springs Area Plan will be for the purpose of further implementing the Vision and Character Statement, or to respond to new or changing circumstances. Amendments must conform to the Spanish Springs Vision and Character Statement. Amendments will be reviewed against a set of criteria and thresholds that are measures of the impact on, or progress toward, the Vision and Character Statement.

Response: As stated previously, the request further implements the vision and character statement of the SSAP and is a response to the changing circumstances of the region. With the new larger commercial developments located to the south of the project area, the demand for commercial space has declined in the area. The request will provide a master plan and

zoning designation that is in conformance with Spanish Springs Vision and Character Statement based on the findings below.

Policies

SS.17.1 **In order for the Washoe County Planning Commission to recommend the approval of ANY amendment to the Spanish Springs Area Plan, the following findings must be made:**

a. The amendment will further implement and preserve the Vision and Character Statement.

Response: The request is in substantial conformance with the vision by expanding the existing residential development pattern into this area. It is the applicant's intent, assuming the request is approved, is to return with a tentative map. The tentative map will be designed based on the MDS zoning (3 du/ac) to be consistent with the surrounding and existing neighborhoods. Furthermore, it is in substantial conformance with the Character Statement by providing a transition between the commercial core located along Pyramid Highway and Eagle Canyon Drive, to the suburban neighborhood to the north and west.

b. The amendment conforms to all applicable policies of the Spanish Springs Area Plan and the Washoe County Master Plan.

Response: As discussed here, the requested amendment from C to SR complete with the NC to MDS, conforms to all applicable policies and goals within the SSAP and the Washoe County Master Plans.

c. The amendment will not conflict with the public's health, safety or welfare.

Response: The request is not currently associated with a project. In the future, the applicant anticipates submitting a tentative map based on the proposed zoning. At that time, the project will address public health, safety and welfare. The current request is simply a change in land use and zoning designations and will not conflict with the public's health, safety or welfare.

SS.17.2 **In order for the Washoe County Planning Commission to recommend approval of any amendment involving a change of land use, the following findings must be made:**

a. A feasibility study has been conducted, commissioned and paid for by the applicant, relative to municipal water, sewer and storm water that clearly identifies the improvements likely to be required to support the intensification, and those improvements have been determined to be in substantial compliance with all applicable existing facilities and resource plans for Spanish Springs by the Department of Water Resources. The Department of Water Resources will establish and maintain the standards and methodologies for these feasibility studies.

Response: When the existing infrastructure was constructed within Neighborhood Way it was designed to handle capacity associated with more intense uses including those associated with the Neighborhood Commercial zoning designation. Since this is a deintensification from the existing use of Neighborhood Commercial to MDS the existing infrastructure within Neighborhood Way will be able to handle the expected output associated with the maximum density of 129 units.

b. A traffic analysis has been conducted that clearly identifies the impact to the adopted level of service within the [unincorporated] Spanish Springs Hydrographic Basin and the improvements likely to be required to maintain/achieve the adopted level of service. This finding may be waived by the Department of Public Works for projects that are determined to have minimal impacts. The Department of Public Works may request any information it deems necessary to make this determination.

Response: A traffic analysis has been conducted to show the difference between commercial versus residential. Per the study, the request will result in a drastic reduction in the amount of traffic. Assuming the land was developed under the current NC zoning, it is safe to calculate approximately 25% of the 43.04± acres of the project area would be commercial building. This would generate approximately 466,000± gross square footage of leasable office, medical, and shopping center within the project area. Using these estimates with the rates in the *ITE Trip Generation Manual, 10th Edition (2018)* the table below compares the average trip generation rate per use between the MDS and NC zoning designations:

ZONING DESIGNATION	USE	AVERAGE PEAK HOUR RATE	UNIT	ESTIMATED PM PEAK TRIPS GENERATED
Proposed: MDS	Single Family Detached (129 DU)	0.99	Per Dwelling Unit	**128**
Approved: Neighborhood Commercial	General Office (122,120 SF)	1.14	Per 1,000 Sq. Ft.	140
	Medical-Dental Clinic (220,544 SF)	3.45	Per 1,000 Sq. Ft.	763
	Shopping Center (123,057 SF)	3.80	Per 1,000 Sq. Ft.	469
	Total			**1,372**

If the site were developed at its maximum density of 129 units, it is safe to say the total project is expected to generate 128 weekday PM peak hour trips. As shown in the table above, the requested MDS zoning would generate far less traffic than if the site were developed in accordance with the existing NC zoning. The change is anticipated to actually reduce impacts on the existing road network. A copy of the traffic study is attached for reference.

c. For commercial and industrial land use intensifications, the overall percentage of commercial and industrial regulatory zone acreage will not exceed 9.86 percent of the Suburban Character Management Area.

Response: The proposed project does not include any commercial or industrial regulatory zoning and is not applicable to this request.

d. For residential land use intensifications, the potential increase in residential units will not exceed Washoe County's policy growth level for the Spanish Springs Area Plan, as established in Policy SS.1.2.

Response: According to the Washoe County Department of Community Development, there have been approximately 356 new residential units approved/constructed within the SCMA since the plan was established. This leaves the potential to add 1,144 additional residential units to the SCMA without exceeding the 1,500 set in this policy. Based on this information, the SSAP can accommodate additional residential units that may be approved as a result of a future tentative map.

e. If the proposed intensification will result in a drop below the established policy level of service for transportation (as established by the Regional Transportation Commission and Washoe County) within the Spanish Springs Hydrographic Basin, the necessary improvements required to maintain the established level of service are scheduled in either the Washoe County Capital Improvements Program or Regional Transportation Improvement Program within three years of approval of the intensification. For impacts to regional roads, this finding may be waived by the Washoe County Planning Commission upon written request from the Regional Transportation Commission.

Response: This request will result in a deintensification of land uses and will actually result in less traffic impacts to the area. The current road that bisects the project area (Neighborhood Way), was designed to handle flows of traffic that were assuming a much higher amount of traffic based on the current neighborhood commercial zoning. Therefore, it is not anticipated that the proposed change to MDS will result in a drop below the established policy level of service for transportation. This is further outlined in the Traffic Study, which has been attached for reference.

f. If roadways impacted by the proposed intensification are currently operating below adopted levels of service, the intensification will not require infrastructure improvements beyond those articulated in Washoe County and Regional transportation plans AND the necessary improvements are scheduled in either the Washoe County Capital Improvements Program or Regional Transportation Improvement Program within three years of approval of the intensification.

Response: This request will result in a deintensification of land uses and will actually contribute less traffic to the region. The current road that bisects the project area (Neighborhood Way), is designed as an arterial road with 2 travel lanes, including a center turn lane, bike lanes, and sidewalk. The Traffic Study found that the intersection of Neighborhood Way and Eagle Canyon operates at a Level of Service "C" during AM peak hour and Level of Service "A" during PM peak hour. Based on the current levels of service on Neighborhood Way, no additional infrastructure (i.e. – roads or intersection improvements) are necessary to support the proposed change in land use and/or zoning.

g. Washoe County will work to ensure that the long-range plans of facilities providers for transportation, water resources, schools and parks reflect the policy growth level established in Policy SS.1.2.

Response: Based on the MDS zoning this request has the potential to add up to 129 dwelling units to the SCMA which would still leave 1,015 units available. Since this is well below the maximum number of 1,500 units by 2025, the request will not have a negative effect on

the long-range plans for facilities providers, transportation, and water resources. As stated earlier, this is a deintensification to the area and the infrastructure that is already in place was designed in anticipation of a more intense use.

The project request is expected to add a total of 47 students. Although overcrowding at schools in the area has been a problem in the past, the recently passed Washoe County School District (WCSD) Infrastructure Plan currently has both a new Elementary School, and upgrades to Shaw Middle School on the schedule with future plans for Spanish Springs High School. According to the WCSD, these improvements are targeted to relieve overcrowding at these schools and are anticipated to be completed by 2020.

It should be noted that at a project site unrelated to this current request, the applicant has offered a property to be developed as an elementary school site to the WCSD. This is located at the north end of the valley and when built, would help address capacity concerns at Alyce Taylor Elementary.

There is a large cluster of parks within the area and the project site is located in an area that can take advantage of multiple facilities. The project site is adjacent to Eagle Canyon Park to the west and there are two other parks within ½ a mile of the project area; Desert Winds Park, and Gator Swamp Park.

h. If the proposed intensification results in existing facilities exceeding design capacity and compromises the Washoe County School District's ability to implement the neighborhood school philosophy for elementary facilities, then there must be a current capital improvement plan or rezoning plan in place that would enable the District to absorb the additional enrollment. This finding may be waived by the Washoe County Planning Commission upon request of the Washoe County Board of Trustees.

Response: Capital improvement projects are already in place to address overcrowding issues in the area. The WCSD Infrastructure Plan currently has a new Elementary School that will serve the Kiley Ranch area, southeast of these parcels, and provide relief from the overcrowding issues at Alyce Taylor Elementary School. This project is anticipated to be completed by 2020. The WCSD Infrastructure Plan also has upgrades to Shaw Middle School on the schedule with construction to be completed by 2019, and future plans for projects to address issues at Spanish Springs High School.

The project request is expected to add a total of 47 students. With the scheduled WCSD projects, these numbers are not anticipated to compromise WCSD's ability to implement the neighborhood school philosophy.

i. Any existing development in the Spanish Springs planning area, the Sun Valley planning area, the Warm Springs planning area, or the City of Sparks, which is subject to the conditions of a special use permit will not experience undue hardship in the ability to continue to comply with the conditions of the special use permit or otherwise to continue operation of its permitted activities.

Response: There is no Special Use Permit associated with this request.

Section 3

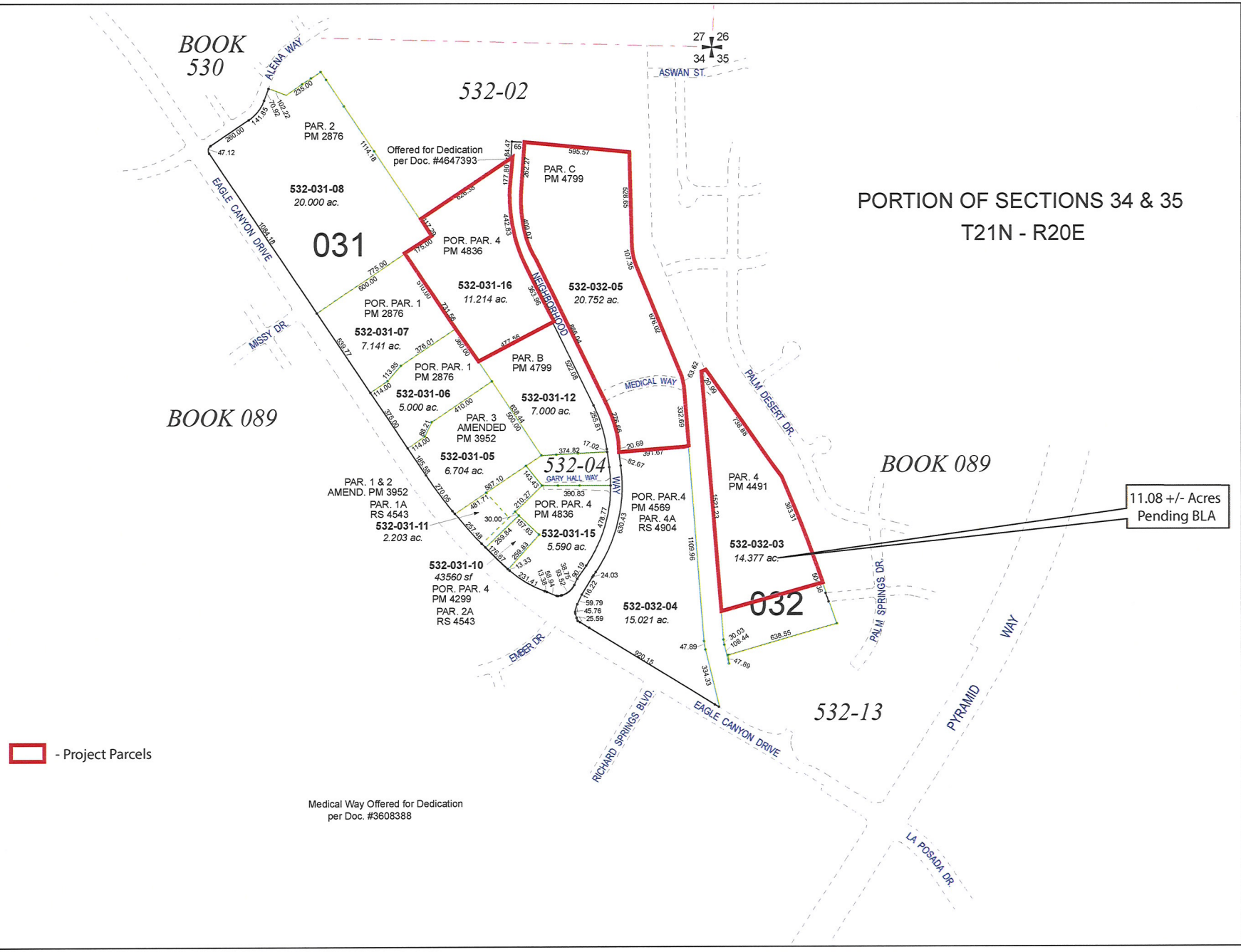
0 ½ 1
MILES

Vicinity Map

Upland Estates

August, 2018

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
1361 Corporate Boulevard
Reno, NV 89502
Tel: 775.823.4068
Fax: 775.823.4066



Assessor's Map Number

532-03

STATE OF NEVADA

WASHOE COUNTY

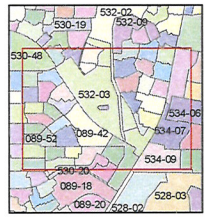
ASSESSOR'S OFFICE

Michael E. Clark, Assessor

1001 East Ninth Street
Building D
Reno, Nevada 89512
(775) 328-2231

Feet
0 125 250 375 500

1 inch = 500 feet



created by: KSB 1/28/2010

last updated: JMO 11/15/16

area previously shown on map(s)

089-15, 089-46, 530-28

0 250 500
FEET

Aerial Map
Upland Estates
August 2018

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
1361 Corporate Boulevard
Reno, NV 89502
Tel: 775.823.4068
Fax: 775.823.4066

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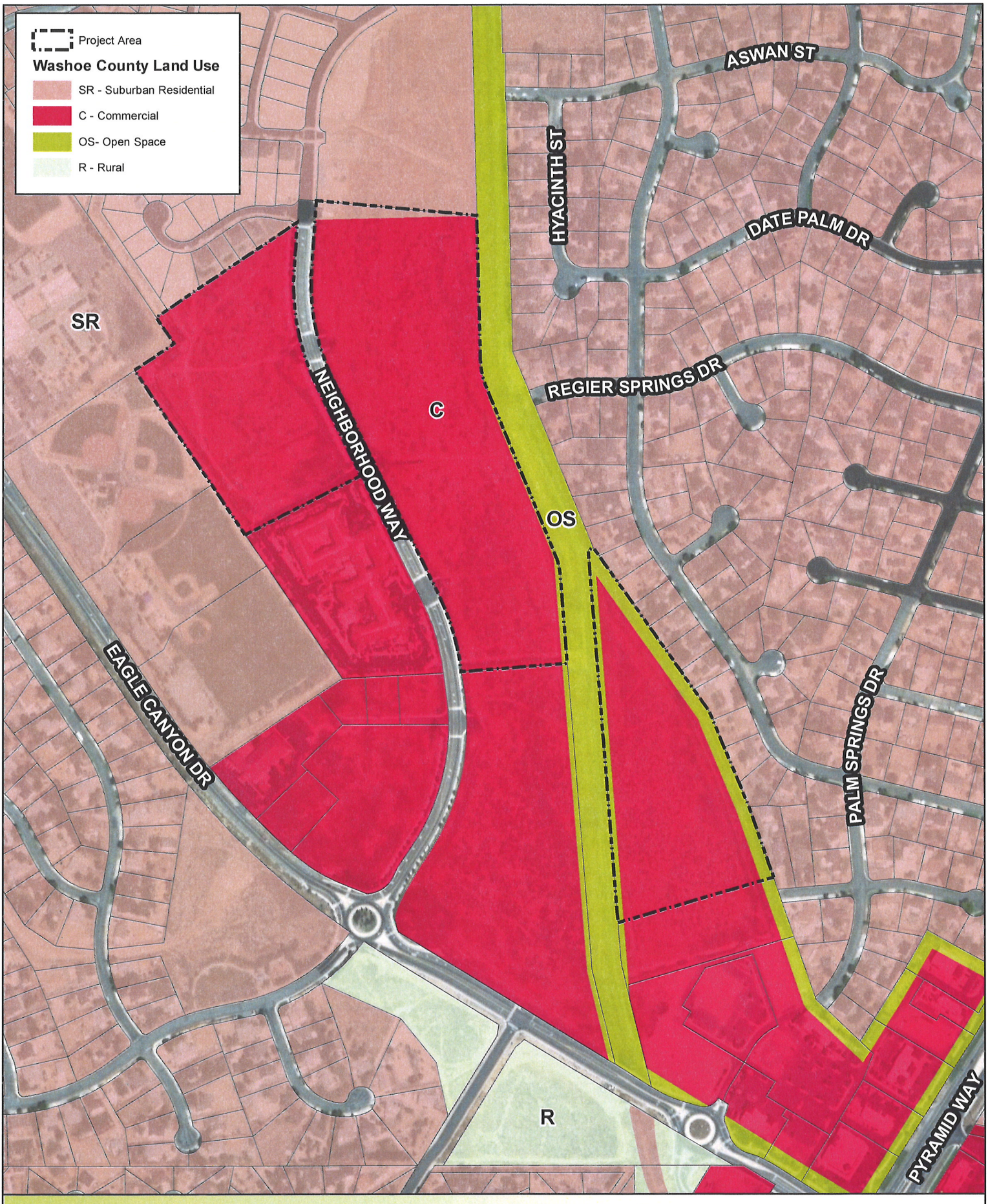
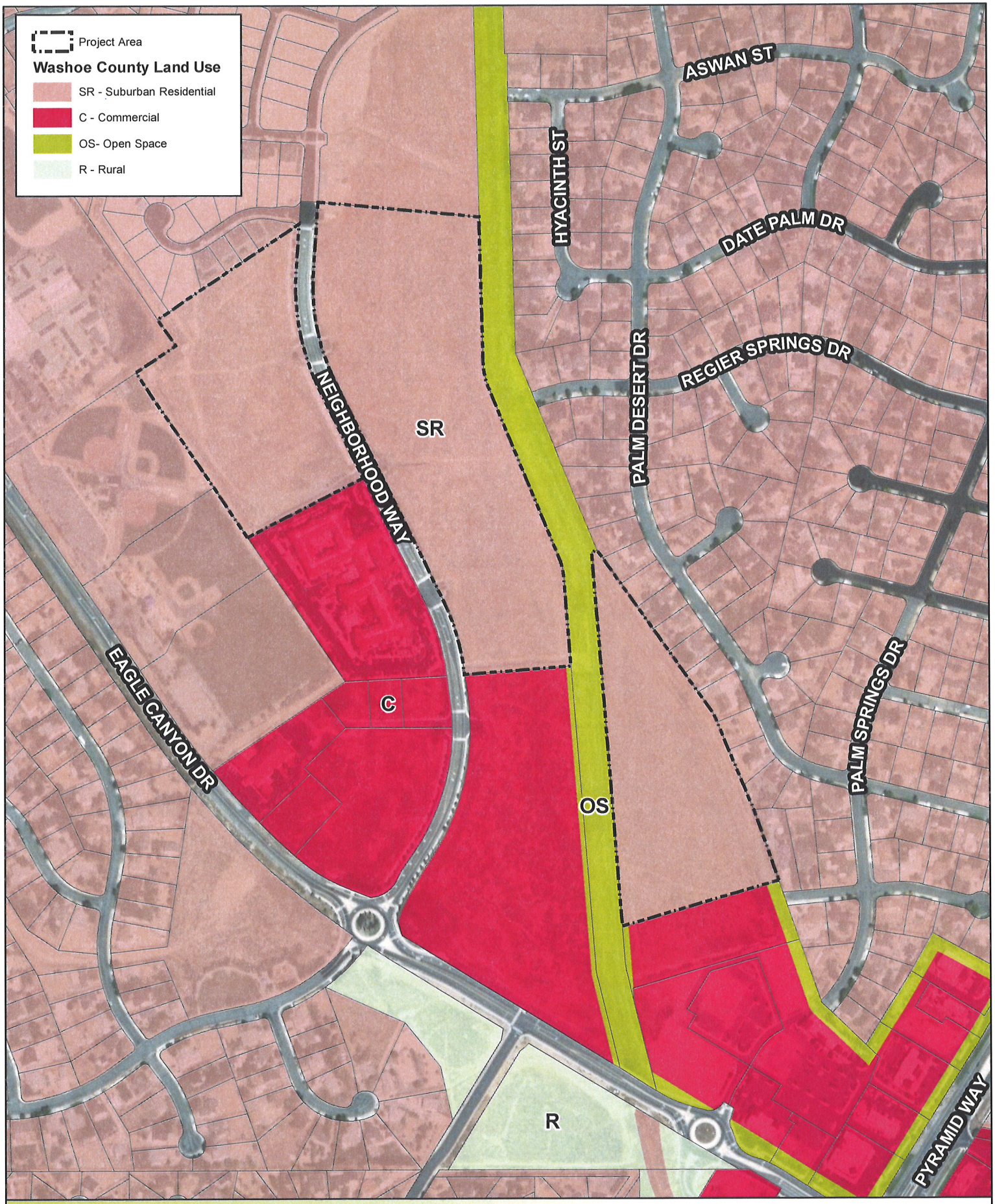


Existing Master Plan

Upland Estates

August, 2018

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
1361 Corporate Boulevard
Reno, NV 89502
Tel: 775.823.4068
Fax: 775.823.4066



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FEET

Proposed Master Plan

Upland Estates

August, 2018

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
1361 Corporate Boulevard
Reno, NV 89502
Tel: 775.823.4068
Fax: 775.823.4066

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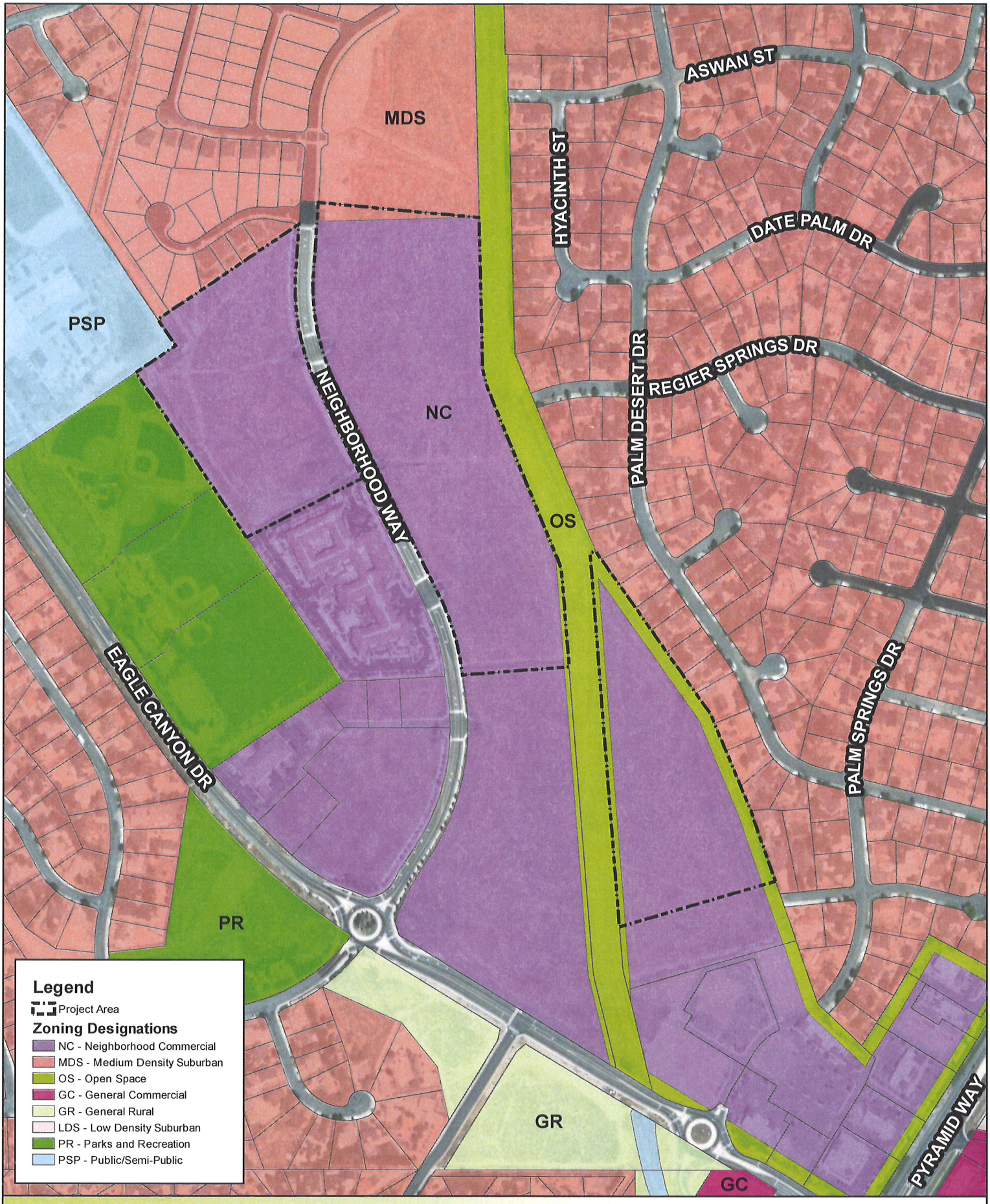
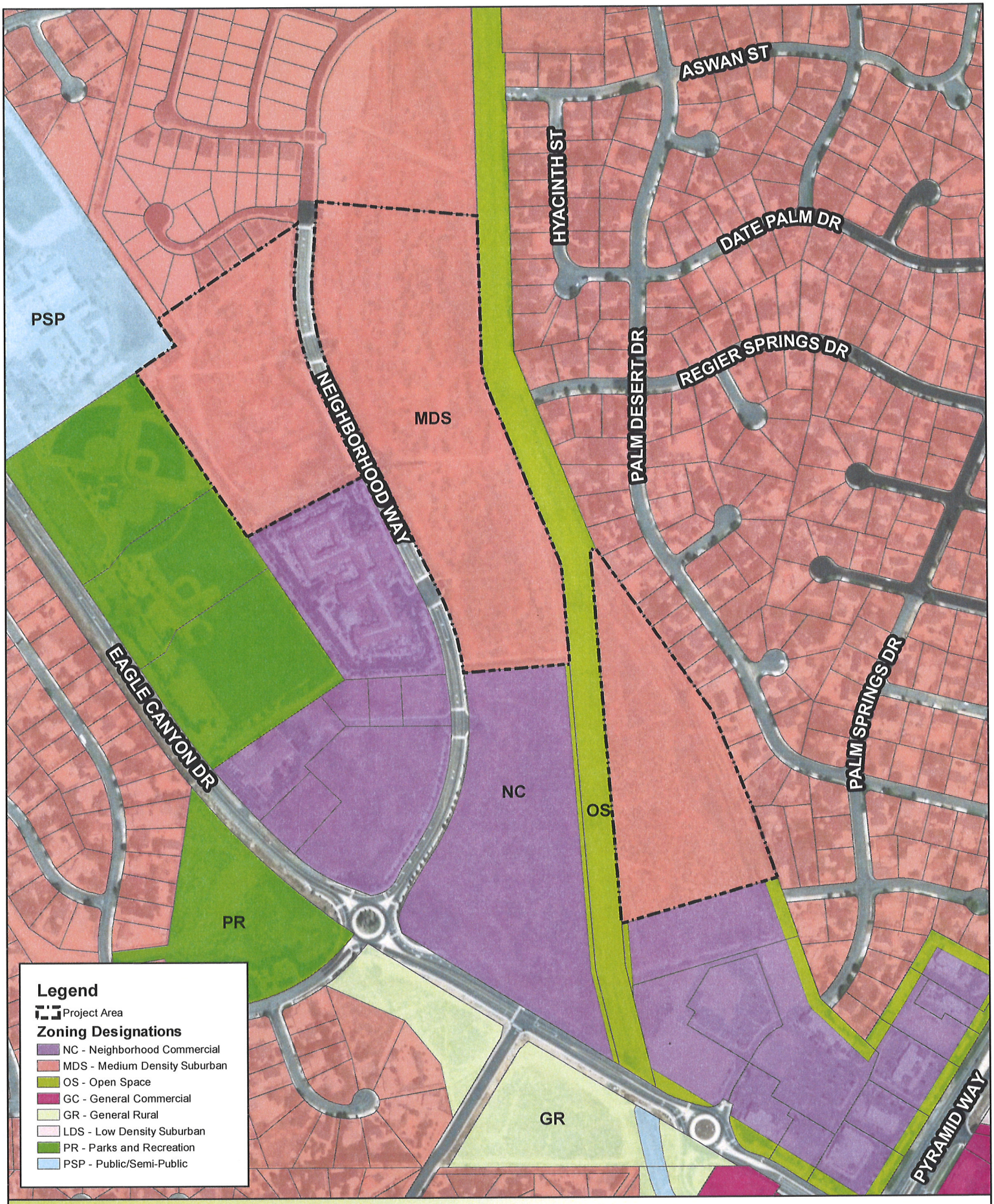


Existing Zoning

Upland Estates

July 2018

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
1361 Corporate Boulevard
Reno, NV 89502
Tel: 775.823.4068
Fax: 775.823.4066



Proposed Zoning

Upland Estates

July 2018

WOOD RODGERS
BUILDING RELATIONSHIPS ONE PROJECT AT A TIME
1361 Corporate Boulevard
Reno, NV 89502
Tel: 775.823.4068
Fax: 775.823.4066

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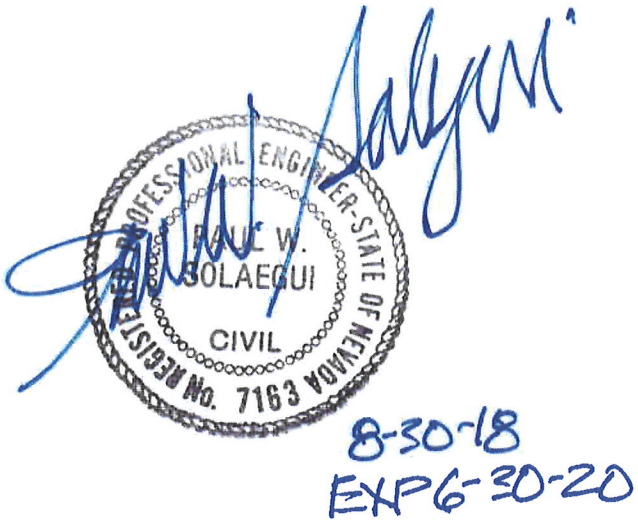
Section 4

SOLAEGUI
ENGINEERS, LTD

UPLAND ESTATES

TRAFFIC STUDY

AUGUST 2018



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TRAFFIC STUDY

EXECUTIVE SUMMARY

The proposed Upland Estates development will be located in Washoe County, Nevada. The project site is located north of Eagle Canyon Road on the east and west sides of Neighborhood Way. The project site is currently undeveloped land. The purpose of this study is to address the project's impact upon the adjacent street network. The Pyramid Highway/Eagle Canyon Road/La Posada Drive intersection, the Eagle Canyon Road/Neighborhood Way/Ember Drive intersection and the project access intersections on Neighborhood Way have been identified for AM and PM peak hour intersection capacity analysis for the existing, existing plus project, 2028 base, and 2028 base plus project scenarios. The Pyramid Highway/Eagle Canyon Road/La Posada Drive intersection has been identified for traffic crash review.

The proposed Upland Estates development will consist of the construction of 129 single family dwelling units. Project access will be provided from three access intersections on Neighborhood Way. The project is anticipated to generate 1,218 average daily trips with 95 trips occurring during the AM peak hour and 128 trips occurring during the PM peak hour.

Traffic generated by the Upland Estates development will have some impact on the adjacent street network. The following recommendations are made to mitigate project traffic impacts.

It is recommended that any required signing, striping, or traffic control improvements comply with Washoe County requirements.

It is recommended that the Neighborhood Way/South Access intersection be improved to include stop sign control and single ingress and egress lanes at the east approach.

It is recommended that the Neighborhood Way/Middle Access intersection be improved to include stop sign control and single ingress and egress lanes at the east approach.

It is recommended that the Neighborhood Way/North Access intersection be improved to include stop sign control and single ingress and egress lanes at the east and west approaches.

INTRODUCTION

STUDY AREA

The proposed Upland Estates development will be located in Washoe County, Nevada. The project site is located north of Eagle Canyon Road on the east and west sides of Neighborhood Way. Figure 1 shows the approximate location of the project site. The purpose of this study is to address the project's impact upon the adjacent street network. The Pyramid Highway/Eagle Canyon Road/La Posada Drive intersection, the Eagle Canyon Road/Neighborhood Way/Ember Drive intersection and the project access intersections on Neighborhood Way have been identified for AM and PM peak hour intersection capacity analysis for the existing, existing plus project, 2028 base, and 2028 base plus project scenarios.

EXISTING AND PROPOSED LAND USES

The project site is currently undeveloped land. Adjacent properties generally include single family homes to the north and east, a middle school and senior living facility to the west, and undeveloped land to the south. The proposed Upland Estates development will include the construction of 129 single family dwelling units. Project access will be provided from three access intersections on Neighborhood Way.

EXISTING AND PROPOSED ROADWAYS AND INTERSECTIONS

Pyramid Highway is a four-lane roadway with two through lanes in each direction in the vicinity of the site. The speed limit is posted for 45 miles per hour near Eagle Canyon Road. Roadway improvements generally include graded shoulders with striped edgelines and bicycle lanes on both sides of the street and a raised center median north and south of Eagle Canyon Road.

Eagle Canyon Road is a four-lane roadway with two through lanes in each direction west of Pyramid Highway to Neighborhood Way and a two-lane roadway with one through lane in each direction west of Neighborhood Way. The speed limit is posted for 35 miles per hour. Roadway improvements on the four-lane segment include curb, gutter, sidewalk, and bicycle lanes on both sides of the street with a raised center median between Pyramid Highway and the first roundabout. Roadway improvements on the two-lane segment include graded shoulders with striped edgelines and a striped centerline.

La Posada Drive is a four-lane roadway with two through lanes in each direction east of Pyramid Highway. The speed limit is posted for 35 miles per hour. Roadway improvements include curb, gutter, sidewalk, and bicycle lanes on both sides of the street and a raised center median.

Neighborhood Way is a two-lane roadway with one through lane in each direction north of Eagle Canyon Road. The speed limit is posted for 35 miles per hour. Roadway improvements include curb, gutter, sidewalk, and a bicycle lane on both sides of the street and a striped centerline with left turn pockets at key intersections.

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PROJECT SITE

N.T.S.

UPLAND ESTATES

VICINITY MAP

FIGURE 1

Ember drive is a two-lane roadway with one through lane in each direction south of Eagle Canyon Road. The speed limit is posted for 25 miles per hour. Roadway improvements include curb, gutter, and sidewalk on both sides of the street with a short striped centerline. Neighborhood Way aligns with Ember Drive north of Eagle Canyon Road.

The Pyramid Highway/Eagle Canyon Road/La Posada Drive intersection is a signalized four-leg intersection with protected left turn phasing for all approaches. The north approach contains dual left turn lanes, two through lanes, and one tapered right turn lane. The south approach contains dual left turn lanes, two through lanes, and one full-width right turn lane. The east approach contains dual left turn lanes, one through lane, and one shared through lane-right turn lane. The west approach contains dual left turn lanes, one through lane, and one free right turn lane with a southbound acceleration lane. Raised corner islands exist in the northwest, southwest, and southeast quadrants. Pedestrian crosswalks exist at the north, south, east, and west legs.

The Eagle Canyon Road/Neighborhood Way/Ember Drive intersection is a four-leg roundabout with yield control at all approaches. The north and east approaches each contain one shared left turn-through lane and one right turn lane. The south and west approaches each contain one shared left turn-through-right turn lane. Pedestrian crosswalks exist at the north, south, east, and west legs.

The Neighborhood Way/South Access intersection is currently an unsignalized four-leg intersection with stop sign control at only the west approach. The east approach is currently constructed to the curb returns but will be extended further east with development of the project. The north and south approaches each contain one left turn lane and one shared through-right turn lane. The west approach contains one shared left turn-through-right turn lane. The east approach is anticipated to contain one shared left turn-through-right turn lane. Pedestrian crosswalks exist at the north and south legs.

The Neighborhood Way/Middle Access intersection is currently an unsignalized four-leg intersection with stop sign control at only the west approach. The east approach is currently constructed to the curb returns but will be extended further east with the development of the project. The north and south approaches each contain one left turn lane and one shared through-right turn lane. The west approach contains one shared left turn-through-right turn lane. The east approach is anticipated to contain one shared left turn-through-right turn lane. Pedestrian crosswalks exist at the north and south legs.

The Neighborhood Way/North Access intersection is currently an unsignalized four-leg intersection with no traffic control. The east and west approaches are currently constructed to the curb returns but will be extended further east and west with development of the project. The north and south approaches each contain one left turn lane and one shared through-right turn lane. The east and west approach are each anticipated to contain one shared left turn-through-right turn lane. Pedestrian crosswalks exist at the north and south legs.

TRIP GENERATION

In order to assess the magnitude of traffic impacts of the proposed project on the key intersections, trip generation rates and peak hours had to be determined. For comparison purposes, trip generation was calculated for the proposed and approved land uses for the site. Trip generation rates were obtained from the 10th Edition of *ITE Trip Generation* (2018) for Land Uses 210: Single Family Detached Housing, 710: General Office Building, 720: Medical-Dental Office Building, and 820: Shopping Center. Trip generation was calculated for an average weekday and the weekday peak hours occurring between 7:00 and 9:00 AM and 4:00 and 6:00 PM, which correspond to the peak hours of adjacent street traffic.

The proposed land uses include the construction of 129 single family dwelling units on ±32 acres with ±11 acres designated as open space. The approved land uses for the ±43 acre site amount to 122,120 square feet of office floor area, 123,057 square feet of commercial floor area, and 220,544 square feet of medical office floor area based on a 25% floor area to acreage ratio.

Table 1 shows a summary of the average daily traffic (ADT) and AM and PM peak hour volumes generated by the proposed and approved land uses for the site. The trip generation worksheets are included in the Appendix.

TABLE 1
TRIP GENERATION

LAND USE	ADT	AM PEAK HOUR			PM PEAK HOUR		
		IN	OUT	TOTAL	IN	OUT	TOTAL
PROPOSED							
Single Family Detached Housing (129 DU)	1,218	23	72	95	80	48	128
APPROVED							
General Office (122,120 SF)	1,189	122	20	142	22	118	140
Medical-Dental Office (220,544 SF)	7,675	478	135	613	214	549	763
Shopping Center (123,057 SF)	4,646	72	44	116	225	244	469
Total	13,510	672	199	871	461	911	1,372
COMPARISON (Proposed minus Approved)	-12,292	-649	-127	-776	-381	-863	-1,244

As shown in Table 1, the proposed land uses are anticipated to generate significantly less traffic volumes (12,292 ADT, 776 AM peak hour, and 1,244 PM peak hour trips) than the approved land uses.

TRIP DISTRIBUTION AND ASSIGNMENT

The distribution of the project trips to the key intersections was based on existing peak hour traffic patterns and the locations of attractions and productions in the area. The anticipated trip distribution is shown on Figure 2. The proposed peak hour project trips shown in Table 1 were subsequently assigned to the key intersections based on the trip distribution. Figure 3 shows the project trip assignment at the key intersections during the AM and PM peak hours.

EXISTING AND PROJECTED TRAFFIC VOLUMES

Figure 4 shows the existing traffic volumes at the key intersections during the AM and PM peak hours. The existing peak hour traffic volumes were obtained from traffic counts conducted in August of 2018.

Figure 5 shows the existing plus project traffic volumes at the key intersections during the AM and PM peak hours. The existing plus project traffic volumes were obtained by adding the trip assignment volumes shown on Figure 3 to the existing traffic volumes shown on Figure 4.

Figure 6 shows the 2028 base traffic volumes at the key intersections during the AM and PM peak hours. The 2028 base turning movements were estimated by applying a 1.1% average annual growth rate to the existing traffic volumes. The growth rate was calculated based on historic traffic count data on Pyramid Highway, Eagle Canyon Road, and La Posada Drive as obtained from the Nevada Department of Transportation's (NDOT) Annual Traffic Reports.

Figure 7 shows the 2028 base plus project traffic volumes at the key intersections during the AM and PM peak hours. The 2028 base plus project volumes were obtained by adding the trip assignment volumes shown on Figure 3 to the 2028 base traffic volumes shown on Figure 6.

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UPLAND ESTATES
TRIP DISTRIBUTION
FIGURE 2

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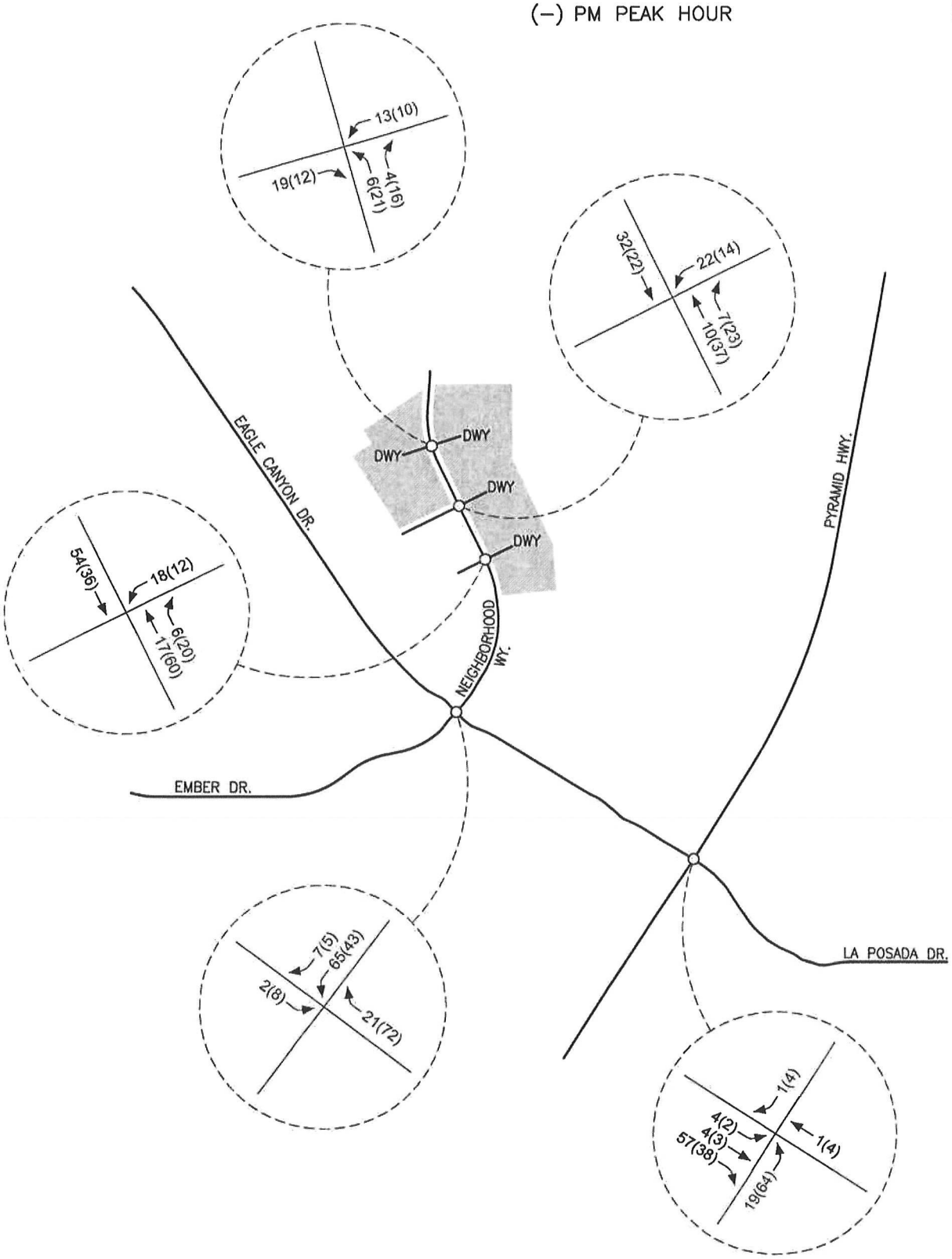

UPLAND ESTATES
TRIP ASSIGNMENT
FIGURE 3

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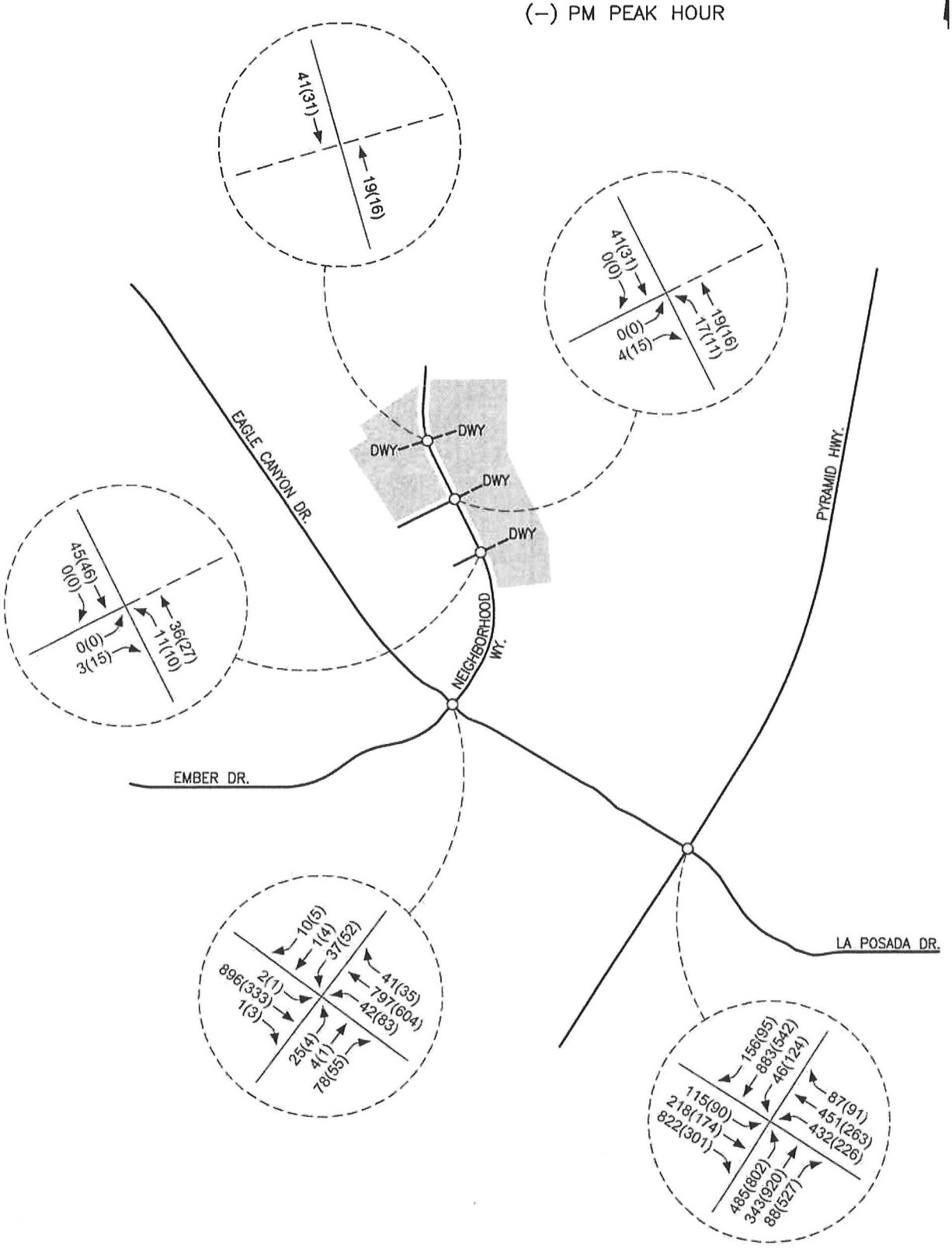

UPLAND ESTATES

EXISTING TRAFFIC VOLUMES

FIGURE 4

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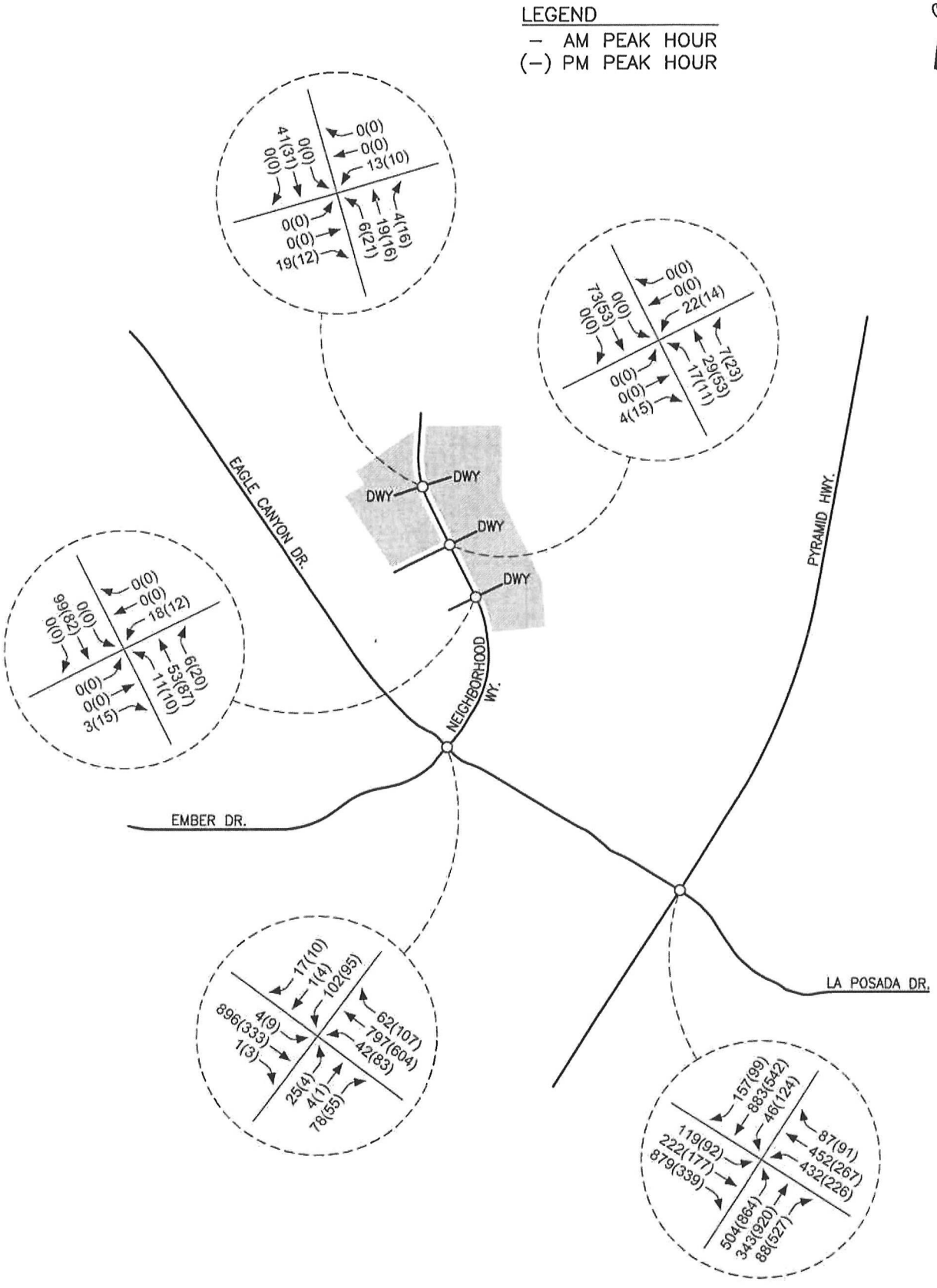

UPLAND ESTATES

EXISTING PLUS PROJECT TRAFFIC VOLUMES

FIGURE 5

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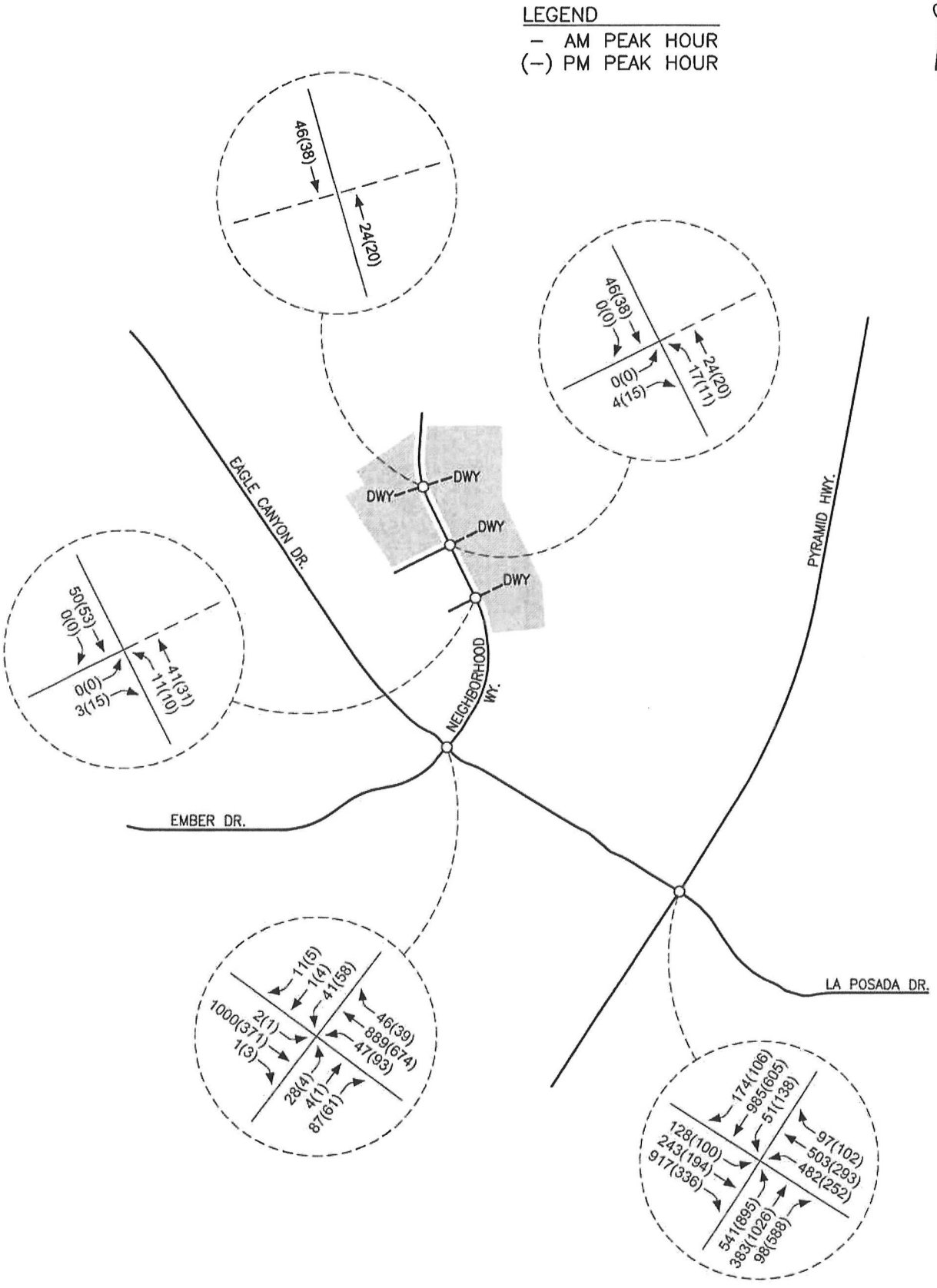

UPLAND ESTATES
2028 BASE TRAFFIC VOLUMES
FIGURE 6

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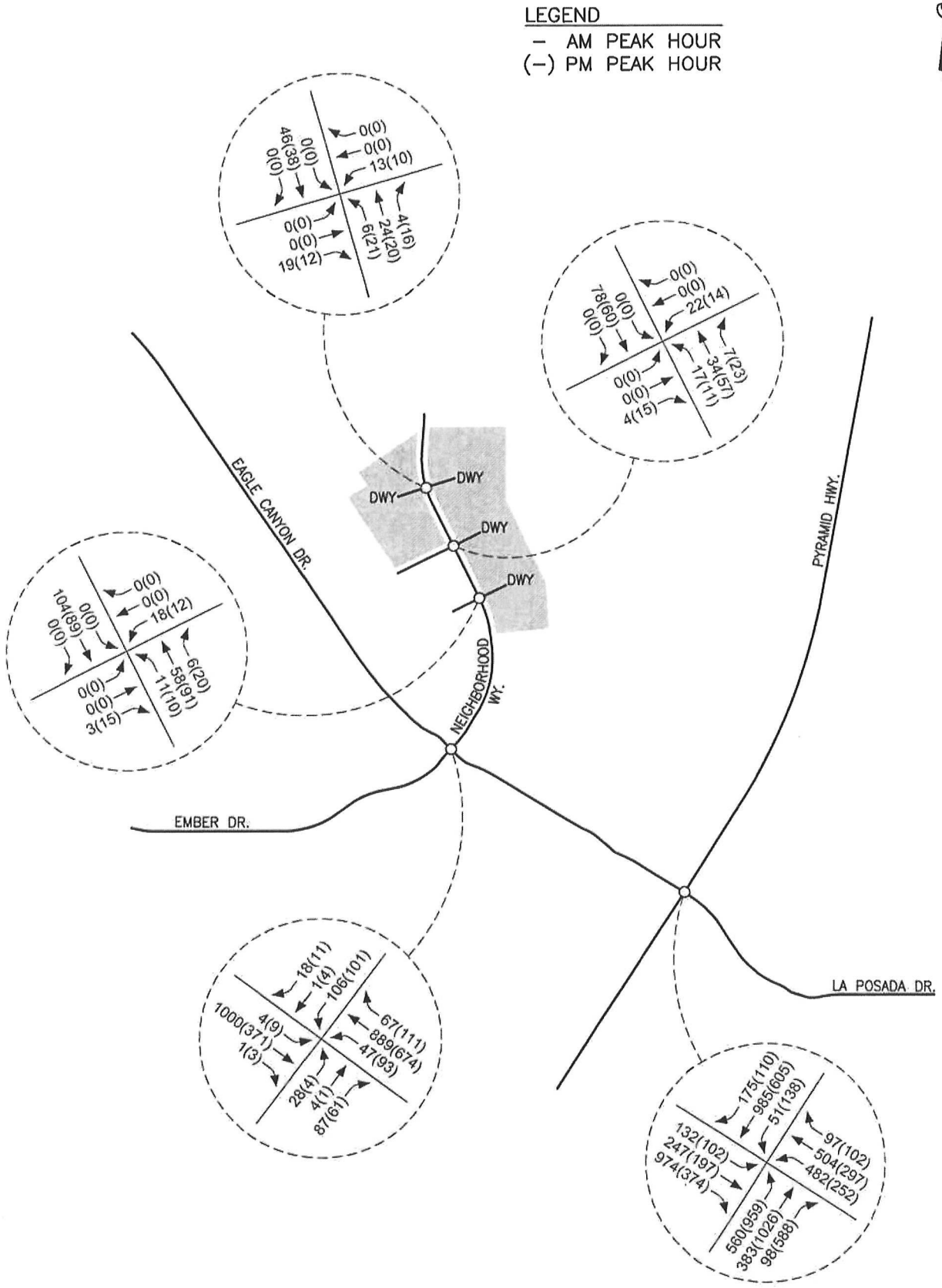


UPLAND ESTATES

2028 BASE PLUS PROJECT TRAFFIC VOLUMES

FIGURE 7

INTERSECTION CAPACITY ANALYSIS

The key intersections were analyzed for capacity based on procedures presented in the *Highway Capacity Manual (6th Edition)*, prepared by the Transportation Research Board, for unsignalized and signalized intersections using the latest version of the Highway Capacity software.

The result of capacity analysis is a level of service (LOS) rating for signalized intersections, roundabouts, and minor movements at a two-way stop controlled intersection. Level of service is a qualitative measure of traffic operating conditions where a letter grade "A" through "F", corresponding to progressively worsening traffic operation, is assigned to the intersection or minor movement.

The *Highway Capacity Manual* defines level of service for stop controlled intersections in terms of computed or measured control delay for each minor movement. Level of service is not defined for the intersection as a whole. The level of service criteria for unsignalized intersections is shown in Table 2.

TABLE 2
LEVEL OF SERVICE CRITERIA FOR UNSIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	DELAY RANGE (SEC/VEH)
A	≤10
B	>10 and ≤15
C	>15 and ≤25
D	>25 and ≤35
E	>35 and ≤50
F	>50

Level of service for signalized intersections is stated in terms of the average control delay per vehicle for a peak 15 minute analysis period. The level of service criteria for signalized intersections is shown in Table 3.

TABLE 3
LEVEL OF SERVICE CRITERIA FOR SIGNALIZED INTERSECTIONS

LEVEL OF SERVICE	CONTROL DELAY PER VEHICLE (SEC)
A	≤10
B	>10 and ≤20
C	>20 and ≤35
D	>35 and ≤55
E	>55 and ≤80
F	>80

Table 4 shows a summary of the level of service and delay results at the key intersections for the existing, existing plus project, 2028 base, and 2028 base plus project scenarios. The intersection capacity worksheets are included in the Appendix.

TABLE 4
INTERSECTION LEVEL OF SERVICE AND DELAY RESULTS

INTERSECTION	EXISTING		EXISTING + PROJECT		2028 BASE		2028 BASE + PROJECT	
	AM	PM	AM	PM	AM	PM	AM	PM
Pyramid & Eagle Canyon (Signal)	C30.0	C27.8	C30.2	C28.2	D37.7	C31.1	D37.8	C32.2
Eagle Canyon & Neighborhood (Roundabout)	C16.0	A7.5	C19.9	A7.5	C24.1	A8.5	D32.5	A8.5
Neighborhood & South Access								
(Stop at West)								
EB Left-Right	A8.5	A8.6	N/A	N/A	A8.6	A8.6	N/A	N/A
NB Left	A7.3	A7.3	N/A	N/A	A7.3	A7.3	N/A	N/A
(Stop at East and West)								
WB Left-Thru-Right	N/A	N/A	A8.8	A8.8	N/A	N/A	A8.9	A8.8
EB Left-Thru-Right	N/A	N/A	A9.9	B10.2	N/A	N/A	B10.0	B10.3
NB Left	N/A	N/A	A7.5	A7.4	N/A	N/A	A7.5	A7.4
SB Left	N/A	N/A	A7.3	A7.5	N/A	N/A	A7.4	A7.5
Neighborhood & Middle Access								
(Stop at West)								
EB Left-Right	A8.5	A8.5	N/A	N/A	A8.6	A8.6	N/A	N/A
NB Left	A7.3	A7.3	N/A	N/A	A7.3	A7.3	N/A	N/A
(Stop at East and West)								
WB Left-Thru-Right	N/A	N/A	A8.7	A8.6	N/A	N/A	A8.7	A8.7
EB Left-Thru-Right	N/A	N/A	A9.7	A9.7	N/A	N/A	A9.7	A9.8
NB Left	N/A	N/A	A7.4	A7.3	N/A	N/A	A7.4	A7.4
SB Left	N/A	N/A	A7.3	A7.4	N/A	N/A	A7.3	A7.4
Neighborhood & North Access								
(Stop at East and West)								
WB Left-Thru-Right	N/A	N/A	A8.6	A8.5	N/A	N/A	A8.6	A8.5
EB Left-Thru-Right	N/A	N/A	A9.2	A9.3	N/A	N/A	A9.3	A9.4
NB Left	N/A	N/A	A7.3	A7.3	N/A	N/A	A7.3	A7.3
SB Left	N/A	N/A	A7.3	A7.3	N/A	N/A	A7.3	A7.3

Pyramid Highway/Eagle Canyon Road/La Posada Drive Intersection

The Pyramid Highway/Eagle Canyon Road/La Posada Drive intersection was analyzed as a signalized four-leg intersection for all scenarios. The intersection currently operates at LOS C with a delay of 30.0 seconds per vehicle during the AM peak hour and 27.8 seconds per vehicle during the PM peak hour.

For the existing plus project traffic volumes the Pyramid Highway/Eagle Canyon Road/La Posada Drive intersection continues to operate at LOS C with delays slightly increasing to 30.2 seconds per vehicle during the AM peak hour and 28.2 seconds per vehicle during the PM peak hour. For the 2028 base traffic volumes the intersection operates at LOS D with a delay of 37.7 seconds per vehicle during the AM peak hour and LOS C with a delay of 31.1 seconds per vehicle during the PM peak hour. For the 2028 base plus project traffic volumes the intersection operates at LOS D with delay slightly increasing to 37.8 seconds per vehicle during the AM peak hour and LOS C with delay slightly increasing to 32.2 seconds per vehicle during the PM peak hour. The intersection was analyzed with the existing approach lanes and phasing for all scenarios. The intersection meets policy LOS E or better standards for the existing and future traffic volumes. No improvements are recommended at the intersection.

Eagle Canyon Road/Neighborhood Way/Ember Drive Intersection

The Eagle Canyon Road/Neighborhood Way/Ember Drive intersection was analyzed as a four-leg roundabout with one circulating lane for all scenarios. For the existing traffic volumes the roundabout operates at LOS C with a delay of 16.0 seconds per vehicle during the AM peak hour and LOS A with a delay of 7.5 seconds per vehicle during the PM peak hour. For the existing plus project traffic volumes the intersection continues to operate at LOS C during the AM peak hour with delay increasing to 19.9 seconds per vehicle and LOS A during the PM peak hour with no change in delay. For the 2028 base traffic volumes the intersection operates at LOS C with a delay of 24.1 seconds per vehicle during the AM peak hour and LOS A with a delay of 8.5 seconds per vehicle during the PM peak hour. For the 2028 base plus project traffic volumes the intersection operates at LOS D with delay increasing to 32.5 seconds per vehicle during the AM peak hour and LOS A with no change in delay during the PM peak hour. The intersection was analyzed with the existing approach lanes for all scenarios. The intersection meets policy LOS D or better standards for the existing and future traffic volumes. No improvements are recommended at the intersection.

Neighborhood Way/South Access Intersection

The Neighborhood Way/South Access intersection was analyzed as an unsignalized three-leg intersection with stop control at the west approach for the existing and 2028 base scenarios and as a four-leg intersection with stop control at the east and west approaches for the existing plus project and 2028 base plus project scenarios. The intersection minor movements currently operate at LOS A during the AM and PM peak hours. For the existing plus project traffic volumes the intersection minor movements operate at LOS B or better during the AM and PM peak hours. For the 2028 base traffic volumes the intersection minor movements operate at LOS A during the AM and PM peak hours. For the 2028 base plus project traffic volumes the intersection minor movements operate at LOS B or better during the AM and PM peak hours. The intersection was analyzed with the existing approach lanes for all scenarios. The intersection meets policy LOS D or better standards for the existing and future traffic volumes. It is recommended that the Neighborhood Way/South Access intersection be improved to include stop sign control and single ingress and egress lanes at the east approach.

Neighborhood Way/Middle Access Intersection

The Neighborhood Way/Middle Access intersection was analyzed as an unsignalized three-leg intersection with stop control at the west approach for the existing and 2028 base scenarios and as a four-leg intersection with stop control at the east and west approaches for the existing plus project and 2028 base plus project scenarios. The intersection minor movements currently operate at LOS A during the AM and PM peak hours. For the existing plus project traffic volumes the intersection minor movements operate at LOS A during the AM and PM peak hours. For the 2028 base traffic volumes the intersection minor movements continue to operate at LOS A during the AM and PM peak hours. For the 2028 base plus project traffic volumes the intersection minor movements operate at LOS A during the AM and PM peak hours. The intersection was analyzed with the existing approach lanes for all scenarios. The intersection meets policy LOS D or better standards for the existing and future traffic volumes. It is recommended that the Neighborhood Way/Middle Access intersection be improved to include stop sign control and single ingress and egress lanes at the east approach.

Neighborhood Way/North Access Intersection

The Neighborhood Way/North Access was analyzed as an unsignalized four-leg intersection with stop control at the east and west approaches for the existing plus project and 2028 base plus project scenarios. For the existing plus project traffic volumes the intersection minor movements operate at LOS A during the AM and PM peak hours. For the 2028 base plus project traffic volumes the intersection minor movements continue to operate at LOS A during the AM and PM peak hours. The intersection was analyzed with the existing approach lanes for all scenarios. The intersection meets policy LOS D or better standards for the future traffic volumes. It is recommended that the Neighborhood Way/North Access intersection be improved to include stop sign control and single ingress and egress lanes at the east and west approaches.

TRAFFIC CRASH REVIEW

The Pyramid Highway/Eagle Canyon Road/La Posada Drive intersection was identified for traffic crash review. Traffic crash data was obtained from NDOT Traffic Safety Engineering for the study period from January 1, 2015 to January 1, 2018. The crash data is included in the Appendix. A total of 36 crashes occurred at the intersection during the three-year period with no fatalities reported. The crash type included 23 rear-end collisions, 9 angle collisions, 2 sideswipe-meeting collisions, and 2 non-collisions. Following too closely, driving too fast for conditions, failure to yield the right of way, other improper driving, failure to keep in proper lane, disregarding traffic control feature, hit and run, and unsafe lane change were the main factors. Based on weekday PM peak hour traffic volumes, the intersection currently experiences 0.7968 accidents per million vehicles entering the intersection. The project is anticipated to increase the occurrence of accidents by 0.4063 accidents per year.

RECOMMENDATIONS

Traffic generated by the Upland Estates development will have some impact on the adjacent street network. The following recommendations are made to mitigate project traffic impacts.

It is recommended that any required signing, striping, or traffic control improvements comply with Washoe County requirements.

It is recommended that the Neighborhood Way/South Access intersection be improved to include stop sign control and single ingress and egress lanes at the east approach.

It is recommended that the Neighborhood Way/Middle Access intersection be improved to include stop sign control and single ingress and egress lanes at the east approach.

It is recommended that the Neighborhood Way/North Access intersection be improved to include stop sign control and single ingress and egress lanes at the east and west approaches.

APPENDIX

Single-Family Detached Housing
(210)

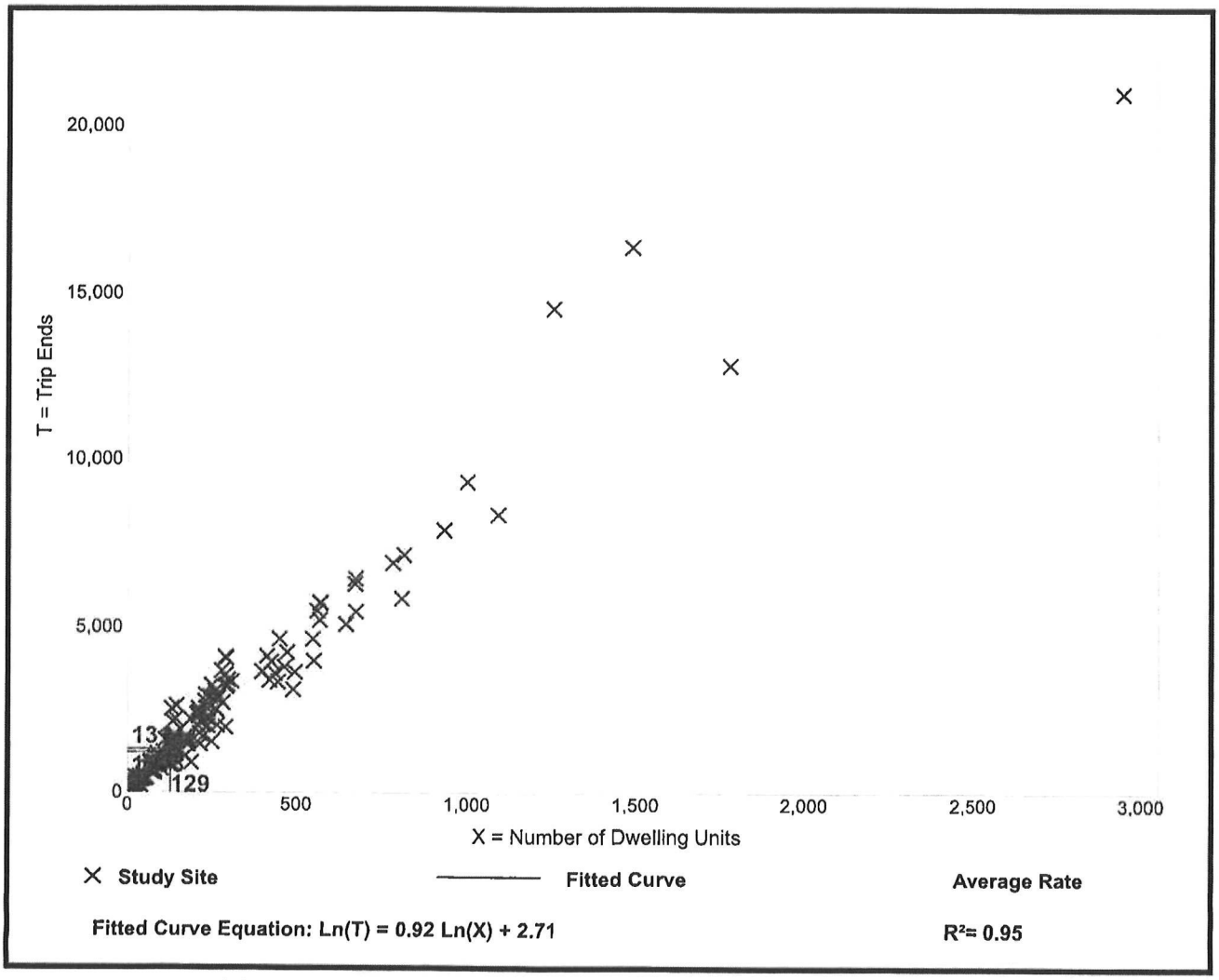
Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 159
Avg. Num. of Dwelling Units: 264
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.44	4.81 - 19.39	2.10

Data Plot and Equation



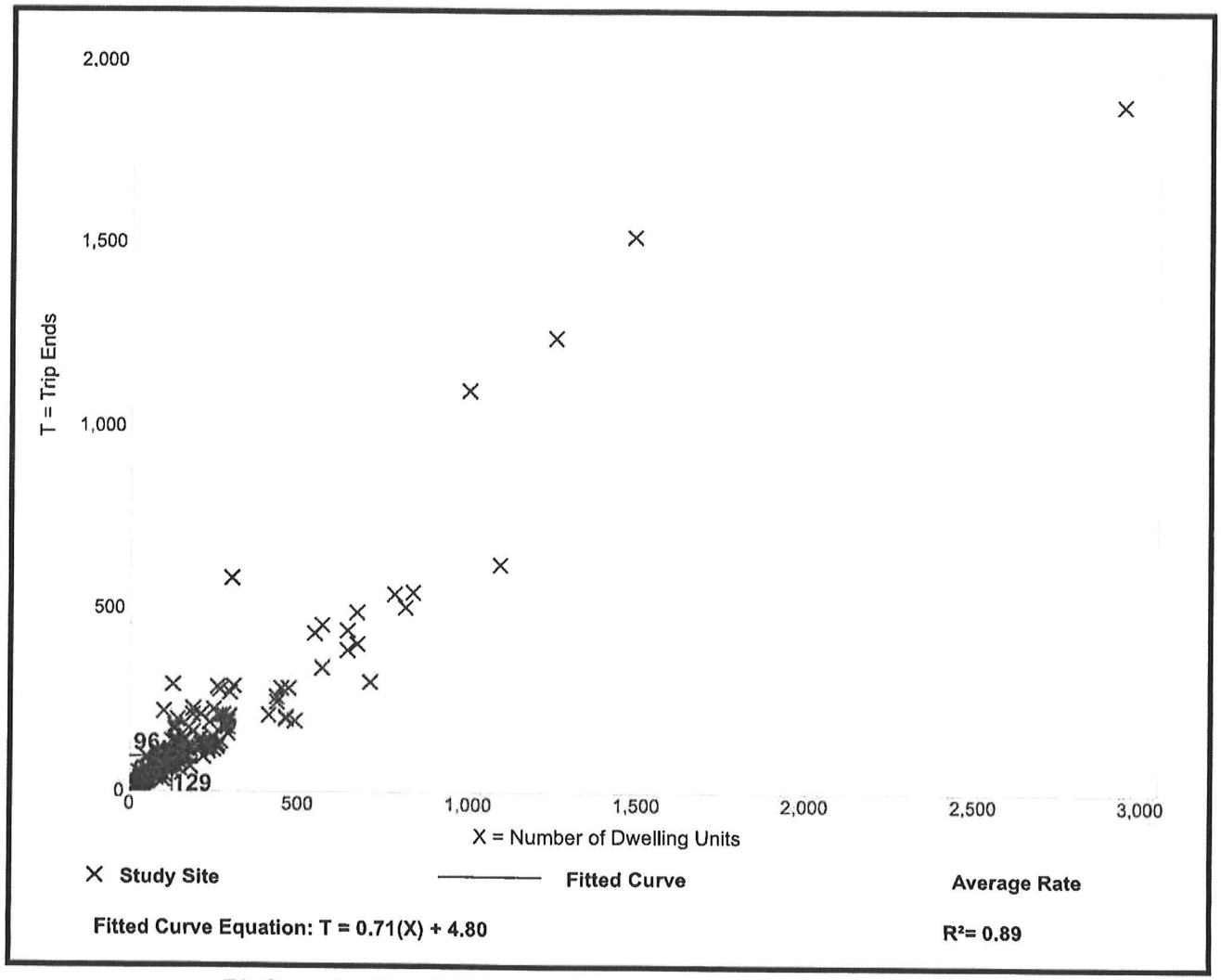
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 173
Avg. Num. of Dwelling Units: 219
Directional Distribution: 25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.74	0.33 - 2.27	0.27

Data Plot and Equation



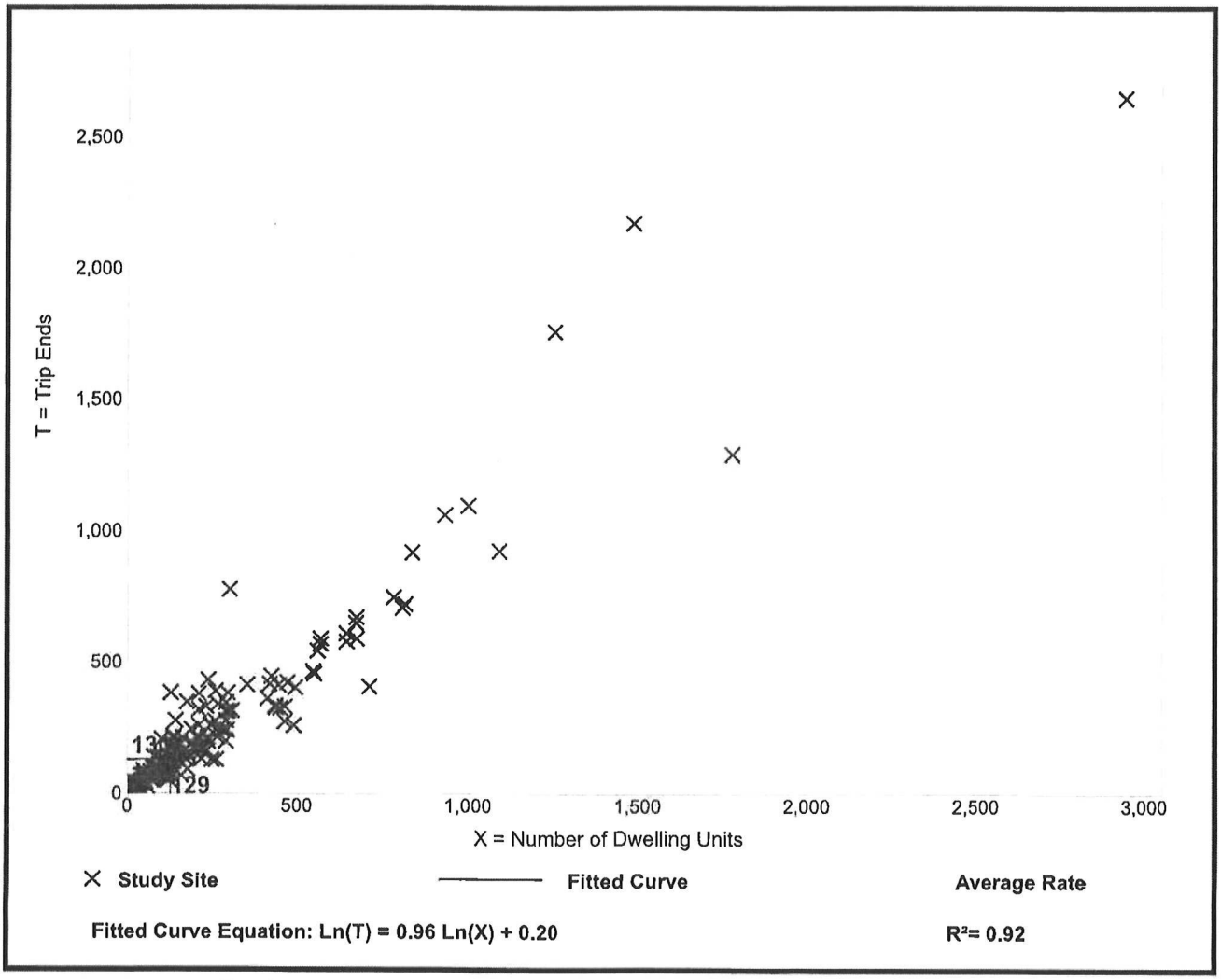
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 190
Avg. Num. of Dwelling Units: 242
Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.99	0.44 - 2.98	0.31

Data Plot and Equation



General Office Building
(710)

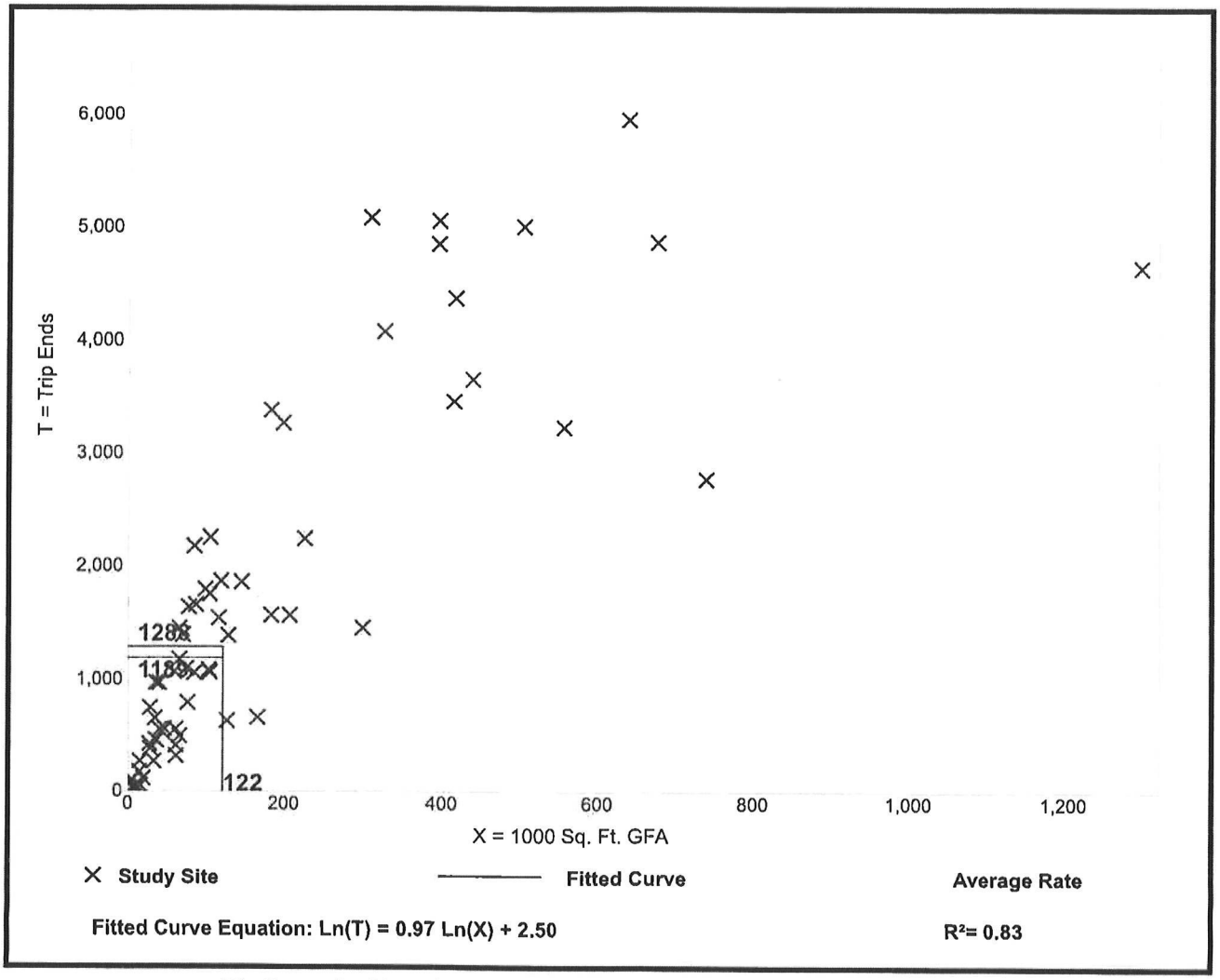
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 66
Avg. 1000 Sq. Ft. GFA: 171
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.74	2.71 - 27.56	5.15

Data Plot and Equation



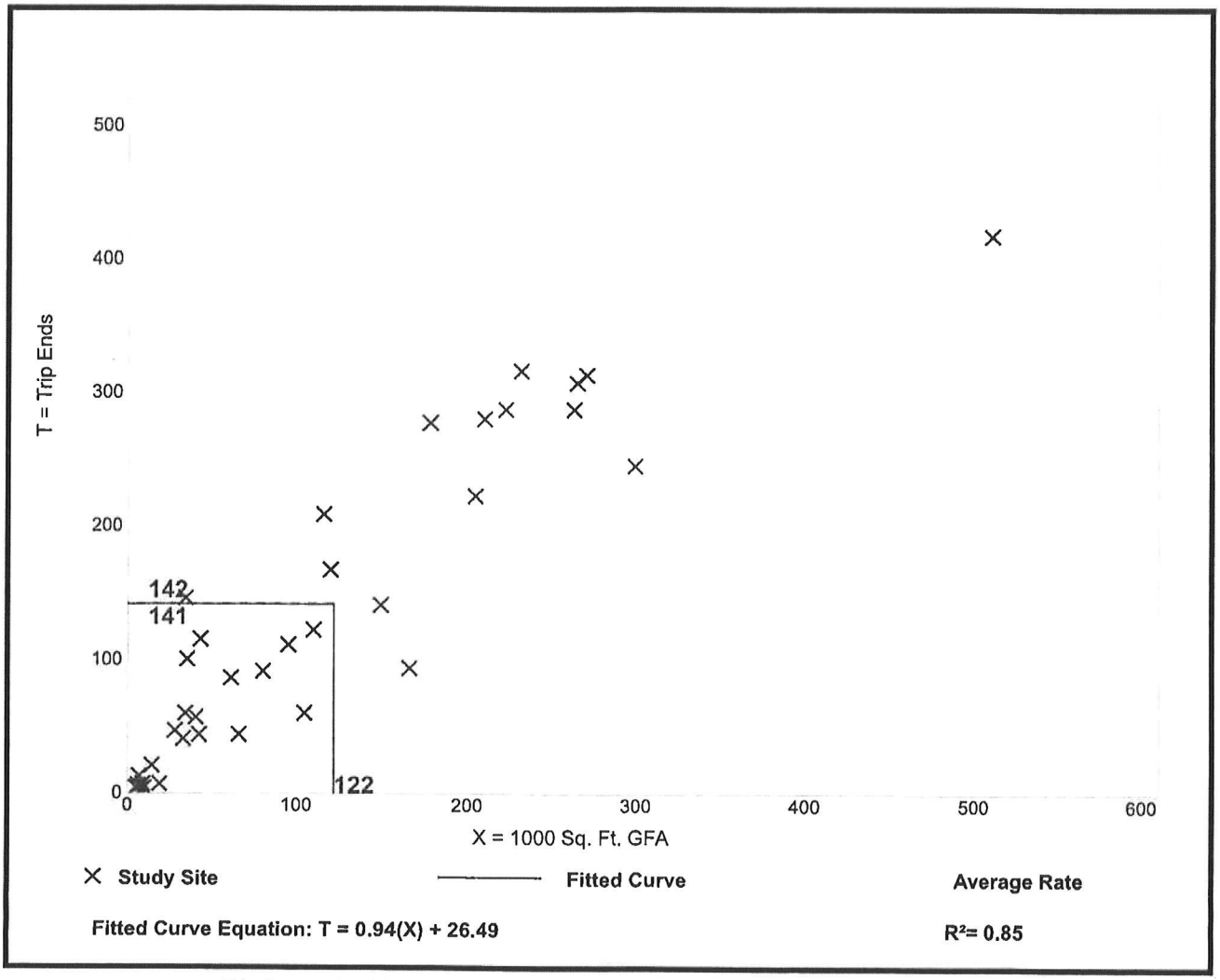
General Office Building
(710)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 35
Avg. 1000 Sq. Ft. GFA: 117
Directional Distribution: 86% entering, 14% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.16	0.37 - 4.23	0.47

Data Plot and Equation



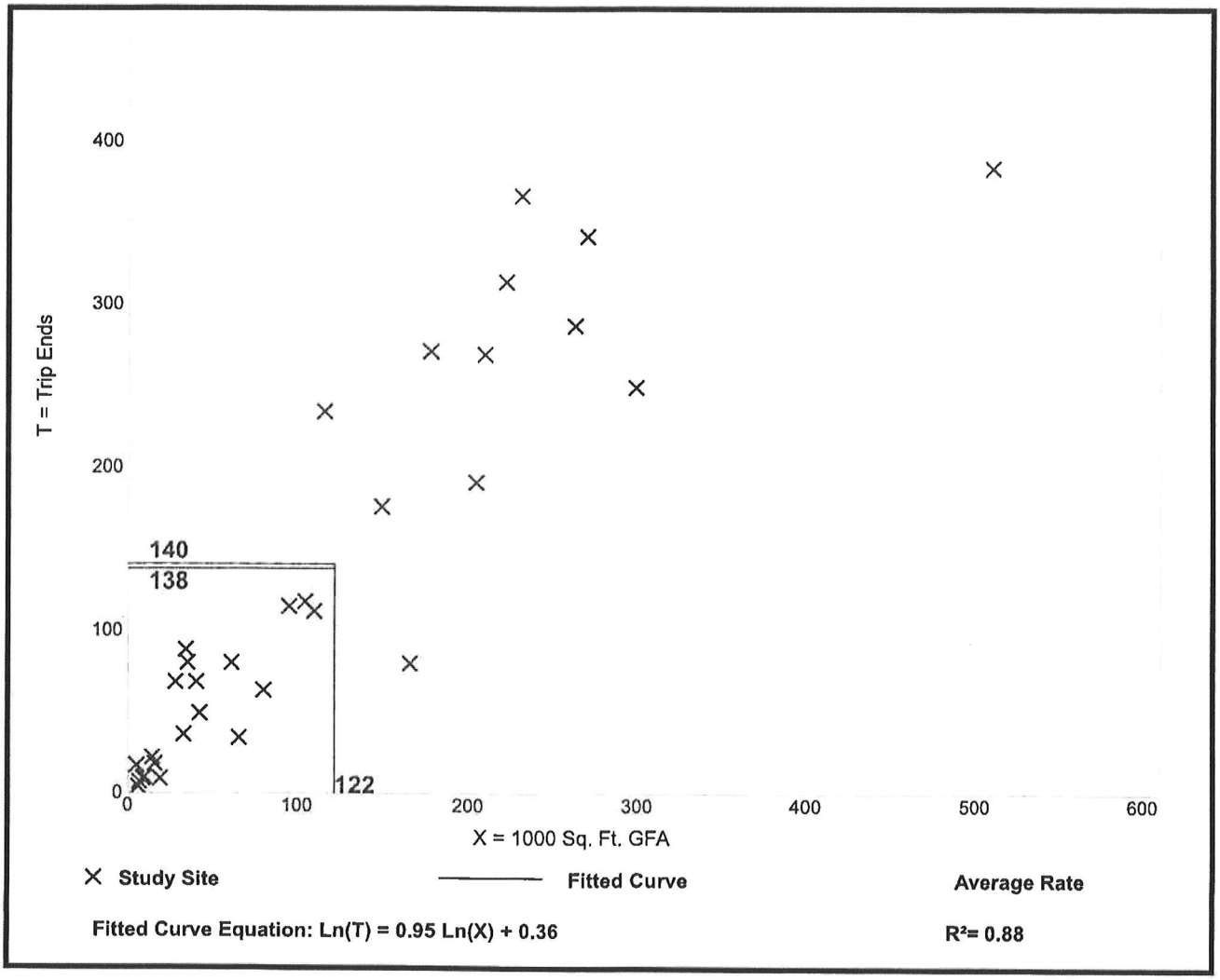
General Office Building
(710)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 32
Avg. 1000 Sq. Ft. GFA: 114
Directional Distribution: 16% entering, 84% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.15	0.47 - 3.23	0.42

Data Plot and Equation



Medical-Dental Office Building
(720)

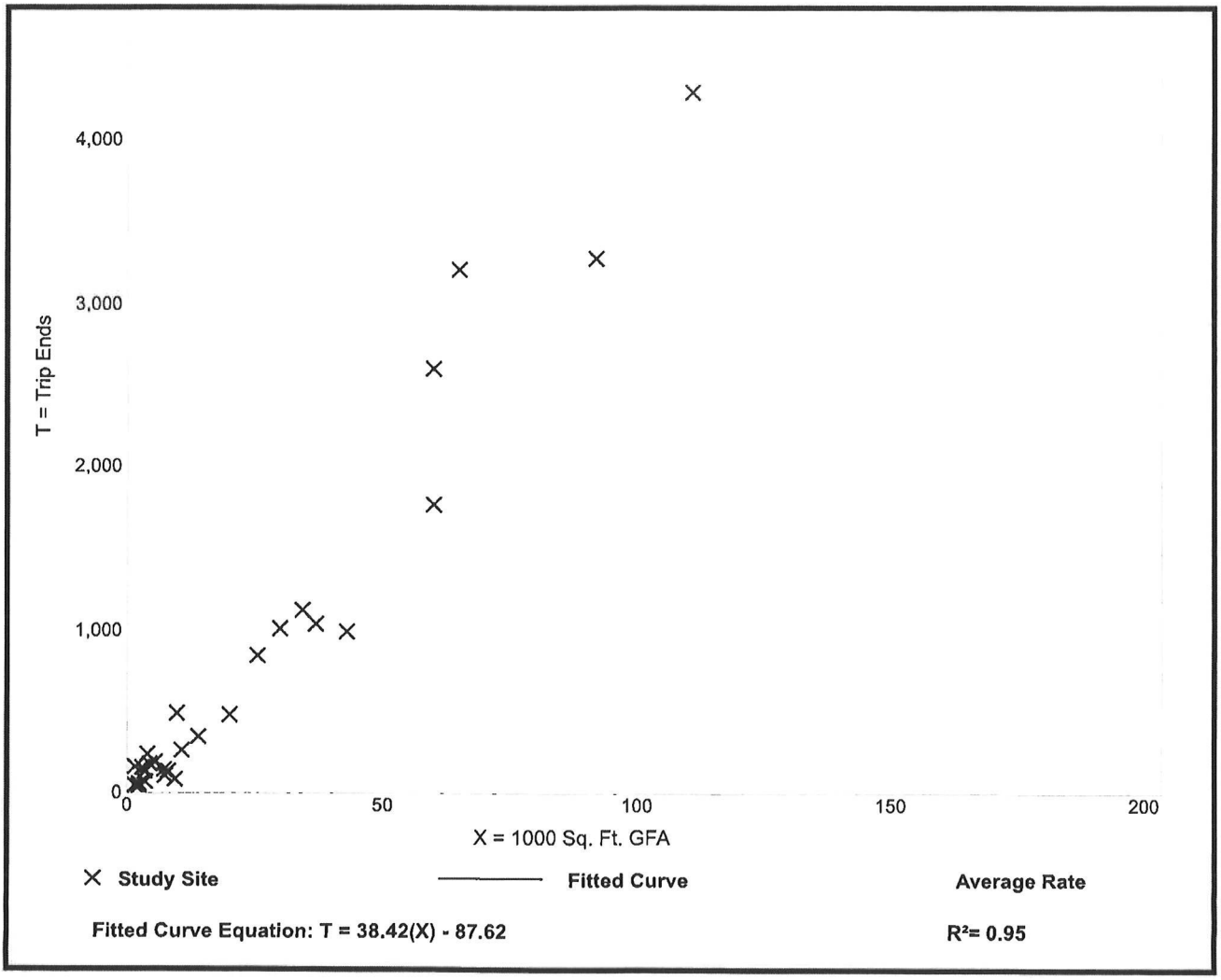
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 28
Avg. 1000 Sq. Ft. GFA: 24
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
34.80	9.14 - 100.75	9.79

Data Plot and Equation



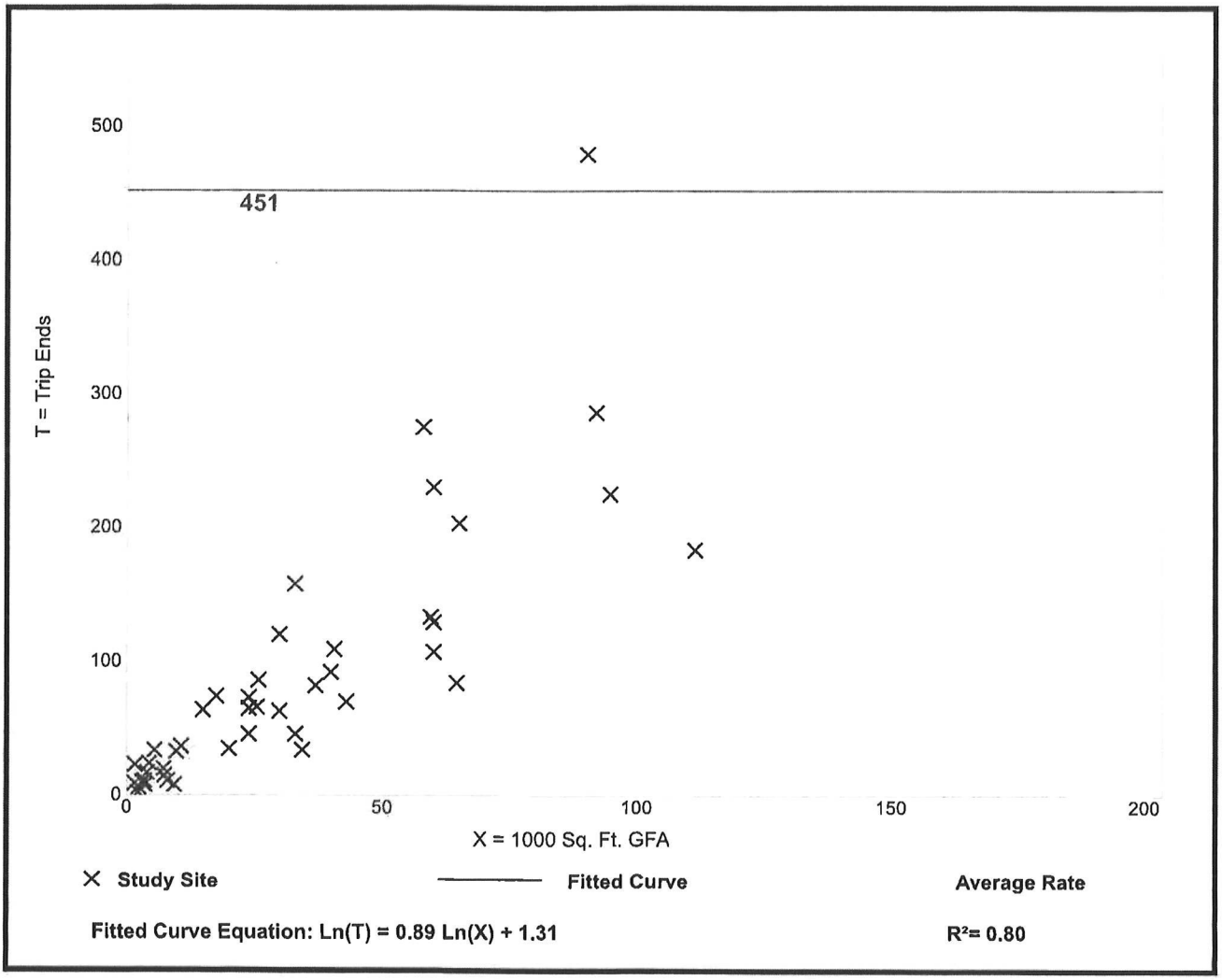
Medical-Dental Office Building
(720)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	44
Avg. 1000 Sq. Ft. GFA:	32
Directional Distribution:	78% entering, 22% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.78	0.85 - 14.30	1.28

Data Plot and Equation



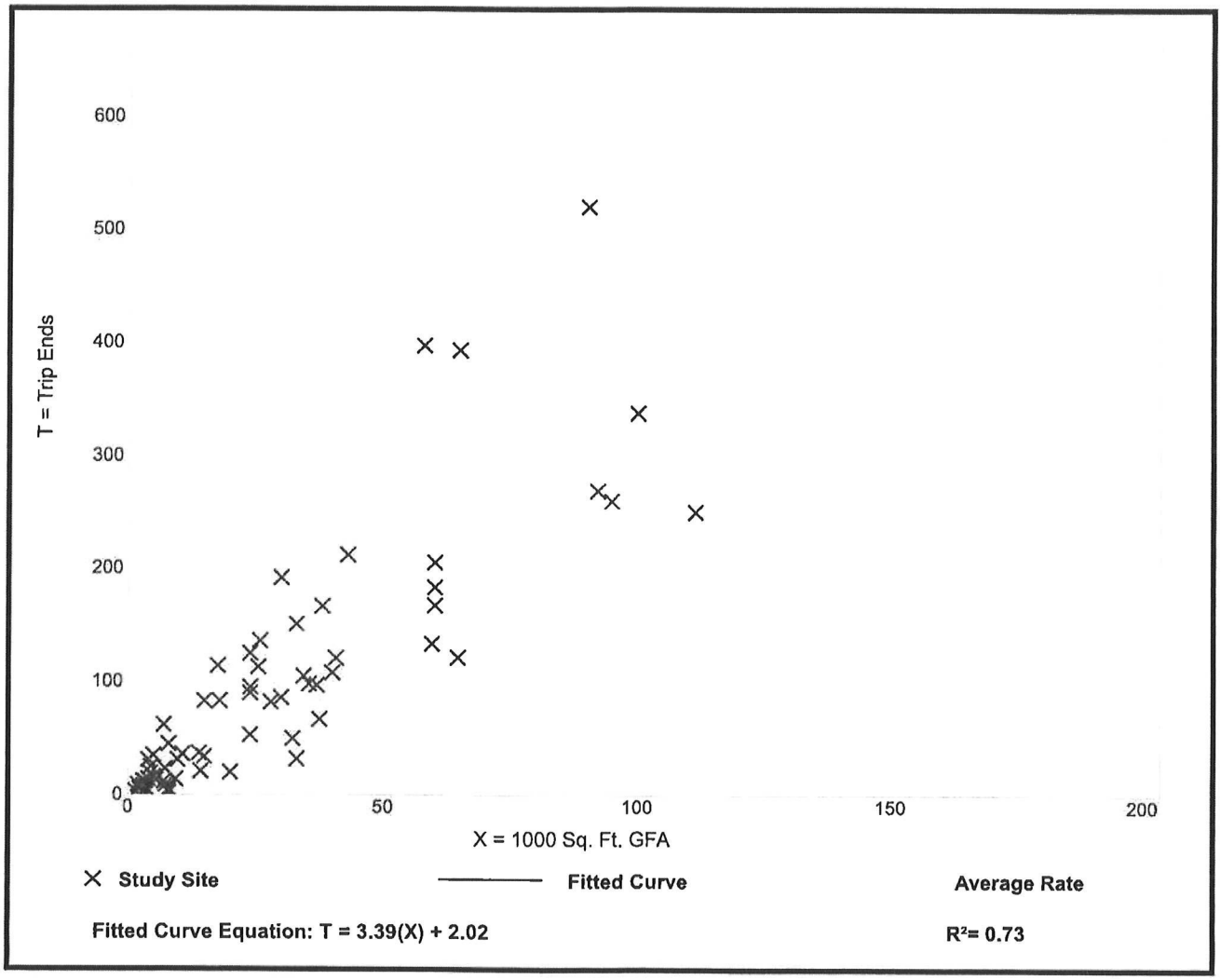
Medical-Dental Office Building
(720)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 65
Avg. 1000 Sq. Ft. GFA: 28
Directional Distribution: 28% entering, 72% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.46	0.25 - 8.86	1.58

Data Plot and Equation



Shopping Center
(820)

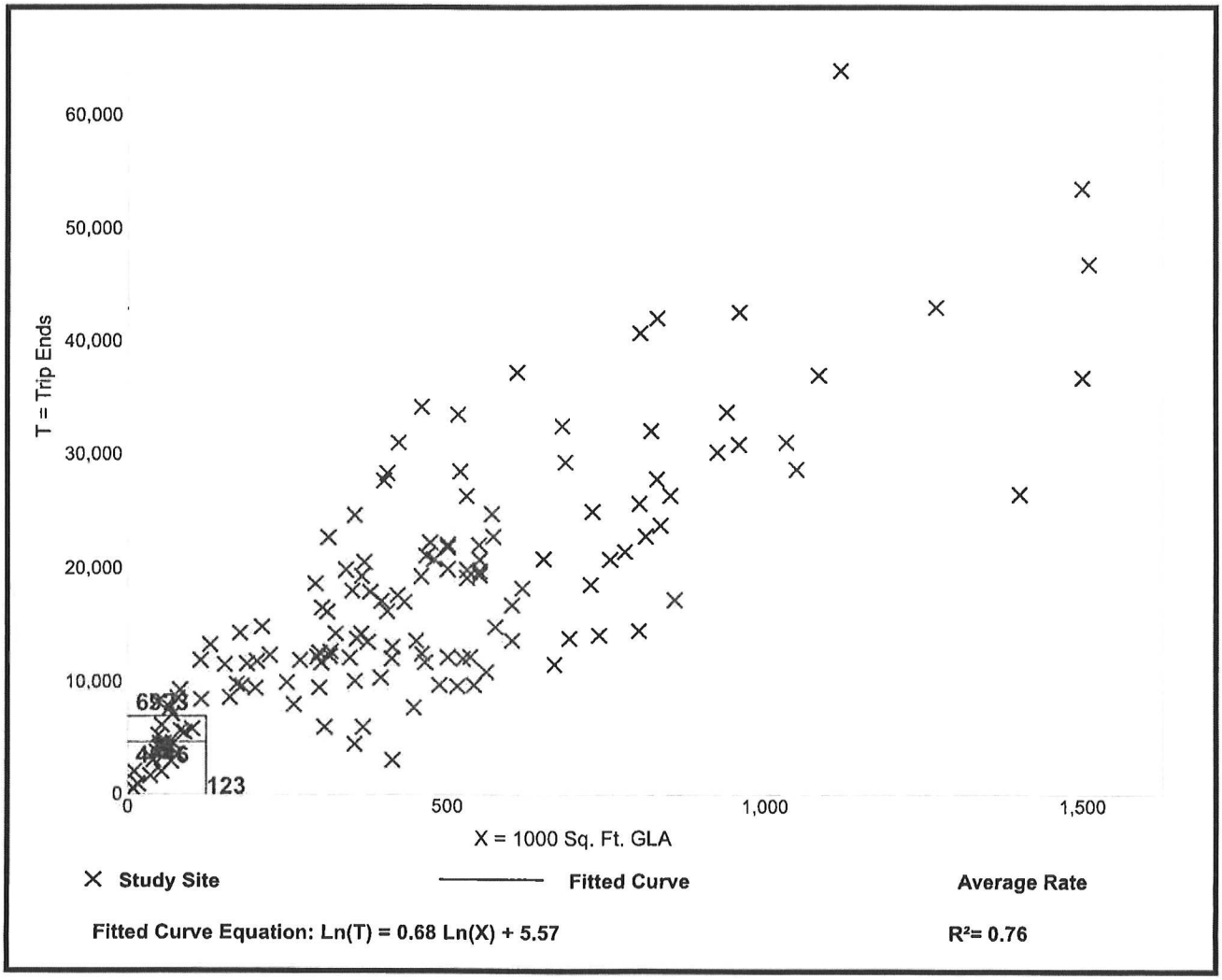
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday**

Setting/Location: **General Urban/Suburban**
Number of Studies: 147
Avg. 1000 Sq. Ft. GLA: 453
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
37.75	7.42 - 207.98	16.41

Data Plot and Equation



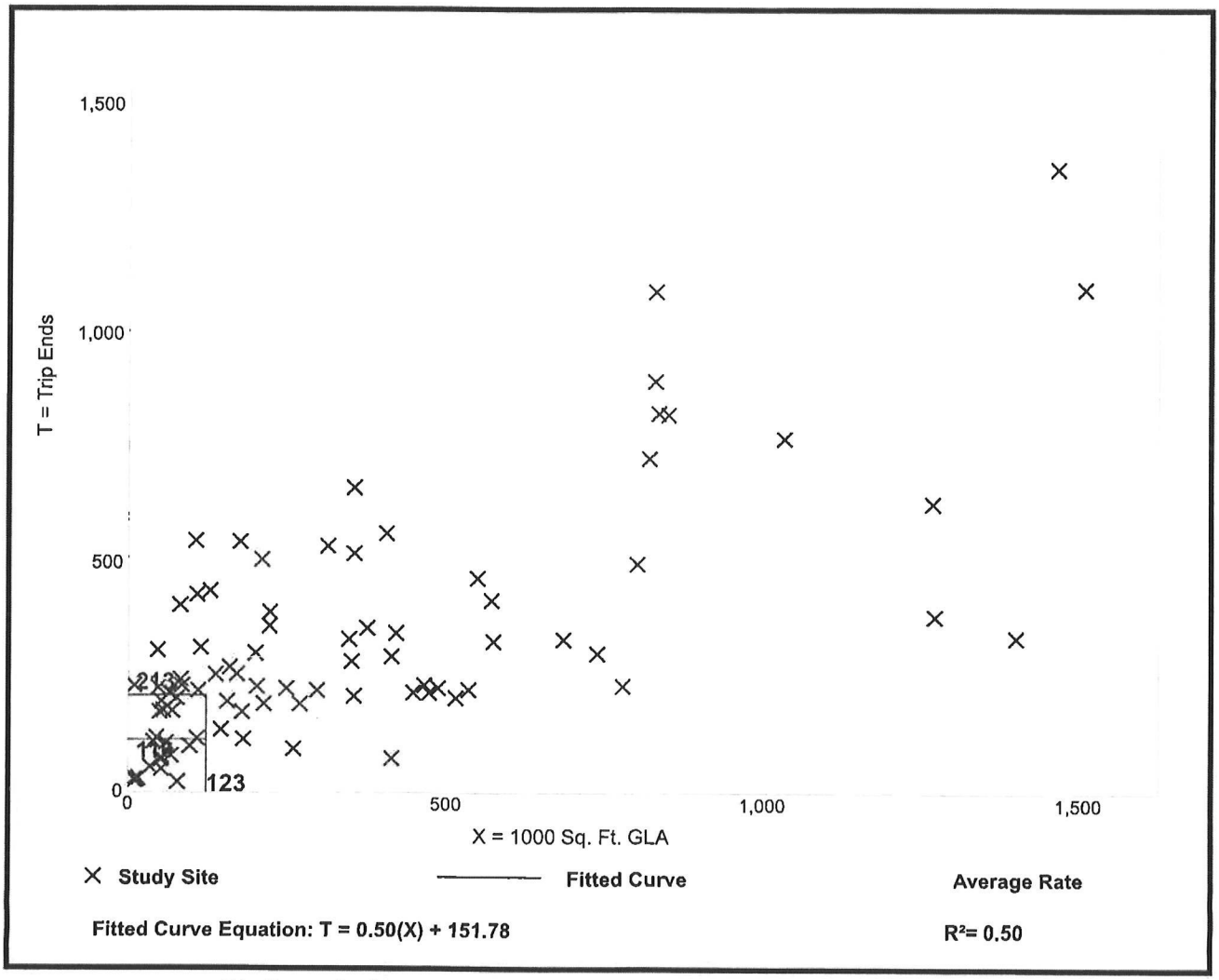
Shopping Center
(820)

Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 84
Avg. 1000 Sq. Ft. GLA: 351
Directional Distribution: 62% entering, 38% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
0.94	0.18 - 23.74	0.87

Data Plot and Equation



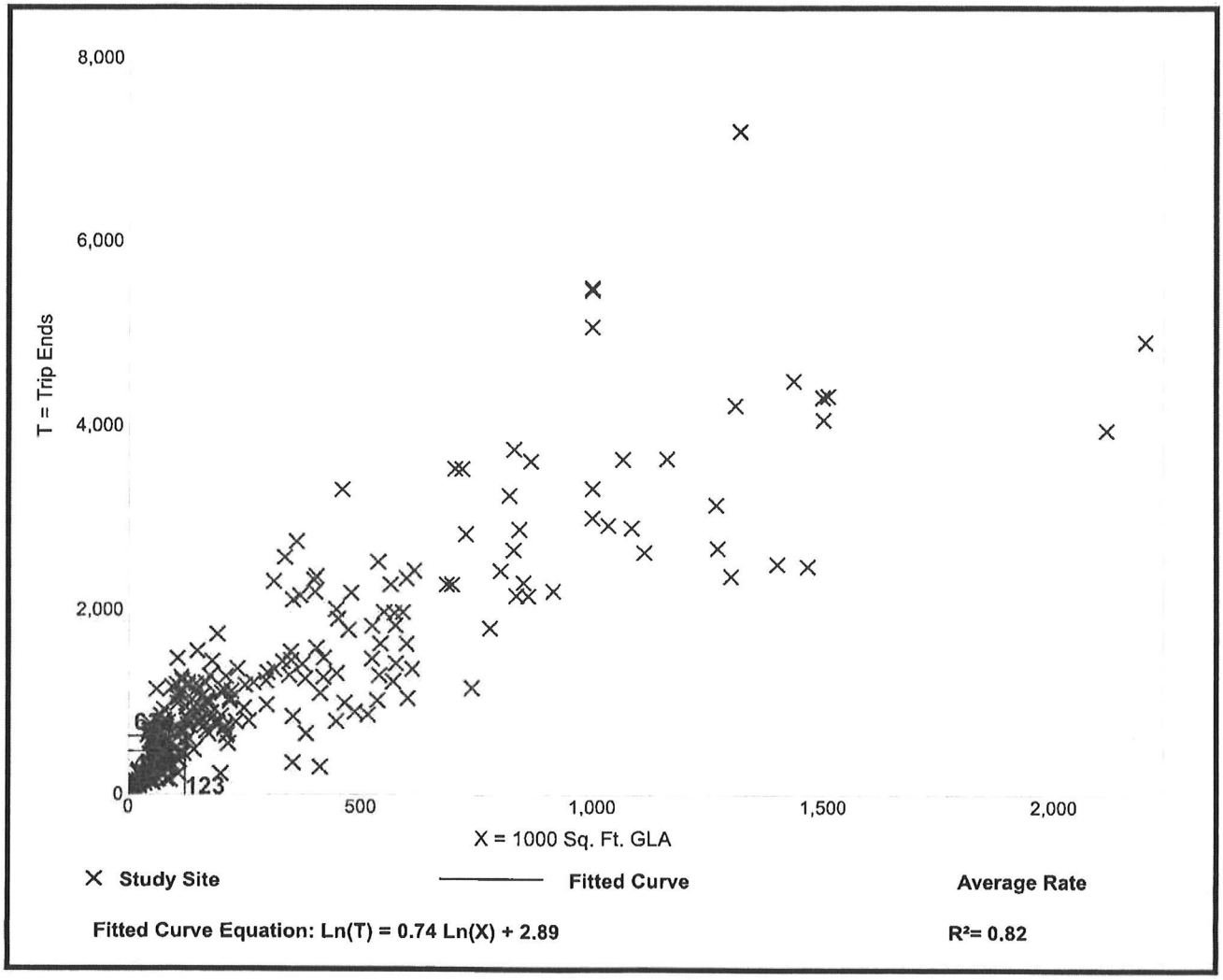
Shopping Center
(820)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GLA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	261
Avg. 1000 Sq. Ft. GLA:	327
Directional Distribution:	48% entering, 52% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GLA

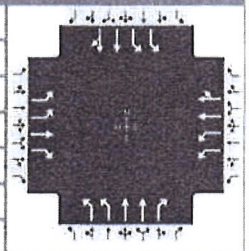
Average Rate	Range of Rates	Standard Deviation
3.81	0.74 - 18.69	2.04

Data Plot and Equation



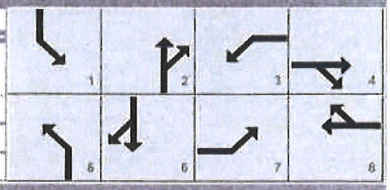
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Solaegui Engineers			Duration, h	0.25
Analyst	MSH	Analysis Date	Aug 15, 2018	Area Type	Other
Jurisdiction	NDOT	Time Period	AM Peak Hour	PHF	0.92
Urban Street		Analysis Year	Existing	Analysis Period	1> 7:00
Intersection	Pyramid & La Posada	File Name	PyEc18ax.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	115	218	822	432	452	87	485	343	88	46	883	156

Signal Information												
Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End	Green	6.0	7.0	32.0	8.0	2.0	15.0		
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	0.0	4.0	4.0	0.0	4.0		
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	0.0	1.0	1.0	0.0	1.0		



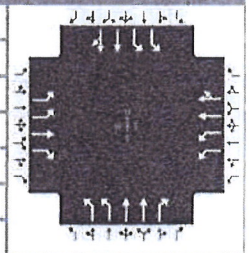
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	4.0
Phase Duration, s	13.0	20.0	15.0	22.0	18.0	44.0	11.0	37.0
Change Period, (*Y+R c*), s	5.0	5.0	0.0	5.0	0.0	5.0	5.0	5.0
Max Allow Headway (*MAH*), s	3.1	3.3	3.1	3.3	3.1	3.1	3.1	3.1
Queue Clearance Time (*g s*), s	5.1	17.0	13.8	15.3	14.9	8.0	3.2	26.8
Green Extension Time (*g e*), s	0.1	0.0	0.2	1.0	0.5	0.0	0.0	2.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Max Out Probability	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.63

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	125	237	893	470	286	273	527	373	68	50	559	532
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1730	1870		1730	1870	1771	1730	1781	1547	1730	1870	1777
Queue Service Time (*g s*), s	3.1	10.9		11.8	13.2	13.3	12.9	6.0	2.4	1.2	24.7	24.8
Cycle Queue Clearance Time (*g c*), s	3.1	10.9		11.8	13.2	13.3	12.9	6.0	2.4	1.2	24.7	24.8
Green Ratio (*g/C*)	0.09	0.17		0.17	0.19	0.19	0.20	0.43	0.43	0.07	0.36	0.36
Capacity (*c*), veh/h	307	312		577	353	334	692	1543	670	231	665	632
Volume-to-Capacity Ratio (*X*)	0.407	0.760		0.814	0.809	0.816	0.762	0.242	0.102	0.217	0.841	0.842
Back of Queue (*Q*), ft/ln (95 th percentile)	58.9	241.7		236.4	287.4	276.9	243.6	105.6	36.4	23.7	450	427.1
Back of Queue (*Q*), veh/ln (95 th percentile)	2.3	9.5		9.3	11.3	11.1	9.6	4.2	1.4	0.9	17.7	17.1
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (*d 1*), s/veh	38.8	35.8		36.2	34.9	35.0	34.0	16.1	15.1	39.8	26.7	26.7
Incremental Delay (*d 2*), s/veh	0.3	9.4		8.2	12.2	13.6	4.5	0.0	0.0	0.2	9.0	9.5
Initial Queue Delay (*d 3*), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	39.1	45.2	0.0	44.4	47.1	48.6	38.5	16.2	15.1	39.9	35.7	36.2
Level of Service (LOS)	D	D	A	D	D	D	D	B	B	D	D	D
Approach Delay, s/veh / LOS	12.4	B		46.3	D		28.2	C		36.1	D	
Intersection Delay, s/veh / LOS	30.0						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.62	C	2.50	B	2.45	B	2.43	B
Bicycle LOS Score / LOS	2.56	C	1.34	A	1.29	A	1.43	A

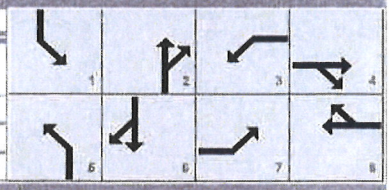
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Solaegui Engineers			Duration, h	0.25
Analyst	MSH	Analysis Date	Aug 15, 2018	Area Type	Other
Jurisdiction	NDOT	Time Period	PM Peak Hour	PHF	0.92
Urban Street		Analysis Year	Existing	Analysis Period	1> 7:00
Intersection	Pyramid & La Posada	File Name	PyEc18px.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	90	174	301	226	263	91	802	920	527	124	542	95

Signal Information					EB		WB			NB		
Cycle, s	90.0	Reference Phase	2									
Offset, s	0	Reference Point	End	Green	8.0	17.0	22.0	7.0	3.0	13.0		
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	0.0	4.0	4.0	0.0	4.0		
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	0.0	1.0	1.0	0.0	1.0		



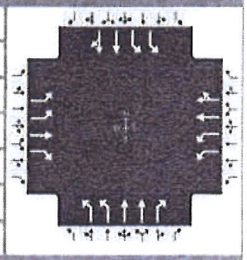
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	4.0
Phase Duration, s	12.0	18.0	15.0	21.0	30.0	44.0	13.0	27.0
Change Period, ($Y+R_c$), s	5.0	5.0	0.0	5.0	0.0	5.0	5.0	5.0
Max Allow Headway (*MAH*), s	3.1	3.2	3.1	3.2	3.1	3.1	3.1	3.1
Queue Clearance Time (g_s), s	4.4	15.0	7.7	10.6	22.2	23.9	5.3	17.4
Green Extension Time (g_e), s	0.0	0.0	0.3	1.2	1.7	5.2	0.1	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Max Out Probability	1.00	1.00	0.01	0.45	0.14	0.21	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	98	189	327	246	187	176	872	1000	464	135	343	327
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1730	1870		1730	1870	1699	1730	1781	1547	1730	1870	1773
Queue Service Time (g_s), s	2.4	8.7		5.7	8.2	8.6	20.2	19.9	21.9	3.3	15.3	15.4
Cycle Queue Clearance Time (g_c), s	2.4	8.7		5.7	8.2	8.6	20.2	19.9	21.9	3.3	15.3	15.4
Green Ratio (*g/C*)	0.08	0.14		0.17	0.18	0.18	0.33	0.43	0.43	0.09	0.24	0.24
Capacity (*c*), veh/h	269	270		577	333	302	1153	1543	670	307	457	433
Volume-to-Capacity Ratio (*X*)	0.364	0.700		0.426	0.562	0.583	0.756	0.648	0.692	0.438	0.751	0.755
Back of Queue (*Q*), ft/ln (95 th percentile)	46.4	197.4		107.7	171.1	161.4	331.2	315.8	314.5	63.7	301.8	287.8
Back of Queue (*Q*), veh/ln (95 th percentile)	1.8	7.8		4.2	6.7	6.5	13.0	12.4	12.4	2.5	11.9	11.5
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	39.4	36.6		33.6	33.8	33.9	26.7	20.1	20.6	38.9	31.5	31.5
Incremental Delay (d_2), s/veh	0.3	6.6		0.2	1.3	1.9	2.6	0.8	2.6	0.4	6.1	6.6
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	39.7	43.3	0.0	33.8	35.1	35.9	29.3	20.8	23.2	39.2	37.6	38.1
Level of Service (LOS)	D	D	A	C	D	D	C	C	C	D	D	D
Approach Delay, s/veh / LOS	19.7	B		34.8	C		24.5	C		38.1	D	
Intersection Delay, s/veh / LOS	27.8						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.73	C	2.48	B	2.45	B	2.44	B
Bicycle LOS Score / LOS	1.50	B	0.99	A	2.41	B	1.15	A

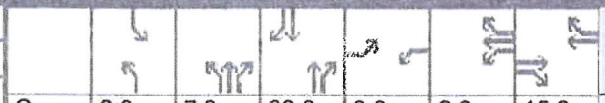
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Solaegui Engineers			Duration, h	0.25
Analyst	MSH	Analysis Date	Aug 15, 2018	Area Type	Other
Jurisdiction	NDOT	Time Period	AM Peak Hour	PHF	0.92
Urban Street		Analysis Year	Existing + Project	Analysis Period	1> 7:00
Intersection	Pyramid & La Posada	File Name	PyEc18aw.xus		
Project Description					

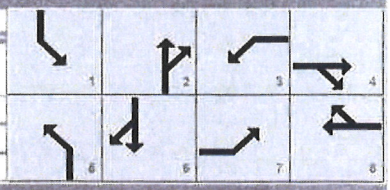


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	119	222	879	432	452	87	504	343	88	46	883	157

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	6.0	7.0		32.0	8.0	2.0	15.0					
Yellow	4.0	0.0		4.0	4.0	0.0	4.0					
Red	1.0	0.0		1.0	1.0	0.0	1.0					



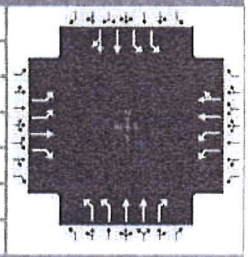
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	4.0
Phase Duration, s	13.0	20.0	15.0	22.0	18.0	44.0	11.0	37.0
Change Period, ($Y+R_c$), s	5.0	5.0	0.0	5.0	0.0	5.0	5.0	5.0
Max Allow Headway (*MAH*), s	3.1	3.3	3.1	3.3	3.1	3.1	3.1	3.1
Queue Clearance Time (g_s), s	5.2	17.0	13.8	15.5	15.5	8.0	3.2	27.0
Green Extension Time (g_e), s	0.1	0.0	0.2	0.9	0.4	0.0	0.0	2.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Max Out Probability	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	129	241	955	470	289	275	548	373	74	50	563	535
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1730	1870		1730	1870	1764	1730	1781	1547	1730	1870	1773
Queue Service Time (g_s), s	3.2	11.1		11.8	13.3	13.5	13.5	6.0	2.6	1.2	25.0	25.0
Cycle Queue Clearance Time (g_c), s	3.2	11.1		11.8	13.3	13.5	13.5	6.0	2.6	1.2	25.0	25.0
Green Ratio (*g/C*)	0.09	0.17		0.17	0.19	0.19	0.20	0.43	0.43	0.07	0.36	0.36
Capacity (*c*), veh/h	307	312		577	353	333	692	1543	670	231	665	631
Volume-to-Capacity Ratio (*X*)	0.421	0.774		0.814	0.818	0.826	0.792	0.242	0.110	0.217	0.847	0.848
Back of Queue (*Q*), ft/ln (95 th percentile)	61	248.4		236.4	292.8	282	256	105.6	39.4	23.7	455.9	432.2
Back of Queue (*Q*), veh/ln (95 th percentile)	2.4	9.8		9.3	11.5	11.3	10.1	4.2	1.6	0.9	17.9	17.3
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	38.8	35.9		36.2	35.0	35.1	34.2	16.1	15.2	39.8	26.7	26.8
Incremental Delay (d_2), s/veh	0.3	10.5		8.2	13.1	14.7	5.8	0.0	0.0	0.2	9.5	10.0
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	39.1	46.4	0.0	44.4	48.1	49.8	40.0	16.2	15.2	39.9	36.2	36.7
Level of Service (LOS)	D	D	A	D	D	D	D	B	B	D	D	D
Approach Delay, s/veh / LOS	12.3	B		46.9	D		29.2	C		36.6	D	
Intersection Delay, s/veh / LOS	30.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.62	C	2.49	B	2.45	B	2.43	B
Bicycle LOS Score / LOS	2.68	C	1.34	A	1.31	A	1.43	A

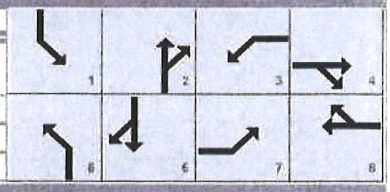
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Solaegui Engineers			Duration, h	0.25
Analyst	MSH	Analysis Date	Aug 15, 2018	Area Type	Other
Jurisdiction	NDOT	Time Period	PM Peak Hour	PHF	0.92
Urban Street		Analysis Year	Existing + Project	Analysis Period	1> 7:00
Intersection	Pyramid & La Posada	File Name	PyEc18pw.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	92	177	339	223	267	91	864	920	527	124	542	99

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	8.0	17.0	22.0	7.0	3.0	13.0
Yellow	4.0	0.0	4.0	4.0	0.0	4.0
Red	1.0	0.0	1.0	1.0	0.0	1.0

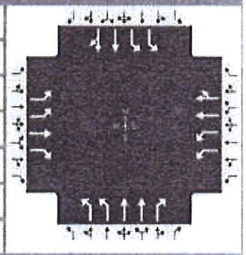
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	4.0
Phase Duration, s	12.0	18.0	15.0	21.0	30.0	44.0	13.0	27.0
Change Period, ($Y+R_c$), s	5.0	5.0	0.0	5.0	0.0	5.0	5.0	5.0
Max Allow Headway (*MAH*), s	3.1	3.2	3.1	3.2	3.1	3.1	3.1	3.1
Queue Clearance Time (g_s), s	4.5	15.0	7.7	10.7	24.4	23.9	5.3	17.5
Green Extension Time (g_e), s	0.0	0.0	0.3	1.2	1.5	5.2	0.1	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Max Out Probability	1.00	1.00	0.01	0.49	0.37	0.21	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	100	192	368	242	189	178	939	1000	464	135	346	329
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1730	1870		1730	1870	1701	1730	1781	1547	1730	1870	1769
Queue Service Time (g_s), s	2.5	8.8		5.7	8.3	8.7	22.4	19.9	21.9	3.3	15.4	15.5
Cycle Queue Clearance Time (g_c), s	2.5	8.8		5.7	8.3	8.7	22.4	19.9	21.9	3.3	15.4	15.5
Green Ratio (*g/C*)	0.08	0.14		0.17	0.18	0.18	0.33	0.43	0.43	0.09	0.24	0.24
Capacity (*c*), veh/h	269	270		577	333	302	1153	1543	670	307	457	432
Volume-to-Capacity Ratio (*X*)	0.372	0.712		0.420	0.569	0.589	0.814	0.648	0.692	0.438	0.757	0.761
Back of Queue (*Q*), ft/ln (95 th percentile)	47.5	201.7		106.3	173.8	164	366.9	315.8	314.5	63.7	305.3	290.5
Back of Queue (*Q*), veh/ln (95 th percentile)	1.9	7.9		4.2	6.8	6.6	14.4	12.4	12.4	2.5	12.0	11.6
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	39.4	36.7		33.6	33.8	34.0	27.5	20.1	20.6	38.9	31.5	31.6
Incremental Delay (d_2), s/veh	0.3	7.3		0.2	1.5	2.1	4.3	0.8	2.6	0.4	6.4	7.0
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	39.7	44.1	0.0	33.8	35.3	36.1	31.7	20.8	23.2	39.2	37.9	38.5
Level of Service (LOS)	D	D	A	C	D	D	C	C	C	D	D	D
Approach Delay, s/veh / LOS	18.8	B		34.9	C		25.6	C		38.4	D	
Intersection Delay, s/veh / LOS	28.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.73	C	2.48	B	2.45	B	2.44	B
Bicycle LOS Score / LOS	1.58	B	0.99	A	2.47	B	1.16	A

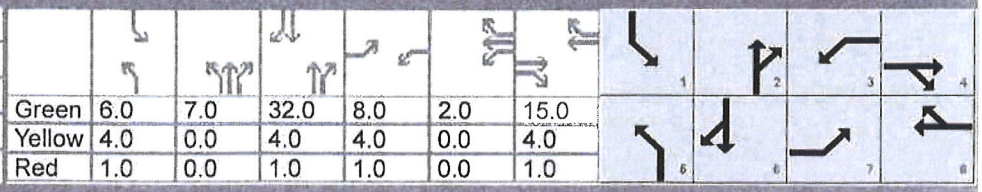
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Solaegui Engineers			Duration, h	0.25
Analyst	MSH	Analysis Date	Aug 15, 2018	Area Type	Other
Jurisdiction	NDOT	Time Period	AM Peak Hour	PHF	0.92
Urban Street		Analysis Year	2028 Base	Analysis Period	1> 7:00
Intersection	Pyramid & La Posada	File Name	PyEc28ax.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	128	243	917	482	503	97	541	383	98	51	985	174

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	6.0	7.0		32.0	8.0	2.0	15.0					
Yellow	4.0	0.0		4.0	4.0	0.0	4.0					
Red	1.0	0.0		1.0	1.0	0.0	1.0					

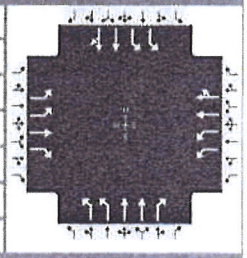
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	4.0
Phase Duration, s	13.0	20.0	15.0	22.0	18.0	44.0	11.0	37.0
Change Period, ($Y+R_c$), s	5.0	5.0	0.0	5.0	0.0	5.0	5.0	5.0
Max Allow Headway (*MAH*), s	3.1	3.3	3.1	3.3	3.1	3.1	3.1	3.1
Queue Clearance Time (g_s), s	5.4	17.0	15.4	17.2	16.7	8.8	3.4	31.3
Green Extension Time (g_e), s	0.1	0.0	0.0	0.0	0.3	0.0	0.0	0.4
Phase Call Probability	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Max Out Probability	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	139	264	997	524	320	305	588	416	79	55	626	596
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1730	1870		1730	1870	1767	1730	1781	1547	1730	1870	1775
Queue Service Time (g_s), s	3.4	12.3		13.4	15.1	15.2	14.7	6.8	2.8	1.4	29.2	29.3
Cycle Queue Clearance Time (g_c), s	3.4	12.3		13.4	15.1	15.2	14.7	6.8	2.8	1.4	29.2	29.3
Green Ratio (*g/C*)	0.09	0.17		0.17	0.19	0.19	0.20	0.43	0.43	0.07	0.36	0.36
Capacity (*c*), veh/h	307	312		577	353	334	692	1543	670	231	665	631
Volume-to-Capacity Ratio (*X*)	0.452	0.847		0.909	0.907	0.913	0.850	0.270	0.118	0.240	0.941	0.944
Back of Queue (*Q*), ft/ln (95 th percentile)	65.9	289.2		284.8	357.7	344.5	284	119.6	42.5	26.3	578.1	553.1
Back of Queue (*Q*), veh/ln (95 th percentile)	2.6	11.4		11.2	14.1	13.8	11.2	4.7	1.7	1.0	22.8	22.1
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	38.9	36.4		36.8	35.7	35.8	34.7	16.4	15.2	39.8	28.1	28.1
Incremental Delay (d_2), s/veh	0.4	18.2		18.0	25.5	27.8	9.4	0.0	0.0	0.2	21.4	22.7
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	39.3	54.6	0.0	54.8	61.2	63.6	44.1	16.4	15.3	40.0	49.4	50.9
Level of Service (LOS)	D	D	A	D	E	E	D	B	B	D	D	D
Approach Delay, s/veh / LOS	14.2	B		58.9	E		31.3	C		49.7	D	
Intersection Delay, s/veh / LOS	37.7						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.62	C	2.50	B	2.45	B	2.43	B
Bicycle LOS Score / LOS	2.80	C	1.44	A	1.38	A	1.54	B

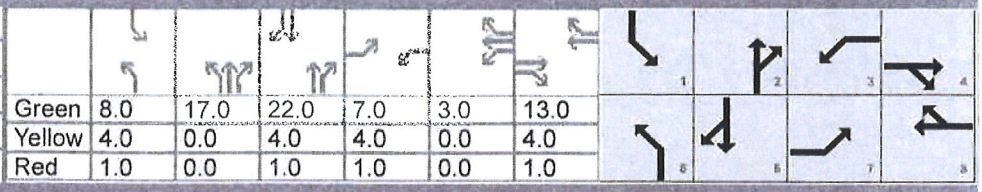
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Solaegui Engineers			Duration, h	0.25
Analyst	MSH	Analysis Date	Aug 15, 2018	Area Type	Other
Jurisdiction	NDOT	Time Period	PM Peak Hour	PHF	0.92
Urban Street		Analysis Year	2028 Base	Analysis Period	1> 7:00
Intersection	Pyramid & La Posada	File Name	PyEc28px.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	100	194	336	252	293	102	895	1026	588	138	605	106

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	8.0	17.0	22.0	7.0	3.0	13.0						
Yellow	4.0	0.0	4.0	4.0	0.0	4.0						
Red	1.0	0.0	1.0	1.0	0.0	1.0						

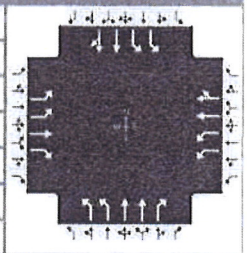
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	4.0
Phase Duration, s	12.0	18.0	15.0	21.0	30.0	44.0	13.0	27.0
Change Period, ($Y+R_c$), s	5.0	5.0	0.0	5.0	0.0	5.0	5.0	5.0
Max Allow Headway (*MAH*), s	3.1	3.2	3.1	3.2	3.1	3.1	3.1	3.1
Queue Clearance Time (g_s), s	4.7	15.0	8.4	11.7	25.5	28.6	5.7	19.7
Green Extension Time (g_e), s	0.0	0.0	0.4	1.1	1.4	5.0	0.1	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Max Out Probability	1.00	1.00	0.03	0.72	0.59	0.47	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	109	211	365	274	211	197	973	1115	530	150	385	366
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1730	1870		1730	1870	1694	1730	1781	1547	1730	1870	1771
Queue Service Time (g_s), s	2.7	9.8		6.4	9.4	9.7	23.5	23.3	26.6	3.7	17.6	17.7
Cycle Queue Clearance Time (g_c), s	2.7	9.8		6.4	9.4	9.7	23.5	23.3	26.6	3.7	17.6	17.7
Green Ratio (*g/C*)	0.08	0.14		0.17	0.18	0.18	0.33	0.43	0.43	0.09	0.24	0.24
Capacity (*c*), veh/h	269	270		577	333	301	1153	1543	670	307	457	433
Volume-to-Capacity Ratio (*X*)	0.404	0.781		0.475	0.633	0.654	0.844	0.723	0.791	0.488	0.843	0.845
Back of Queue (*Q*), ft/ln (95 th percentile)	51.8	230.1		121.2	199.6	189.8	387.4	362.7	386.1	71.4	362.5	345.4
Back of Queue (*Q*), veh/ln (95 th percentile)	2.0	9.1		4.8	7.9	7.6	15.3	14.3	15.2	2.8	14.3	13.8
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	39.5	37.1		33.9	34.3	34.4	27.8	21.0	22.0	39.0	32.4	32.4
Incremental Delay (d_2), s/veh	0.4	12.5		0.2	3.0	4.0	5.6	1.5	5.9	0.4	12.7	13.6
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	39.9	49.7	0.0	34.2	37.3	38.4	33.4	22.5	27.9	39.5	45.1	46.0
Level of Service (LOS)	D	D	A	C	D	D	C	C	C	D	D	D
Approach Delay, s/veh / LOS	21.6	C		36.4	D		27.6	C		44.5	D	
Intersection Delay, s/veh / LOS	31.1						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.73	C	2.48	B	2.45	B	2.44	B
Bicycle LOS Score / LOS	1.62	B	1.05	A	2.65	C	1.23	A

HCS7 Signalized Intersection Results Summary

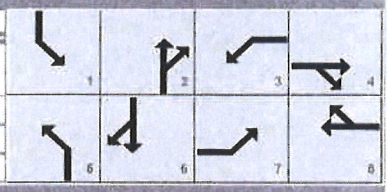
General Information				Intersection Information	
Agency	Solaegui Engineers			Duration, h	0.25
Analyst	MSH	Analysis Date	Aug 15, 2018	Area Type	Other
Jurisdiction	NDOT	Time Period	AM Peak Hour	PHF	0.92
Urban Street		Analysis Year	2028 With	Analysis Period	1> 7:00
Intersection	Pyramid & La Posada	File Name	PyEc28aw.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	132	247	974	482	504	97	560	383	98	51	985	175

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	Yes	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	6.0	7.0		32.0	8.0	2.0	15.0					
Yellow	4.0	0.0		4.0	4.0	0.0	4.0					
Red	1.0	0.0		1.0	1.0	0.0	1.0					



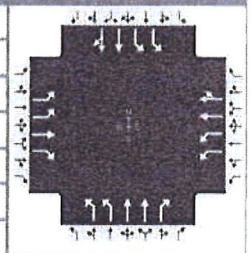
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	4.0
Phase Duration, s	13.0	20.0	15.0	22.0	18.0	44.0	11.0	37.0
Change Period, ($Y+R_c$), s	5.0	5.0	0.0	5.0	0.0	5.0	5.0	5.0
Max Allow Headway (*MAH*), s	3.1	3.3	3.1	3.3	3.1	3.1	3.1	3.1
Queue Clearance Time (g_s), s	5.5	17.0	15.4	17.2	17.4	8.8	3.4	31.4
Green Extension Time (g_e), s	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.4
Phase Call Probability	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Max Out Probability	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h	143	268	1059	524	321	305	609	416	79	55	626	596
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1730	1870		1730	1870	1767	1730	1781	1547	1730	1870	1774
Queue Service Time (g_s), s	3.5	12.6		13.4	15.1	15.2	15.4	6.8	2.8	1.4	29.2	29.4
Cycle Queue Clearance Time (g_c), s	3.5	12.6		13.4	15.1	15.2	15.4	6.8	2.8	1.4	29.2	29.4
Green Ratio (*g/C*)	0.09	0.17		0.17	0.19	0.19	0.20	0.43	0.43	0.07	0.36	0.36
Capacity (*c*), veh/h	307	312		577	353	334	692	1543	670	231	665	631
Volume-to-Capacity Ratio (*X*)	0.467	0.861		0.909	0.908	0.915	0.880	0.270	0.118	0.240	0.942	0.945
Back of Queue (Q), ft/ln (95 th percentile)	68	298.3		284.8	359	346.1	301.1	119.6	42.5	26.3	579.5	554.4
Back of Queue (Q), veh/ln (95 th percentile)	2.7	11.7		11.2	14.1	13.8	11.9	4.7	1.7	1.0	22.8	22.2
Queue Storage Ratio (*RQ*) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	39.0	36.5		36.8	35.7	35.8	34.9	16.4	15.2	39.8	28.1	28.1
Incremental Delay (d_2), s/veh	0.4	20.2		18.0	25.8	28.1	12.1	0.0	0.0	0.2	21.5	22.9
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (*d*), s/veh	39.4	56.7	0.0	54.8	61.5	63.9	47.1	16.4	15.3	40.0	49.6	51.1
Level of Service (LOS)	D	E	A	D	E	E	D	B	B	D	D	D
Approach Delay, s/veh / LOS	14.2	B		59.1	E		33.2	C		49.9	D	
Intersection Delay, s/veh / LOS	37.8						D					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.62	C	2.50	B	2.45	B	2.43	B
Bicycle LOS Score / LOS	2.91	C	1.44	A	1.40	A	1.54	B

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	Solaegui Engineers			Duration, h	0.25
Analyst	MSH	Analysis Date	Aug 15, 2018	Area Type	Other
Jurisdiction	NDOT	Time Period	PM Peak Hour	PHF	0.92
Urban Street		Analysis Year	2028 With	Analysis Period	1> 7:00
Intersection	Pyramid & La Posada	File Name	PyEc28pw.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	102	197	374	252	297	102	959	1026	588	138	605	110

Signal Information					EB		WB			NB			SB		
Cycle, s	90.0	Reference Phase	2												
Offset, s	0	Reference Point	End	Green	8.0	17.0	22.0	7.0	3.0	13.0					
Uncoordinated	Yes	Simult. Gap E/W	On	Yellow	4.0	0.0	4.0	4.0	0.0	4.0					
Force Mode	Fixed	Simult. Gap N/S	On	Red	1.0	0.0	1.0	1.0	0.0	1.0					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase	7	4	3	8	5	2	1	6
Case Number	2.0	3.0	2.0	4.0	2.0	3.0	2.0	4.0
Phase Duration, s	12.0	18.0	15.0	21.0	30.0	44.0	13.0	27.0
Change Period, ($Y+R_c$), s	5.0	5.0	0.0	5.0	0.0	5.0	5.0	5.0
Max Allow Headway (MAH), s	3.1	3.2	3.1	3.2	3.1	3.1	3.1	3.1
Queue Clearance Time (g_s), s	4.7	15.0	8.4	11.8	27.9	28.6	5.7	19.9
Green Extension Time (g_e), s	0.0	0.0	0.4	1.2	0.8	5.0	0.1	0.0
Phase Call Probability	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Max Out Probability	1.00	1.00	0.03	0.76	1.00	0.47	1.00	1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h	111	214	407	274	213	199	1042	1115	530	150	388	367
Adjusted Saturation Flow Rate (s), veh/h/ln	1730	1870		1730	1870	1696	1730	1781	1547	1730	1870	1767
Queue Service Time (g_s), s	2.7	10.0		6.4	9.5	9.8	25.9	23.3	26.6	3.7	17.8	17.9
Cycle Queue Clearance Time (g_c), s	2.7	10.0		6.4	9.5	9.8	25.9	23.3	26.6	3.7	17.8	17.9
Green Ratio (g/C)	0.08	0.14		0.17	0.18	0.18	0.33	0.43	0.43	0.09	0.24	0.24
Capacity (c), veh/h	269	270		577	333	301	1153	1543	670	307	457	432
Volume-to-Capacity Ratio (X)	0.412	0.793		0.475	0.640	0.661	0.904	0.723	0.791	0.488	0.849	0.851
Back of Queue (Q), ft/ln (95 th percentile)	52.8	235.9		121.2	202	192.1	439.2	362.7	386.1	71.4	367	349.2
Back of Queue (Q), veh/ln (95 th percentile)	2.1	9.3		4.8	8.0	7.7	17.3	14.3	15.2	2.8	14.5	14.0
Queue Storage Ratio (RQ) (95 th percentile)	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d_1), s/veh	39.5	37.2		33.9	34.3	34.5	28.6	21.0	22.0	39.0	32.4	32.4
Incremental Delay (d_2), s/veh	0.4	13.7		0.2	3.2	4.2	9.9	1.5	5.9	0.4	13.3	14.2
Initial Queue Delay (d_3), s/veh	0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	39.9	50.9	0.0	34.2	37.5	38.7	38.5	22.5	27.9	39.5	45.7	46.7
Level of Service (LOS)	D	D	A	C	D	D	D	C	C	D	D	D
Approach Delay, s/veh / LOS	21.0	C		36.5	D		29.8	C		45.1	D	
Intersection Delay, s/veh / LOS	32.2						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS	2.73	C	2.48	B	2.45	B	2.44	B
Bicycle LOS Score / LOS	1.69	B	1.05	A	2.71	C	1.23	A

HCS7 Roundabouts Report

General Information

Analyst	MSH
Agency or Co.	Solaegui Engineers
Date Performed	8/15/2018
Analysis Year	2018
Time Analyzed	AM Existing
Project Description	

Site Information

Intersection	Eagle Canyon/Neighborhood
E/W Street Name	Eagle Canyon Road
N/S Street Name	Neighborhood Way/Ember Dr
Analysis Time Period (hrs)	0.25
Peak Hour Factor	0.87
Jurisdiction	Washoe County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1
Lane Assignment			LTR		LT		R				LTR		LT		R	
Volume (V), veh/h	0	2	896	1	0	42	797	41	0	25	4	78	0	37	1	10
Percent Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	2	1050	1	0	49	934	48	0	29	5	91	0	43	1	12
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	10				10				10				10			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763		4.5436	4.5436			4.9763		4.5436	4.5436	
Follow-Up Headway (s)		2.6087		2.5352	2.5352			2.6087		2.5352	2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h		1053.00		983.00	48.00			125.00		44.00	12.00	
Entry Volume veh/h		1032.35		963.73	47.06			122.55		43.14	11.76	
Circulating Flow (v_c), pc/h	93			36			1095			1012		
Exiting Flow (v_{ex}), pc/h	1184			975			55			51		
Capacity (c_{pce}), pc/h		1255.11		1374.24	1374.24			451.67		565.38	565.38	
Capacity (c), veh/h		1228.81		1332.32	1332.32			442.81		554.29	554.29	
v/c Ratio (x)		0.84		0.72	0.04			0.28		0.08	0.02	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		20.2		13.0	3.0			12.6		7.4	6.7	
Lane LOS		C		B	A			B		A	A	
95% Queue, veh		10.9		6.8	0.1			1.1		0.3	0.1	
Approach Delay, s/veh	20.2			12.6			12.6			7.3		
Approach LOS	C			B			B			A		
Intersection Delay, s/veh | LOS	16.0						C					

HCS7 Roundabouts Report

General Information

Analyst	MSH
Agency or Co.	Solaegui Engineers
Date Performed	8/15/2018
Analysis Year	2018
Time Analyzed	PM Existing
Project Description	

Site Information

Intersection	Eagle Canyon/Neighborhood
E/W Street Name	Eagle Canyon Road
N/S Street Name	Neighborhood Way/Ember Dr
Analysis Time Period (hrs)	0.25
Peak Hour Factor	0.90
Jurisdiction	Washoe County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1
Lane Assignment			LTR		LT		R				LTR		LT		R	
Volume (V), veh/h	0	1	333	3	0	83	604	35	0	4	1	55	0	52	4	5
Percent Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	1	377	3	0	94	685	40	0	5	1	62	0	59	5	6
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	10				10				10				10			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763		4.5436	4.5436			4.9763		4.5436	4.5436	
Follow-Up Headway (s)		2.6087		2.5352	2.5352			2.6087		2.5352	2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h		381.00		779.00	40.00			68.00		64.00	6.00	
Entry Volume veh/h		373.53		763.73	39.22			66.67		62.75	5.88	
Circulating Flow (v_c), pc/h	158			7			437			784		
Exiting Flow (v_{ex}), pc/h	498			696			42			102		
Capacity (c_{pce}), pc/h		1174.60		1410.99	1410.99			883.69		695.74	695.74	
Capacity (c), veh/h		1149.99		1367.62	1367.62			865.17		680.48	680.48	
v/c Ratio (x)		0.32		0.56	0.03			0.08		0.09	0.01	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		6.3		8.7	2.9			4.9		6.3	5.4	
Lane LOS		A		A	A			A		A	A	
95% Queue, veh		1.4		3.6	0.1			0.2		0.3	0.0	
Approach Delay, s/veh	6.3			8.4			4.9			6.2		
Approach LOS	A			A			A			A		
Intersection Delay, s/veh | LOS	7.5						A					

HCS7 Roundabouts Report

General Information

Analyst	MSH
Agency or Co.	Solaegui Engineers
Date Performed	8/15/2018
Analysis Year	2018
Time Analyzed	AM Existing + Project
Project Description	

Site Information

Intersection	Eagle Canyon/Neighborhood
E/W Street Name	Eagle Canyon Road
N/S Street Name	Neighborhood Way/Ember Dr
Analysis Time Period (hrs)	0.25
Peak Hour Factor	0.87
Jurisdiction	Washoe County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1
Lane Assignment			LTR		LT		R				LTR		LT		R	
Volume (V), veh/h	0	7	896	1	0	42	797	62	0	25	4	78	0	102	1	17
Percent Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	8	1050	1	0	49	934	73	0	29	5	91	0	120	1	20
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	10				10				10				10			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763		4.5436	4.5436			4.9763		4.5436	4.5436	
Follow-Up Headway (s)		2.6087		2.5352	2.5352			2.6087		2.5352	2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h		1059.00		983.00	73.00			125.00		121.00	20.00	
Entry Volume veh/h		1038.24		963.73	71.57			122.55		118.63	19.61	
Circulating Flow (v_c), pc/h	170			42			1178			1012		
Exiting Flow (v_{ex}), pc/h	1261			983			86			51		
Capacity (c_{pce}), pc/h		1160.31		1366.76	1366.76			415.01		565.38	565.38	
Capacity (c), veh/h		1136.00		1325.14	1325.14			406.87		554.29	554.29	
v/c Ratio (x)		0.91		0.73	0.05			0.30		0.21	0.04	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		29.3		13.2	3.1			14.1		9.3	6.9	
Lane LOS		D		B	A			B		A	A	
95% Queue, veh		14.5		6.9	0.2			1.2		0.8	0.1	
Approach Delay, s/veh	29.3			12.5			14.1			9.0		
Approach LOS	D			B			B			A		
Intersection Delay, s/veh | LOS	19.9						C					

HCS7 Roundabouts Report

General Information

Analyst	MSH
Agency or Co.	Solaegui Engineers
Date Performed	8/15/2018
Analysis Year	2018
Time Analyzed	PM Existing + Project
Project Description	

Site Information

Intersection	Eagle Canyon/Neighborhood
E/W Street Name	Eagle Canyon Road
N/S Street Name	Neighborhood Way/Ember Dr
Analysis Time Period (hrs)	0.25
Peak Hour Factor	0.90
Jurisdiction	Washoe County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1
Lane Assignment			LTR		LT		R				LTR		LT		R	
Volume (V), veh/h	0	9	333	3	0	83	604	107	0	4	1	55	0	95	4	10
Percent Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	10	377	3	0	94	685	121	0	5	1	62	0	108	5	11
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	10				10				10				10			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763		4.5436	4.5436			4.9763		4.5436	4.5436	
Follow-Up Headway (s)		2.6087		2.5352	2.5352			2.6087		2.5352	2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h		390.00		779.00	121.00			68.00		113.00	11.00	
Entry Volume veh/h		382.35		763.73	118.63			66.67		110.78	10.78	
Circulating Flow (v_c), pc/h	207			16			495			784		
Exiting Flow (v_{ex}), pc/h	547			701			132			102		
Capacity (c_{pce}), pc/h		1117.33		1399.48	1399.48			832.93		695.74	695.74	
Capacity (c), veh/h		1093.92		1356.56	1356.56			815.47		680.48	680.48	
v/c Ratio (x)		0.35		0.56	0.09			0.08		0.16	0.02	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		6.8		8.8	3.3			5.2		7.1	5.5	
Lane LOS		A		A	A			A		A	A	
95% Queue, veh		1.6		3.7	0.3			0.3		0.6	0.0	
Approach Delay, s/veh	6.8			8.1			5.2			7.0		
Approach LOS	A			A			A			A		
Intersection Delay, s/veh | LOS	7.5						A					

HCS7 Roundabouts Report

General Information

Analyst	MSH
Agency or Co.	Solaegui Engineers
Date Performed	8/15/2018
Analysis Year	2028
Time Analyzed	AM Base
Project Description	

Site Information

Intersection	Eagle Canyon/Neighborhood
E/W Street Name	Eagle Canyon Road
N/S Street Name	Neighborhood Way/Ember Dr
Analysis Time Period (hrs)	0.25
Peak Hour Factor	0.87
Jurisdiction	Washoe County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1
Lane Assignment			LTR		LT		R				LTR		LT		R	
Volume (V), veh/h	0	2	1000	1	0	47	889	46	0	28	4	87	0	41	1	11
Percent Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	2	1172	1	0	55	1042	54	0	33	5	102	0	48	1	13
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	10				10				10				10			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763		4.5436	4.5436			4.9763		4.5436	4.5436	
Follow-Up Headway (s)		2.6087		2.5352	2.5352			2.6087		2.5352	2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h		1175.00		1097.00	54.00			140.00		49.00	13.00	
Entry Volume veh/h		1151.96		1075.49	52.94			137.25		48.04	12.75	
Circulating Flow (v_c), pc/h	104			40			1222			1130		
Exiting Flow (v_{ex}), pc/h	1322			1088			61			57		
Capacity (c_{pce}), pc/h		1241.11		1369.25	1369.25			396.79		507.81	507.81	
Capacity (c), veh/h		1215.10		1327.53	1327.53			389.01		497.86	497.86	
v/c Ratio (x)		0.95		0.81	0.04			0.35		0.10	0.03	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		33.4		17.1	3.0			16.0		8.5	7.5	
Lane LOS		D		C	A			C		A	A	
95% Queue, veh		17.2		9.8	0.1			1.6		0.3	0.1	
Approach Delay, s/veh	33.4			16.4			16.0			8.3		
Approach LOS	D			C			C			A		
Intersection Delay, s/veh | LOS	24.1						C					

HCS7 Roundabouts Report

General Information

Analyst	MSH
Agency or Co.	Solaegui Engineers
Date Performed	8/15/2018
Analysis Year	2028
Time Analyzed	PM Base
Project Description	

Site Information

Intersection	Eagle Canyon/Neighborhood
E/W Street Name	Eagle Canyon Road
N/S Street Name	Neighborhood Way/Ember Dr
Analysis Time Period (hrs)	0.25
Peak Hour Factor	0.90
Jurisdiction	Washoe County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1
Lane Assignment			LTR		LT		R				LTR		LT		R	
Volume (V), veh/h	0	1	371	3	0	93	674	39	0	4	1	61	0	58	4	6
Percent Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	1	420	3	0	105	764	44	0	5	1	69	0	66	5	7
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	10				10				10				10			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763		4.5436	4.5436			4.9763		4.5436	4.5436	
Follow-Up Headway (s)		2.6087		2.5352	2.5352			2.6087		2.5352	2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h		424.00		869.00	44.00			75.00		71.00	7.00	
Entry Volume veh/h		415.69		851.96	43.14			73.53		69.61	6.86	
Circulating Flow (v_c), pc/h	176			7			487			874		
Exiting Flow (v_{ex}), pc/h	555			776			46			113		
Capacity (c_{pce}), pc/h		1153.23		1410.99	1410.99			839.75		641.03	641.03	
Capacity (c), veh/h		1129.07		1367.62	1367.62			822.16		627.92	627.92	
v/c Ratio (x)		0.37		0.62	0.03			0.09		0.11	0.01	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		6.9		10.0	2.9			5.3		7.0	5.9	
Lane LOS		A		A	A			A		A	A	
95% Queue, veh		1.7		4.6	0.1			0.3		0.4	0.0	
Approach Delay, s/veh	6.9			9.6			5.3			6.9		
Approach LOS	A			A			A			A		
Intersection Delay, s/veh | LOS	8.5						A					

HCS7 Roundabouts Report

General Information

Analyst	MSH
Agency or Co.	Solaegui Engineers
Date Performed	8/15/2018
Analysis Year	2028
Time Analyzed	AM Base + Project
Project Description	

Site Information

Intersection	Eagle Canyon/Neighborhood
E/W Street Name	Eagle Canyon Road
N/S Street Name	Neighborhood Way/Ember Dr
Analysis Time Period (hrs)	0.25
Peak Hour Factor	0.87
Jurisdiction	Washoe County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1
Lane Assignment			LTR		LT		R				LTR		LT		R	
Volume (V), veh/h	0	4	1000	1	0	47	889	67	0	28	4	87	0	106	1	18
Percent Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	5	1172	1	0	55	1042	79	0	33	5	102	0	124	1	21
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	10				10				10				10			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763		4.5436	4.5436			4.9763		4.5436	4.5436	
Follow-Up Headway (s)		2.6087		2.5352	2.5352			2.6087		2.5352	2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h		1178.00		1097.00	79.00			140.00		125.00	21.00	
Entry Volume veh/h		1154.90		1075.49	77.45			137.25		122.55	20.59	
Circulating Flow (v_c), pc/h	180			43			1301			1130		
Exiting Flow (v_{ex}), pc/h	1398			1096			89			57		
Capacity (c_{pce}), pc/h		1148.53		1365.51	1365.51			366.07		507.81	507.81	
Capacity (c), veh/h		1124.47		1323.94	1323.94			358.90		497.86	497.86	
v/c Ratio (x)		1.03		0.81	0.06			0.38		0.25	0.04	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		53.2		17.3	3.2			18.0		10.8	7.7	
Lane LOS		F		C	A			C		B	A	
95% Queue, veh		22.8		9.9	0.2			1.7		1.0	0.1	
Approach Delay, s/veh	53.2			16.3			18.0			10.4		
Approach LOS	F			C			C			B		
Intersection Delay, s/veh | LOS	32.5						D					

HCS7 Roundabouts Report

General Information

Analyst	MSH
Agency or Co.	Solaegui Engineers
Date Performed	8/15/2018
Analysis Year	2028
Time Analyzed	PM Base + Project
Project Description	

Site Information

Intersection	Eagle Canyon/Neighborhood
E/W Street Name	Eagle Canyon Road
N/S Street Name	Neighborhood Way/Ember Dr
Analysis Time Period (hrs)	0.25
Peak Hour Factor	0.90
Jurisdiction	Washoe County

Volume Adjustments and Site Characteristics

Approach	EB				WB				NB				SB			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Number of Lanes (N)	0	0	1	0	0	0	1	1	0	0	1	0	0	0	1	1
Lane Assignment			LTR		LT		R				LTR		LT		R	
Volume (V), veh/h	0	9	371	3	0	93	674	111	0	4	1	61	0	101	4	11
Percent Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Flow Rate (v_{PCE}), pc/h	0	10	420	3	0	105	764	126	0	5	1	69	0	114	5	12
Right-Turn Bypass	None				None				None				None			
Conflicting Lanes	1				1				1				1			
Pedestrians Crossing, p/h	10				10				10				10			

Critical and Follow-Up Headway Adjustment

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Critical Headway (s)		4.9763		4.5436	4.5436			4.9763		4.5436	4.5436	
Follow-Up Headway (s)		2.6087		2.5352	2.5352			2.6087		2.5352	2.5352	

Flow Computations, Capacity and v/c Ratios

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Entry Flow (v_e), pc/h		433.00		869.00	126.00			75.00		119.00	12.00	
Entry Volume veh/h		424.51		851.96	123.53			73.53		116.67	11.76	
Circulating Flow (v_c), pc/h	224			16			544			874		
Exiting Flow (v_{ex}), pc/h	603			781			137			113		
Capacity (c_{pce}), pc/h		1098.13		1399.48	1399.48			792.32		641.03	641.03	
Capacity (c), veh/h		1075.12		1356.56	1356.56			775.72		627.92	627.92	
v/c Ratio (x)		0.39		0.63	0.09			0.09		0.19	0.02	

Delay and Level of Service

Approach	EB			WB			NB			SB		
Lane	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass	Left	Right	Bypass
Lane Control Delay (d), s/veh		7.5		10.2	3.4			5.6		8.0	5.9	
Lane LOS		A		B	A			A		A	A	
95% Queue, veh		1.9		4.7	0.3			0.3		0.7	0.1	
Approach Delay, s/veh	7.5			9.3			5.6			7.8		
Approach LOS	A			A			A			A		
Intersection Delay, s/veh | LOS	8.5						A					

HCS7 Two-Way Stop-Control Report

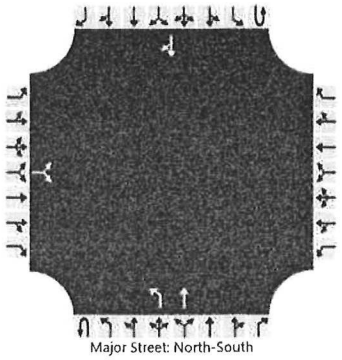
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	8/15/2018
Analysis Year	2018
Time Analyzed	AM Existing
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Neighborhood/South Access
Jurisdiction	Washoe County
East/West Street	South Access
North/South Street	Neighborhood Way
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	1	0	0	0	1	0
Configuration			LR							L	T					TR
Volume (veh/h)		0		3						11	36				45	0
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			3							12						
Capacity, c (veh/h)			1018							1557						
v/c Ratio			0.00							0.01						
95% Queue Length, Q_{95} (veh)			0.0							0.0						
Control Delay (s/veh)			8.5							7.3						
Level of Service (LOS)			A							A						
Approach Delay (s/veh)		8.5								1.7						
Approach LOS		A														

HCS7 Two-Way Stop-Control Report

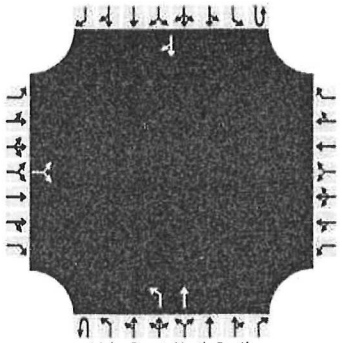
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	8/15/2018
Analysis Year	2018
Time Analyzed	PM Existing
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Neighborhood/South Access
Jurisdiction	Washoe County
East/West Street	South Access
North/South Street	Neighborhood Way
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	1	0	0	0	1	0
Configuration			LR							L	T					TR
Volume (veh/h)		0		15						10	27				46	0
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			17							11						
Capacity, c (veh/h)			1017							1555						
v/c Ratio			0.02							0.01						
95% Queue Length, Q_{95} (veh)			0.0							0.0						
Control Delay (s/veh)			8.6							7.3						
Level of Service (LOS)			A							A						
Approach Delay (s/veh)		8.6								2.0						
Approach LOS		A														

HCS7 Two-Way Stop-Control Report

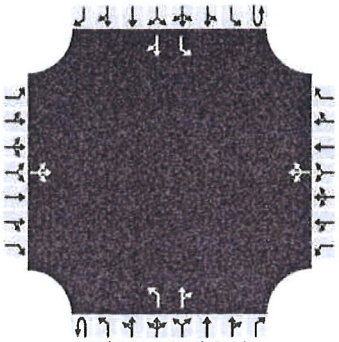
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	8/15/2018
Analysis Year	2018
Time Analyzed	AM Existing + Project
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Neighborhood/South Access
Jurisdiction	Washoe County
East/West Street	South Access
North/South Street	Neighborhood Way
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	0	0	1	1	0
Configuration			LTR				LTR			L		TR		L		TR
Volume (veh/h)		0	0	3		18	0	0		11	53	6		0	99	0
Percent Heavy Vehicles (%)		2	2	2		2	2	2		2				2		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.12	6.52	6.22		7.12	6.52	6.22		4.12				4.12		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32		3.52	4.02	3.32		2.22				2.22		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			3				20			12				0		
Capacity, c (veh/h)			943				753			1480				1536		
v/c Ratio			0.00				0.03			0.01				0.00		
95% Queue Length, Q_{95} (veh)			0.0				0.1			0.0				0.0		
Control Delay (s/veh)			8.8				9.9			7.5				7.3		
Level of Service (LOS)			A				A			A				A		
Approach Delay (s/veh)		8.8				9.9				1.2				0.0		
Approach LOS		A				A										

HCS7 Two-Way Stop-Control Report

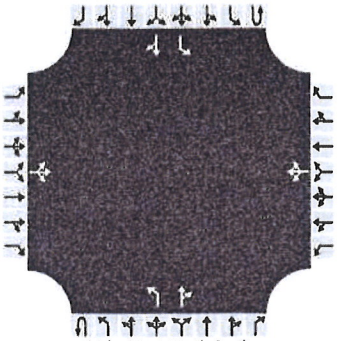
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	8/15/2018
Analysis Year	2018
Time Analyzed	PM Existing + Project
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Neighborhood/South Access
Jurisdiction	Washoe County
East/West Street	South Access
North/South Street	Neighborhood Way
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	0	0	1	1	0
Configuration			LTR				LTR			L		TR		L		TR
Volume (veh/h)		0	0	15		12	0	0		10	87	20		0	82	0
Percent Heavy Vehicles (%)		2	2	2		2	2	2		2				2		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.12	6.52	6.22		7.12	6.52	6.22		4.12				4.12		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32		3.52	4.02	3.32		2.22				2.22		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			17				13			11				0		
Capacity, c (veh/h)			966				709			1504				1469		
v/c Ratio			0.02				0.02			0.01				0.00		
95% Queue Length, Q_{95} (veh)			0.1				0.1			0.0				0.0		
Control Delay (s/veh)			8.8				10.2			7.4				7.5		
Level of Service (LOS)			A				B			A				A		
Approach Delay (s/veh)		8.8				10.2				0.6				0.0		
Approach LOS		A				B										

HCS7 Two-Way Stop-Control Report

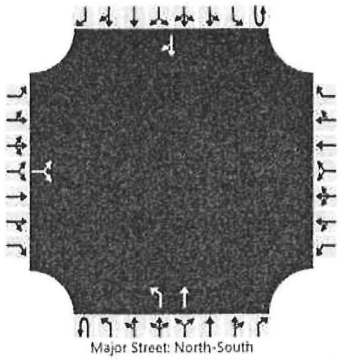
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	8/15/2018
Analysis Year	2028
Time Analyzed	AM Base
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Neighborhood/South Access
Jurisdiction	Washoe County
East/West Street	South Access
North/South Street	Neighborhood Way
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	1	0	0	0	1	0
Configuration			LR							L	T					TR
Volume (veh/h)		0		3						11	41				50	0
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			3							12						
Capacity, c (veh/h)			1011							1549						
v/c Ratio			0.00							0.01						
95% Queue Length, Q_{95} (veh)			0.0							0.0						
Control Delay (s/veh)			8.6							7.3						
Level of Service (LOS)			A							A						
Approach Delay (s/veh)		8.6								1.6						
Approach LOS		A														

HCS7 Two-Way Stop-Control Report

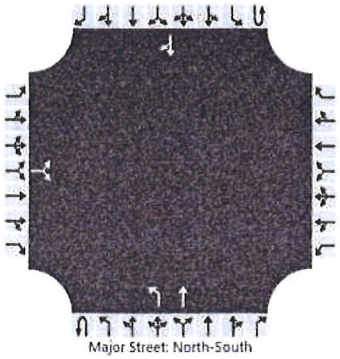
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	8/15/2018
Analysis Year	2028
Time Analyzed	PM Base
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Neighborhood/South Access
Jurisdiction	Washoe County
East/West Street	South Access
North/South Street	Neighborhood Way
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	1	0	0	0	1	0
Configuration			LR							L	T					TR
Volume (veh/h)		0		15						10	31				53	0
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)	0															
Right Turn Channelized																
Median Type | Storage	Undivided															

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			17							11						
Capacity, c (veh/h)			1007							1545						
v/c Ratio			0.02							0.01						
95% Queue Length, Q_{95} (veh)			0.1							0.0						
Control Delay (s/veh)			8.6							7.3						
Level of Service (LOS)			A							A						
Approach Delay (s/veh)	8.6								1.8							
Approach LOS	A															

HCS7 Two-Way Stop-Control Report

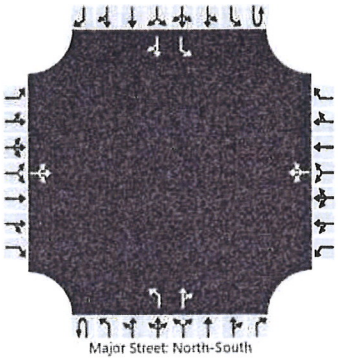
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	8/15/2018
Analysis Year	2028
Time Analyzed	AM Base + Project
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Neighborhood/South Access
Jurisdiction	Washoe County
East/West Street	South Access
North/South Street	Neighborhood Way
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes



Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	0	0	1	1	0
Configuration			LTR				LTR			L		TR		L		TR
Volume (veh/h)		0	0	3		18	0	0		11	58	6		0	104	0
Percent Heavy Vehicles (%)		2	2	2		2	2	2		2				2		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.12	6.52	6.22		7.12	6.52	6.22		4.12				4.12		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32		3.52	4.02	3.32		2.22				2.22		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			3				20			12				0		
Capacity, c (veh/h)			937				740			1473				1529		
v/c Ratio			0.00				0.03			0.01				0.00		
95% Queue Length, Q_{95} (veh)			0.0				0.1			0.0				0.0		
Control Delay (s/veh)			8.9				10.0			7.5				7.4		
Level of Service (LOS)			A				A			A				A		
Approach Delay (s/veh)		8.9				10.0				1.1				0.0		
Approach LOS		A				A										

HCS7 Two-Way Stop-Control Report

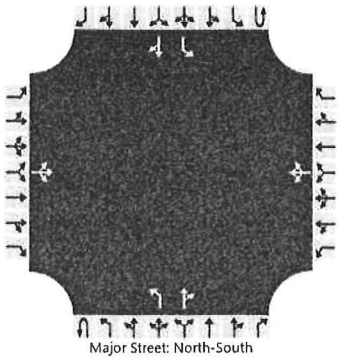
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	8/15/2018
Analysis Year	2028
Time Analyzed	PM Base + Project
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Neighborhood/South Access
Jurisdiction	Washoe County
East/West Street	South Access
North/South Street	Neighborhood Way
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	1	1	0	0	1	1	0
Configuration			LTR				LTR			L		TR		L		TR
Volume (veh/h)		0	0	15		12	0	0		10	91	20		0	89	0
Percent Heavy Vehicles (%)		2	2	2		2	2	2		2				2		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.12	6.52	6.22		7.12	6.52	6.22		4.12				4.12		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.52	4.02	3.32		3.52	4.02	3.32		2.22				2.22		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			17				13			11				0		
Capacity, c (veh/h)			957				696			1494				1464		
v/c Ratio			0.02				0.02			0.01				0.00		
95% Queue Length, Q_{95} (veh)			0.1				0.1			0.0				0.0		
Control Delay (s/veh)			8.8				10.3			7.4				7.5		
Level of Service (LOS)			A				B			A				A		
Approach Delay (s/veh)		8.8				10.3				0.6				0.0		
Approach LOS		A				B										

HCS7 Two-Way Stop-Control Report

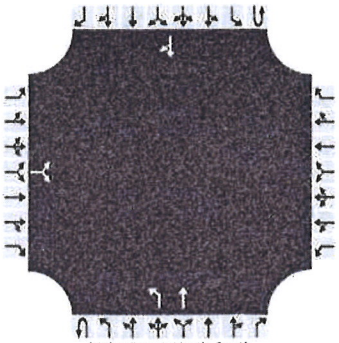
General Information

Analyst	MSH
Agency/Co.	Solaegui Engineers
Date Performed	8/15/2018
Analysis Year	2018
Time Analyzed	AM Existing
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Neighborhood/Mid Access
Jurisdiction	Washoe County
East/West Street	Middle Access
North/South Street	Neighborhood Way
Peak Hour Factor	0.90
Analysis Time Period (hrs)	0.25

Lanes


Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	1	1	0	0	0	1	0
Configuration			LR							L	T					TR
Volume (veh/h)		0		4						17	19				41	0
Percent Heavy Vehicles (%)		2		2						2						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized																
Median Type | Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.42		6.22						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.52		3.32						2.22						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			4							19						
Capacity, c (veh/h)			1024							1562						
v/c Ratio			0.00							0.01						
95% Queue Length, Q_{95} (veh)			0.0							0.0						
Control Delay (s/veh)			8.5							7.3						
Level of Service (LOS)			A							A						
Approach Delay (s/veh)		8.5								3.5						
Approach LOS		A														