

# Bautista Plaza

## Tucson, AZ

### Individual Parking Plan (IPP)

December 3, 2021  
**Revised March 1, 2022**



**Prepared for:**  
PEG TUC Bautista, LLC  
180 N. University Avenue, Suite 200  
Provo, Utah 84601  
Contact: Trevor Ellis

**Prepared By:**  
The WLB Group, Inc.  
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Tucson, Arizona 85711  
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WLB No. 103010-Q-001

## **A. Introductory Narrative**

### **Project Summary**

The Bautista project is a proposed mixed-use development located at the southeast corner of Linda Avenue and Paseo de los Zanjeros. It has been planned and designed utilizing the principles of smart growth and development and provides a range of compatible and complementary land uses. The proposed uses are as follows: 256 apartment units, food service (9,300 sq. ft. restaurant) and retail merchandising (10,500 sq. ft.)

The project is also strategically located such that both visitors and residents will be able to access the site via various transportation options, including by vehicle, streetcar, bus, bicycle and foot.

The site is suitable for this type of development based on its downtown location, availability of utilities, existing transportation options and compatibility with the neighborhood. These elements create a strong foundation for a mixed-use project that will make efficient use of the available resources and will contribute to the diversity of housing, commercial service and employment opportunities in the City of Tucson.

### **Reason for Individual Parking Plan (IPP) Application**

This application for an Individual Parking Plan (IPP) has been prepared to demonstrate that this project can function safely and efficiently without providing the number of onsite parking spaces required by the City of Tucson Unified Development Code. This IPP requests that the UDC required number of vehicular parking spaces for the commercial area of the project be reduced from 375 spaces to 370 spaces.

A cumulative reduction of up to 20% of the required parking may be requested (UDC Section 7.4.5E). The required parking for the apartments, however, cannot be reduced through the IPP process. Additionally, parking for restaurants must be provided at one space per 100 sq. ft of gross floor area and outdoor seating area during peak use times. Therefore, the 20% reduction is only being requested for the retail merchandising parking requirement based upon:

- 1) Streetcar Ridership
- 2) Bus Ridership
- 3) Mixed-Use Development
- 4) Public Area Amenity Incentive (Provided Plazas & Streetscape Areas)

Parking for the residential apartments will be provided for onsite in the basement parking garage. Parking for the retail and restaurant uses will be provided for offsite as further described in this document.

This IPP has been prepared to meet the UDC requirements found in UDC Section 7.4.5 Reduction and Exceptions.

## Individual Parking Plan (IPP) Public Process with the Neighborhood

A formal neighborhood meeting was held on October 26, 2021 for both the Infill Incentive District (IID) & Individual Parking Plans (IPP). Please reference the meeting notice/ mailing list and meeting summary included within the overall IID application.

*Note: The IID and IPP were both presented at the October 26, 2021 neighborhood meeting. The October 26, 2021 meeting notice, however, was incorrectly noted as being only for the IID Neighborhood meeting. Due to this notification error, a new IPP Neighborhood meeting was scheduled for February 10, 2022 to present only the IPP. The new meeting invitation noted that no new information that was not a part of the October 26, 2021 was to be presented. This meeting occurred on February 10, 2022 at 6:00 pm. The only attendees were two representatives from The WLB Group (David Little and Marwan Sami) and Trevor Ellis from PEG Development (the project developer). WLB and PEG remained within the virtual meeting until 6:20 pm to ensure that anyone who wanted to log in had the opportunity to do so.*

### **B. Individual Parking Plan (IPP) Requirements**

The following twelve items are per UDC Section 7.4.5 and represent the items required to be included in the IPP. This IPP identifies each item and then provides a response to each item, explaining how this project responds to each. Please refer to the following information.

- 1. Number of required parking spaces. Indicate the data source used in establishing the number of required parking spaces. Provide justification and methodology used (as applicable) to establish the number of required spaces.**

#### ***Required Number of Parking Spaces Per the UDC***

Table 1 on the following page identifies the required vehicular parking spaces for the entirety of the project per the Unified Development Code (UDC) Table 7.4.4-1: Minimum Number of Motor Vehicle Spaces Required.

This IPP requests that the required vehicular parking requirement for the project be reduced to 370 spaces.

Land Use Group	Motor Vehicle Parking Requirement per UDC	GFA (sf)	Required Number of Parking Spaces	Required Number of Parking Spaces After 20% Reduction*
<b>Apartments</b>	1 space per Unit	N/A	256	256
<b>Food Service (Restaurant)</b>	1 space per 100 sq. ft. and outdoor seating areas	9,323	93	93
<b>Retail</b>	1 space per 300 sq. ft. GFA*	10,500	35	28
<b>Total Spaces</b>			<b>384</b>	<b>377</b>

*\*Only applied to the General Merchandise Sales Parking Requirement*

*\*\*Within the Downtown Parking District*

**2. Location of parking spaces, including accessible parking spaces.**

Please refer to the Site Plan in the Development Package and the map on the following page for the location of all proposed vehicular onsite and offsite parking.

Please note that the residential ADA parking is being provided for within the basement parking garage. The required residential ADA spaces is 2% of the parking (6 spaces) plus one accessible space for each Type A unit (6 units) for a total of 12 accessible parking spots provided for in the garage.

The required accessible parking for the retail and restaurant uses is 2% of the code required 119 spaces or a total of 3 accessible spaces. These 3 spaces are provided for on the Linda Avenue street parking adjacent to the accessible ramp by the main staircase entry.



### 3. Existing and proposed site conditions and uses, including any available on-street parking.

#### EXISTING

A temporary, chip seal parking lot exists on the site. This lot was constructed several years ago as temporary parking for the El Rio Health Center while the health center was ongoing construction activities that limited onsite parking. The lot is now rarely used on a case-by-case basis for event parking and that event parking can be accommodated on Block 4A immediately north of the Mercado San Agustin Annex site.

Street parking is available along Avenida del Convento, Paseo de los Zanjeros and Linda Ave. Portions of the street parking on Avenida del Convento and Paseo de los Zanjeros are utilized regularly, while street parking along Linda Avenue is rarely used.

#### PROPOSED

A one level, basement parking structure is proposed on the Bautista Plaza site. This garage provides for parking for the residential apartment units onsite.

The parking for the Bautista retail and restaurant uses will be provided for by:

- 1) Linda Avenue On-Street Parking (31 spaces)
- 2) Block 2 Temporary Parking Lot (approximately 60 spaces)
- 3) Block 1A Temporary Parking Lot (approximately 100 spaces)

The proposed temporary lots will be chip sealed with landscaping and lighting as needed for security/safety. Curbing is not proposed due to the temporary nature of the parking lots.

A permanent public parking garage will be constructed on Block 4A at a later date, at which time the temporary parking lots will no longer be necessary and will be developed as other uses.

**4. Site access and traffic circulation patterns.**

The site can currently be accessed by car, bicycle or on-foot via Linda Avenue or Paseo de los Zanjeros. Bus and streetcar stops are both northwest and southwest of the site in very close proximity.

**5. Location and distance from the project site to existing residential neighborhoods.**

The Menlo Park Neighborhood is located to the north and west of the Mercado District. This neighborhood primarily contains single family residential units.

**6. Neighborhoods adjacent to the site with a Residential Parking Permit program.**

The Menlo Park Neighborhood nor the Mercado District do not currently have a Residential Parking Permit Program (City of Tucson, Residential Parking Permit Program).

**7. Availability, location and distance to alternate modes of transportation.**

Streetcar Access

The streetcar route is within Linda Avenue immediately adjacent to the site. Current streetcar stations are located on Cushing Avenue on the south side of the Mercado San Agustin Annex site and along Avenida del Convento just east of the Mercado project. A third stop along Linda Avenue is planned to be constructed when the demand for the stop is present.

Bus Access

The site has access to public transportation via an existing Sun Tran bus stops on the northwest corner of Congress Street and Linda Avenue. The proximity of the stop provides an opportunity for future residents to travel to off-site destinations via public transit, and allows future visitors to access the project using public transit.

Bicycle Access

The project is located along the Santa Cruz River loop trail. A bicycle route connection is planned as part of the Bautista project to provide a connection to the project from the existing loop trail at the north end of the project along Paseo de los Zanjeros. This connection also provides connectivity from the Menlo Park neighborhood and the remaining portions of the Mercado District to the Santa Cruz River loop trail.

**8. Hours of operation and peak use time(s) of each use.**

The following hours of operation and peak use times were collected from ULI shared parking methodology\*\*\*, which is based on nationally collected data:

*Commercial Services Use Group*

Food Service (Restaurant/Café):

- Typical Hours of Operation: 11 a.m. – 9 p.m.
- Typical Peak Use Times: 12 p.m. – 2 p.m. and 6 p.m. – 9 p.m.

*Retail Trade Use Group*

General Merchandise Sales:

- Typical Hours of Operation: 11 a.m. – 9 p.m.
- Typical Peak Use Times: 1 p.m. – 2 p.m. and 6 p.m. – 9 p.m.

\*\*\* Reference: **Smith, Mary, S.** *Shared Parking*, Second Edition, Washington, D.C. ULI-Urban Land Institute and the International Council of Shopping Centers, 2005.

**9. Evidence that all required parking for the proposed uses will either be on-site or at an approved off-site parking location.**

Residential parking will be provided onsite in the basement parking structure. The remaining parking will be provided for by Linda Ave street parking and the two temporary parking lots. These lots are well within the required 1,500 foot proximity to the site as allowed within the Downtown Parking District.

**10. Existing and proposed shared parking agreements, when applicable. The shared parking agreement must be prepared in a manner acceptable to the Director.**

The existing temporary lot on the Bautista site does serve as overflow parking for events for the Mercado San Agustin Annex project. Event parking is typically minimal and is slated to occur on the Block 4A lot immediately north of the MSA Annex project on a case-by-case basis as needed.

**11. For projects within 300 feet of an R-3 or more restrictive zone or Historic Preservation Zone, the IPP project must address how the proposal will not cause a safety hazard, noise, or parking impacts on an adjacent existing neighborhood.**

Please note that the Bautista project is in excess of 300 feet from the existing R-2 zoned neighborhood north of Congress Street. While there is R-2 zoned land east of the project, this area falls within the main channel of the Santa Cruz River. The two proposed temporary lots are within 250 - 275 feet of the R-2 zoned neighborhood north of Congress Street, although the immediate area north of Congress Street is zoned C-3.

This IPP addresses the following criteria:

- **Methods to avoid potential increases in noise and light intrusion as described in Section 7.4.5 A.5h, i and j** - Temporary, likely solar, lighting will be used within the proposed temporary parking lots. The lighting will be kept to the minimum needed for security purposes and will conform to the City of Tucson/Pima County Outdoor Lighting Code. Public street lighting along Congress Street already exists and, thus, light levels within the R-2 zoned neighborhood north of Congress will not be increased as a result of this project. Given the presence of the traffic on Congress Street and the significant buffer of C-2 Zoned land on the north side of Congress Street, noise levels are not expected to increase within the R-2 Zoned neighborhoods as a result of the two new temporary parking lots.

In accordance with UDC Section 7.4.5 A.5i, outdoor seating areas associated with the Bautista project will be further than 100 feet from the R-2 zoned Santa Cruz River land and the R-2 zoned neighborhood north of Congress Street.

In accordance with UDC Section 7.4.5 A.5j, outdoor speakers or music will not be within the temporary parking lots (the area within 600 feet of the R-2 zoned neighborhood north of Congress Street).

- **Methods to deter vehicular access into adjacent residential neighborhoods using signage or other means** - A traffic impact analysis was prepared for this project to evaluate the current and future transportation system immediate to and near the site. Of particular importance is the evaluation of the traffic entering and leaving the site and its effect on the existing surrounding residential neighborhoods, and methods used to deter vehicles from entering existing residential areas. The anticipated project trips to and from the project site are distributed to the east and west along Congress and Cushing Streets and not through the R-2 zoned neighborhood. Signage will be placed along Linda Avenue adjacent to the Bautista site to direct traffic coming in from either Congress or Cushing Streets into the temporary parking lots.
- **Methods to prevent drive-through traffic or habitual parking within adjacent residential neighborhoods or commercial development** – Please reference the above response regarding drive-through traffic in the R-2 zoned neighborhood north of Congress Street. The two temporary parking lots provide more than the necessary amount of spaces for the Bautista project. Further, these lots are much closer to the Bautista project than the R-2 zoned neighborhood to the north. Large event parking within the Mercado area, inclusive of MSA Annex event parking, will be accommodated on a temporary basis to the north of the MSA Annex project on Block 4A.

12. **Any other information deemed appropriate by the PDS Director including a traffic study** – A traffic study was prepared by M. Esparza Engineering, LLC, dated June 15, 2021 and reviewed as part of the 1<sup>st</sup> submittal of the Bautista Plaza project. A copy is also included with this IPP.



### ***C. Conclusion***

This IPP application contains the request for a slight reduction in the required parking spaces for the Bautista Plaza project from 375 spaces to 370 spaces. The residential parking for the 256 apartment units will be provided for on-site in the basement parking garage. The retail and restaurant parking will be accommodated for by on-street Linda Avenue parking as well as the construction of two temporary parking lots on Block 1A and Block 2. Ultimately, a large parking garage will be built on Block 4 immediately west of the Bautista Plaza site and the temporary lots will no longer be needed and these parcels will be developed.

# 15\_ SECOND NEIGHBORHOOD MEETING FOR IPP REVIEW



January 24, 2022

Dear Neighbor:

The WLB Group and PEG TUC BAUTISTA, LLC are pleased to invite you to a virtual neighborhood meeting to receive your comments regarding the Individual Parking Plan (IPP) application for The Bautista. The Bautista is a proposed 256-unit multi-family residential project with approximately 13,300 square feet of retail/commercial space on the street level and an approximate 8,000 square foot restaurant located on approximately 5.5 acres between Congress Street and Cushing Street on South Linda Avenue (see site plan below).

The Bautista will encourage pedestrian connectivity within the Mercado District by extending the Paseo from the Monier Apartment building, through the future Mercado Centro, to an open courtyard area in the center of The Bautista and to the Santa Cruz River Park. The IPP application is necessary to achieve design goals in compliance with the City of Tucson Unified Development Code.



## Site Plan

# SECOND NEIGHBORHOOD MEETING FOR IPP REVIEW

This virtual neighborhood meeting has been scheduled to give nearby property owners and neighborhood association representatives an opportunity to learn more about the proposed project and discuss it with the applicant. If you are aware of any other parties interested in the development of this property, please let them know about the meeting. The meeting will include a presentation on the proposed project, a review of the IPP process, and plenty of time for questions. See *Virtual Meeting Information & Instructions* on the following page.

Please note that a virtual neighborhood meeting was held on October 26, 2021. Information regarding both the use of the Infill Incentive District (IID) and the Individual Parking Plan (IPP) was presented. Due to an oversight, however, the meeting notice for the October 26<sup>th</sup> meeting did not specifically state that the meeting was being held for both the IID and IPP applications. Accordingly, a new meeting must be held for the IPP presentation. **No new information will be presented at this meeting. The presentation will offer the same information provided at the October 26, 2021 meeting.**

We look forward to answering any questions you might have at the neighborhood meeting. If you have any questions before the meeting, or if you cannot attend the meeting and would like to discuss the proposed project, please contact David Little at (520) 881-7480 or via email at [dlittle@wlbgroup.com](mailto:dlittle@wlbgroup.com). Comments and questions may also be mailed to The WLB Group, Attn: David Little, at 4444 East Broadway Boulevard, Tucson, AZ 85711. You may also submit comments to Scott Clark, City of Tucson Planning and Development Services Department Director.

If you have any questions regarding this matter, please contact me at (520) 881-7480.

Sincerely,



David W. Little, P.E.  
The WLB Group  
Senior Project Manager

# SECOND NEIGHBORHOOD MEETING FOR IPP REVIEW

## Virtual Meeting Information & Instructions

*Due to the impacts of the COVID-19 pandemic, the City has provided guidance for conducting public meetings remotely through technological means, as permitted under Arizona law.*

## Virtual Meeting Information & Instructions

### Date & Time

Thursday, February 10th, 2022

6:00 p.m. to 7:00 p.m.

You can log into the ZOOM meeting up to 30 minutes prior to the scheduled time. Once logged in, please wait and the presentation will start promptly at 6 p.m.

### Location

ZOOM Video/Telephone Conference

Meeting ID: 854 1440 8970

Passcode: 109652

To access the meeting:

- No earlier than 5:30 pm on Thursday, February 10th, 2022, visit <https://zoom.us/join>
- Enter the Meeting ID (854 1440 8970) and click *Join*.
- Click the *Launch Meeting* button, and then click the blue “*Join From Browser*” link that appears below.
- Enter your first and last name and then click the *Join* button.
- Enter the meeting passcode (109652) and click the blue *Join* button.
- If you prefer to call-in and listen to the presentation (audio only), dial 1-669-900-9128 and use your key pad to enter the meeting ID (854 1440 8970) and passcode (109652) when prompted.
- If you would like the zoom meeting link emailed directly to you, please email [dlittle@wlbgroup.com](mailto:dlittle@wlbgroup.com) when you receive this letter.



PLANNING & DEVELOPMENT SERVICES DEPARTMENT  
**LABELS AND MAP REQUEST**

Case Number: \_\_\_\_\_  
Case Name: \_\_\_\_\_  
Property Address: \_\_\_\_\_  
Parcel Number: \_\_\_\_\_  
Nearest two cross streets of the property:  
\_\_\_\_\_  
\_\_\_\_\_

Applicant's Name: \_\_\_\_\_  
Applicant's Phone: \_\_\_\_\_  
Applicant's Email: \_\_\_\_\_  
Applicant's Signature: \_\_\_\_\_  
*[Handwritten Signature]*

**APPLICANT TO ATTACH THE FOLLOWING WITH THIS REQUEST:**

- Check for \$220.00 addressed to the City of Tucson
- Assessor's Property or Properties Inquiry Printout
- Assessor's Block & Lot Map

**REQUESTED LABELS ARE FOR THE FOLLOWING PROCESS:**

- |   |                                    |   |  |
|---|------------------------------------|---|--|
| <input type="checkbox"/> B/A                  | <input type="checkbox"/> FLD       | <input type="checkbox"/> IPP                  | <input type="checkbox"/> Plan Amendment    |
| <input type="checkbox"/> DDO                  | <input type="checkbox"/> IID Major | <input type="checkbox"/> NPZ                  | <input type="checkbox"/> Rezoning          |
| <input type="checkbox"/> Differential Grading | <input type="checkbox"/> IID Minor | <input type="checkbox"/> Original City Zoning | <input type="checkbox"/> Special Exception |

**FOR STAFF USE**

**LABELS NEED TO INCLUDE THE FOLLOWING:**

- |  |  |
|--|--|
| <input type="checkbox"/> Aerial Map  | <input type="checkbox"/> Property Owners adjacent to fill site             |
| <input type="checkbox"/> Location Map                                      | <input type="checkbox"/> Council Office for the site                       |
| <input type="checkbox"/> Newspaper Map                                     | <input type="checkbox"/> Mayor's Office                                    |
| <input type="checkbox"/> Sign Map  | <input type="checkbox"/> Rezoning Map                                      |
| <input type="checkbox"/> Neighborhood Association Map                      | <input type="checkbox"/> Original City Zoning Map                          |
| <input type="checkbox"/> 300' Radius Mailing Labels (Property Owners)      | <input type="checkbox"/> Special Exception Map                             |
| <input type="checkbox"/> 50' Radius Mailing Labels (Property Owners)       | <input type="checkbox"/> Ordinance Map                                     |
| <input type="checkbox"/> Neighborhood Associations within 1 Mile           | <input type="checkbox"/> Approval/Protest Map                              |
| <input type="checkbox"/> Neighborhood Association Where Project is Located | <input type="checkbox"/> Case Maps   |
|  | <input type="checkbox"/> PDF & Photocopies of labels and notification maps |

Date received: \_\_\_\_\_ Date labels are due: \_\_\_\_\_

ACTIVITY #: **T21PRE0272**

Labels and map(s) to be returned and PDF e-mailed to: \_\_\_\_\_

AZ Jet Mail (if applicable)

- Excel spreadsheet for 300'
- Excel spreadsheet for neighborhood Labels

## BAUTISTA LABELS: T21PRE0272

116206350	11620019F	11620633B
URBAN TUCSON LP	R & M REAL ESTATE LTD PARTNERSHIP LLP	WEST END STATION LLC
261 GORHAM RD	6700 TOWER CIR STE 1000	200 N MAIN ST
SOUTH PORTLAND ME 04106	FRANKLIN TN 37067	OREGON WI 53575
11620637A	11620633A	11619194F
PEG PROPERTIES LLC	MISSION DISTRICT PARTNERS LLC	PIMA COUNTY
180 N UNIVERSITY AVE STE 200	127 W FRANKLIN ST	130 W CONGRESS ST
PROVO UT 84601	TUCSON AZ 85701	TUCSON AZ 85701
11620637B	11620134B	11619131A
RIVERSIDE DEVELOPMENT GROUP LLC	RIO NUEVO MULTIPURPOSE FACILITIES DISTRICT	BECK RUDY C & LILIA P JT/RS
127 W FRANKLIN ST	1703 E BROADWAY BLVD	701 W CONGRESS ST
TUCSON AZ 85701	TUCSON AZ 85719	TUCSON AZ 85745
116191290	11620021C	116191300
NUNEZ RENE & JOY CP/RS	R & M REAL ESTATE LTD PARTNERSHIP LLP	BECK RUDY C & LILLA P JT/RS
705 W ALAMEDA ST	222 S FREEWAY	PO BOX 86034
TUCSON AZ 85745	TUCSON AZ 85745	TUCSON AZ 85754

## BAUTISTA NHA LABELS: T21PRE0272

Patrick McKenna - N.A.-Barrio Hollywood

1011 W huron Street

Tucson, AZ 85745

Liza M. Grant - N.A.-Menlo Park

1016 W Congress St

Tucson, AZ 85745

Karen Greene - N.A.-Dunbar Spring

1023 N Perry Ave

Tucson, AZ 85705

Mike McGary - N.A.-Downtown Neighborhood Association

111 S Church, Apt #504

Tucson, AZ 85701

Erika Mitnik (Chair) - N.A.-Iron Horse

121 N Euclid

Tucson, AZ 85719

Jordan MIsna - N.A.-Barrio Hollywood

1231 W Delaware St, #2

Tucson, AZ 85745

Ernie Lujan - N.A.-Santa Rita Park-West Ochoa

1445 S 4th Ave

Tucson, AZ 85713

Martha McGrath - N.A.-Barrio Hollywood

1455 W Delaware St

Tucson, AZ 85745

Clarissa Canez (VP Chair) - N.A.-Barrio Santa Cruz

1520 S Santa Cruz

Tucson, AZ 85713

Raul E Ramirez (1st VP) - N.A.-Menlo Park

1931 W Brichta Dr

Tucson, AZ 85745

Zach Yentzer - N.A.-Menlo Park

214 S Grande Ave

Tucson, AZ 85745

Jonathan Tullis - N.A.-Iron Horse

216 N 1st Ave

Tucson, AZ

Mary Jo Curtin - N.A.-El Presidio

233 N Main Ave

Tucson, AZ 85701

Regina Romero - Mayor

255 W. Alameda ST

Tucson, AZ 85701

Steve Kozachik - Ward 6

3202 E. 1st St

Tucson, AZ 85716

Nicole Gonzales - N.A.-Barrio Santa Rosa

323 W. 19th Street

Tucson, AZ 85701

David Bachman-Williams - N.A.-Armory Park

350 E 15th St

Tucson, AZ 85701

Letitia A Gonzales - N.A.-Barrio Viejo

423 S Elias

Tucson, AZ 85701

Pedro M Gonzales - N.A.-Barrio Viejo

423 S Elias

Tucson, AZ 85701

Richard Fimbres - Ward 5

4300 S. Park Av

Tucson, AZ 85714

Yolanda Quiroz - N.A.-Santa Rita Park-West Ochoa

440 E 22nd St

Tucson, AZ 85713

Angela M. Quiroz - N.A.-Santa Rita Park-West Ochoa

448 E 22nd St

Tucson, AZ 85713

Mike Delich - N.A.-Barrio Anita

762 N Contzen Av

Tucson, AZ 85705

Nancy Robins - N.A.-Pie Allen

801 E 7th St

Tucson, AZ 85719

Gracie Soto - N.A.-Barrio Anita

809 N. Anita Ave.

Tucson, AZ

Yolanda Gonzales - N.A.-Barrio Santa Rosa

826 S. Rubio

Tucson, AZ 85701

Pat Homan - N.A.-Pie Allen

850 E. 7th St

Tucson, AZ 85719

BrianTaraz (Vice-Chair) - N.A.-Barrio Kroeger Lane

860 W 20th St

Tucson, AZ 85745

Josefina Cardenas - N.A.-Barrio Kroeger Lane

902 W 21st St

Tucson, AZ 85745

Jason Huaraque (Chair) - N.A.-Barrio Santa Cruz

911 W 25th St

Tucson, AZ 85713

# SECOND NEIGHBORHOOD MEETING FOR IPP REVIEW

PARCEL	MAIL1	MAIL2
116206350	URBAN TUCSON LP	261 GORHAM RD
11620019F	R & M REAL ESTATE LTD PARTNERSHIP LLP	6700 TOWER CIR STE 1000
11620633B	WEST END STATION LLC	200 N MAIN ST
11620637A	PEG PROPERTIES LLC	180 N UNIVERSITY AVE STE 200
11620633A	MISSION DISTRICT PARTNERS LLC	127 W FRANKLIN ST
11619194F	PIMA COUNTY	130 W CONGRESS ST
11620637B	RIVERSIDE DEVELOPMENT GROUP LLC	127 W FRANKLIN ST
11620134B	RIO NUEVO MULTIPURPOSE FACILITIES DISTRICT	1703 E BROADWAY BLVD
11619131A	BECK RUDY C & LILIA P JT/RS	701 W CONGRESS ST
116191290	NUNEZ RENE & JOY CP/RS	705 W ALAMEDA ST
11620021C	R & M REAL ESTATE LTD PARTNERSHIP LLP	222 S FREEWAY
116191300	BECK RUDY C & LILLA P JT/RS	PO BOX 86034



# SECOND NEIGHBORHOOD MEETING FOR IPP REVIEW

MAIL3	ZIP
SOUTH PORTLAND ME	04106
FRANKLIN TN	37067
OREGON WI	53575
PROVO UT	84601
TUCSON AZ	85701
TUCSON AZ	85701
TUCSON AZ	85701
TUCSON AZ	85719
TUCSON AZ	85745
TUCSON AZ	85745
TUCSON AZ	85745
TUCSON AZ	85754

# SECOND NEIGHBORHOOD MEETING FOR IPP REVIEW

Name	Address	City, State, Zip
Patrick McKenna - N.A.-Barrio Hollywood	1011 W huron Street	Tucson, AZ 85745
Liza M. Grant - N.A.-Menlo Park	1016 W Congress St	Tucson, AZ 85745
Karen Greene - N.A.-Dunbar Spring	1023 N Perry Ave	Tucson, AZ 85705
Mike McGary - N.A.-Downtown Neighborhood Association	111 S Church, Apt #504	Tucson, AZ 85701
Erika Mitnik (Chair) - N.A.-Iron Horse	121 N Euclid	Tucson, AZ 85719
Jordan Mlsna - N.A.-Barrio Hollywood	1231 W Delaware St, #2	Tucson, AZ 85745
Ernie Lujan - N.A.-Santa Rita Park-West Ochoa	1445 S 4th Ave	Tucson, AZ 85713
Martha McGrath - N.A.-Barrio Hollywood	1455 W Delaware St	Tucson, AZ 85745
Clarissa Canez (VP Chair) - N.A.-Barrio Santa Cruz	1520 S Santa Cruz	Tucson, AZ 85713
Raul E Ramirez (1st VP) - N.A.-Menlo Park	1931 W Brichta Dr	Tucson, AZ 85745
Zach Yentzer - N.A.-Menlo Park	214 S Grande Ave	Tucson, AZ 85745
Jonathan Tullis - N.A.-Iron Horse	216 N 1st Ave	Tucson, AZ
Mary Jo Curtin - N.A.-El Presidio	233 N Main Ave	Tucson, AZ 85701
Regina Romero - Mayor	255 W. Alameda ST	Tucson, AZ 85701
Steve Kozachik - Ward 6	3202 E. 1st St	Tucson, AZ 85716
Nicole Gonzales - N.A.-Barrio Santa Rosa	323 W. 19th Street	Tucson, AZ 85701
David Bachman-Williams - N.A.-Armory Park	350 E 15th St	Tucson, AZ 85701
Letitia A Gonzales - N.A.-Barrio Viejo	423 S Elias	Tucson, AZ 85701
Pedro M Gonzales - N.A.-Barrio Viejo	423 S Elias	Tucson, AZ 85701
Richard Fimbres - Ward 5	4300 S. Park Av	Tucson, AZ 85714
Yolanda Quiroz - N.A.-Santa Rita Park-West Ochoa	440 E 22nd St	Tucson, AZ 85713
Angela M. Quiroz - N.A.-Santa Rita Park-West Ochoa	448 E 22nd St	Tucson, AZ 85713
Mike Delich - N.A.-Barrio Anita	762 N Contzen Av	Tucson, AZ 85705
Nancy Robins - N.A.-Pie Allen	801 E 7th St	Tucson, AZ 85719
Gracie Soto - N.A.-Barrio Anita	809 N. Anita Ave.	Tucson, AZ
Yolanda Gonzales - N.A.-Barrio Santa Rosa	826 S. Rubio	Tucson, AZ 85701
Pat Homan - N.A.-Pie Allen	850 E. 7th St	Tucson, AZ 85719
Brian Taraz (Vice-Chair) - N.A.-Barrio Kroeger Lane	860 W 20th St	Tucson, AZ 85745
Josefina Cardenas - N.A.-Barrio Kroeger Lane	902 W 21st St	Tucson, AZ 85745
Jason Huarague (Chair) - N.A.-Barrio Santa Cruz	911 W 25th St	Tucson, AZ 85713
Columba Huarague - N.A.-Barrio Santa Cruz	911 W 25th St	Tucson, AZ 85713
Anna Montana Cirell - N.A.-Dunbar Spring	921 N Mail Ave	Tucson, AZ 85705
Lane Santa Cruz - Ward 1	940 W. Alameda St	Tucson, AZ 85745
Neil Saunders (Chair) - N.A.-Barrio Kroeger Lane	950 W 21st St.	Tucson, AZ 85745
Maurice Roberts - N.A.-Armory Park	P.O. Box 2132	Tucson, AZ 85702
JUDY SENSIBAR - N.A.-West University	P.O. Box 42825	Tucson, AZ 85733
MARGARET BLY - N.A.-West University	P.O. Box 42825	Tucson, AZ 85733
Sky Jacobs - N.A.-Dunbar Spring	P.O. Box 508	Tucson, AZ 85702
Amit Pande - N.A.-Panorama Estates	P.O. Box 85549	Tucson, AZ 85754
Nathan Hall - N.A.-Panorama Estates	P.O. Box 85549	Tucson, AZ 85754
LENOR GLOVER - N.A.-West University	PO Box 42825	Tucson, AZ 85733
Mary Jo Ghory - N.A.-Panorama Estates	PO Box 85549	Tucson, AZ 85754

# SECOND NEIGHBORHOOD MEETING FOR IPP REVIEW

First Name	Last Name	Email	Approval Status	Address	City	Zip/Postal	State/Province	Phone
David	Little	dlittle@wlbgroup.com	approved	4444 E Broadway	Tucson	85711	AZ	15208817480
Marwan	Sami	marwansami@email.arizona.edu	approved	8162 E Slate ridge Dr	Tucson	85715	AZ	
Trevor	Ellis	tellis@pegdev.com	approved	180 N University Avenue Suite 200	Provo	84601	UT	



# Bautista Multi Family Apartment Project

NEIGHBORHOOD MEETING – INDIVIDUAL PARKING PLAN

2.10.2022

## **BAUTISTA** PROJECT INTRODUCTION - Location



The Bautista is part of a Mercado District Project under development by the Gadsden Company in partnership with Peg Companies. The project is located between Congress Street and Cushing Street at South Linda Avenue. The 5.5 acre lot is currently vacant land.

# BAUTISTA Individual Parking Plan





February 10, 2022 Update

*The IID and IPP were both presented at the October 26, 2021 neighborhood meeting. The October 26, 2021 meeting notice, however, was incorrectly noted as being only for the IID Neighborhood meeting. Due to this notification error, a new IPP Neighborhood meeting was scheduled for February 10, 2022 to present only the IPP. The new meeting invitation noted that no new information that was not a part of the October 26, 2021 was to be presented. This meeting occurred on February 10, 2022 at 6:00 pm. The only attendees were two representatives from The WLB Group (David Little and Marwan Sami) and Trevor Ellis from PEG Development (the project developer). WLB and PEG remained within the virtual meeting until 6:20 pm to ensure that anyone who wanted to log in had the opportunity to do so. The meeting minutes for the October 26, 2021 meeting are below:*

**Bautista Plaza IID and IPP Neighborhood Meeting Summary**

Date: October 26, 2021

Location: Virtual Zoom Meeting

Time: 6:00 PM

(start time was delayed until 6:10 to await possible additional attendees to log in)

David Little with the WLB Group gave an overview of where the project is in permitting with the City and explained that this neighborhood meeting is a necessary component of the upcoming Infill Incentive District (IID) and Individual Parking Plan (IPP) application submittal.

Gwen Stanley with Lizard Rock Architects introduced the development team.

Adam Weinstein with Gadsden gave a brief history of the project and surrounding area as well as more information on the development team. He also introduced both Zack Yentzer and Jerry Anderson and gave an overview of their history/involvement with the Mercado area. Adam noted that this is a large transit related project and that the neighborhood has a LEED ND rating. Adam explained that the Bautista project is:

- A 250-unit apartment complex with 14,000 – 16,000 sq. feet of retail/restaurant space.
- Public realm features will include a grand paseo/plaza and a riverfront improvement, pedestrian and bike connection through the entirety of the Mercado District and that these aspects are key considerations in how the team is addressing the IID components.
- The Bautista is market rate apartments. The Mercado area, however, has a history of providing workforce and affordable housing.

David Little presented the Individual Parking Plan. He explained that there will be a subsurface one level parking garage that provides parking for all of the residential units. He explained the location of the retail/restaurant areas and stated that parking will not be provided onsite for these uses. To provide for this parking, temporary parking lots will be provided in two locations. The first location is on the lot west of Sentinel Plaza, which will provide approximately 75 parking spaces. The second lot will be east of the existing Mercado and will have approximately 115 parking spaces. David explained that the ultimate plan is to construct a public parking garage in the northern part of Block 4 that will provide parking for the overall area. The Sentinel Plaza lot and Linda Ave street parking provides the 90 +/- spaces needed for the retail/restaurant areas. David noted that this is a phased approach and that the temporary lots will be replaced by a Block 4 parking structure. He also noted that there will be 30-35 parking spaces for electric vehicles in the Bautista garage and that provisions will be made to easily convert additional spaces to electric charging spaces in the future. David also stated that the site has a strong presence of alternate transit options including the streetcar, bus routes and bicycle routes with proximity to the riverpark and loop trail.

Gwen Stanley walked through existing conditions and the context/scale of architecture reflected on Bautista. Other aspects described were the street activity components/commercial area along Linda Avenue, shaded arcades and shaded decks. She noted that pedestrian connectivity is a large part of the design. She presented views of the building, which is a 5 story building broken down in scale at the street level. Other items noted were the pedestrian scale of the streetscape and the anticipated street activity along Linda Avenue and the shaded arcades and additional shade from landscaping. She concluded with an explanation of the planned, strong pedestrian connections through the project from the existing neighborhood through Bautista to the riverpark and the streetcar connection to the project.

Gary Grizzle with The WLB Group presented the landscape/hardscape plan for the streetscape, plaza and riverpark. He noted the connectivity to the loop trail/riverpark, connections for bike access, the two ADA walks within the riverpark and connection to the plaza, the grand staircase, and the riverpark connection to Cushing Street. There will be a soft trail through the riverpark with riparian native plant material. In the plaza, there will be a series of experiences as one walks east to west with shade trellises, built-in planters with seating and an alley of trees. The plaza will be focused on the fountain on the west end and access to the loop trail via the grand staircase. There will be a stone wall with ornamental iron fencing along the top of the riverpark, a bocci ball court and a restaurant with outdoor dining. Gary also reviewed the shade studies for the project.

Gwen Stanley presented the building elevations with a focus on the Linda Ave streetscape and shade.

The presentation ended and David Little asked for comments/questions.

Jerry Anderson noted that he lives on the third floor of the Monier and has great views. He said that with the Bautista having a maximum of 5 story construction that this will take out some of the freeway noise for Monier residents. He commented on the stepped down building approach, which can help to retain as much of the views from the Monier project as possible. He said that the existing street network



Columba Huarague - N.A.-Barrio Santa Cruz

911 W 25th St

Tucson, AZ 85713

Anna Montana Cirell - N.A.-Dunbar Spring

921 N Mail Ave

Tucson, AZ 85705

Lane Santa Cruz - Ward 1

940 W. Alameda St

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Mary Jo Ghory - N.A.-Panorama Estates

PO Box 85549

Tucson, AZ 85754

handles events well. He is concerned about cut-through traffic on Avenida from Cushing to Congress and that this is something to keep in mind during the development of this area.

Jerry Dxion addressed Jerry Anderson and noted that the future Block 4 parking garage will be off of Linda to shift traffic to Linda.

Jerry Anderson asked about the substance to rumors of a grocery store being built in the area and Gadsden confirmed the discussions are happening with a prospective grocer.

Via Zoom chat, Zack Yentzer asked for a copy of the meeting recording as he had to leave midway through the meeting. [This recording was provided to Zack on October 27<sup>th</sup>]

The meeting concluded at approximately 6:45 pm.

**DATE:** 1.24.2022

City of Tucson  
Planning & Development Services  
Entitlements Section  
201 North Stone Avenue  
PO Box 27210  
Tucson, AZ 85726-7210

**SUBJECT: Neighborhood Mailing Certification**

**ACTIVITY NUMBER:** T21PR0091

**PROJECT LOCATION:** 165 S. Linda Avenue

This serves to place on record the fact that on 1.24.2022, Robert Longaker,  
(date) (name)

The WLB Group, Inc., mailed notice of the 2.10.2022  
(Company/Organization) (date of meeting)

neighborhood meeting such that the notice was received at least ten (10) days prior to the date of the meeting.



Signature: \_\_\_\_\_

Date: 1.24.2022

**\*\*Include the certification in the neighborhood meeting portion of the application\*\***

Attachment: copy of mailing labels



# INDIVIDUAL PARKING PLAN (IPP) LABELS

Liz Madsen - WLB

**T21PRE0272 – 165 S LINDA AVE**

**Labels expire on 2/21/2022**

- Mailing labels must be used by the expiration date.
- If mailing labels expire, an additional \$220 must be paid for a second set of labels.
- Neighborhood meetings must be held no sooner than 10 days after the notice is mailed.
- The IPP application must be submitted within 60 days of the date of the neighborhood meeting.
- If the neighborhood meeting is more than 60 days old at the time of application submittal, an additional \$220 will be charged and a new neighborhood meeting may be required prior to resubmitting the application.

**Documentation of the neighborhood meeting will be required with the IPP application.**

This documentation should include: **1)** a copy of the mailed meeting notice, **2)** the mailing list, **3)** proof of mailing that includes the date the notices were mailed, **4)** a list of participants attending the meeting, **5)** a summary of the meeting, and **6)** a copy of the recording or link that can be accessed.



# MEMORANDUM

---

**DATE:** April 27, 2020

A handwritten signature in black ink, appearing to read "Scott Clark".

for

**TO:** Public at Large and All Interested Parties

**FROM:** Scott Clark, Director  
Planning & Development Services

**SUBJECT:** Notice of Changes to Neighborhood Meeting Requirements During COVID-19 Pandemic

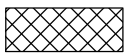
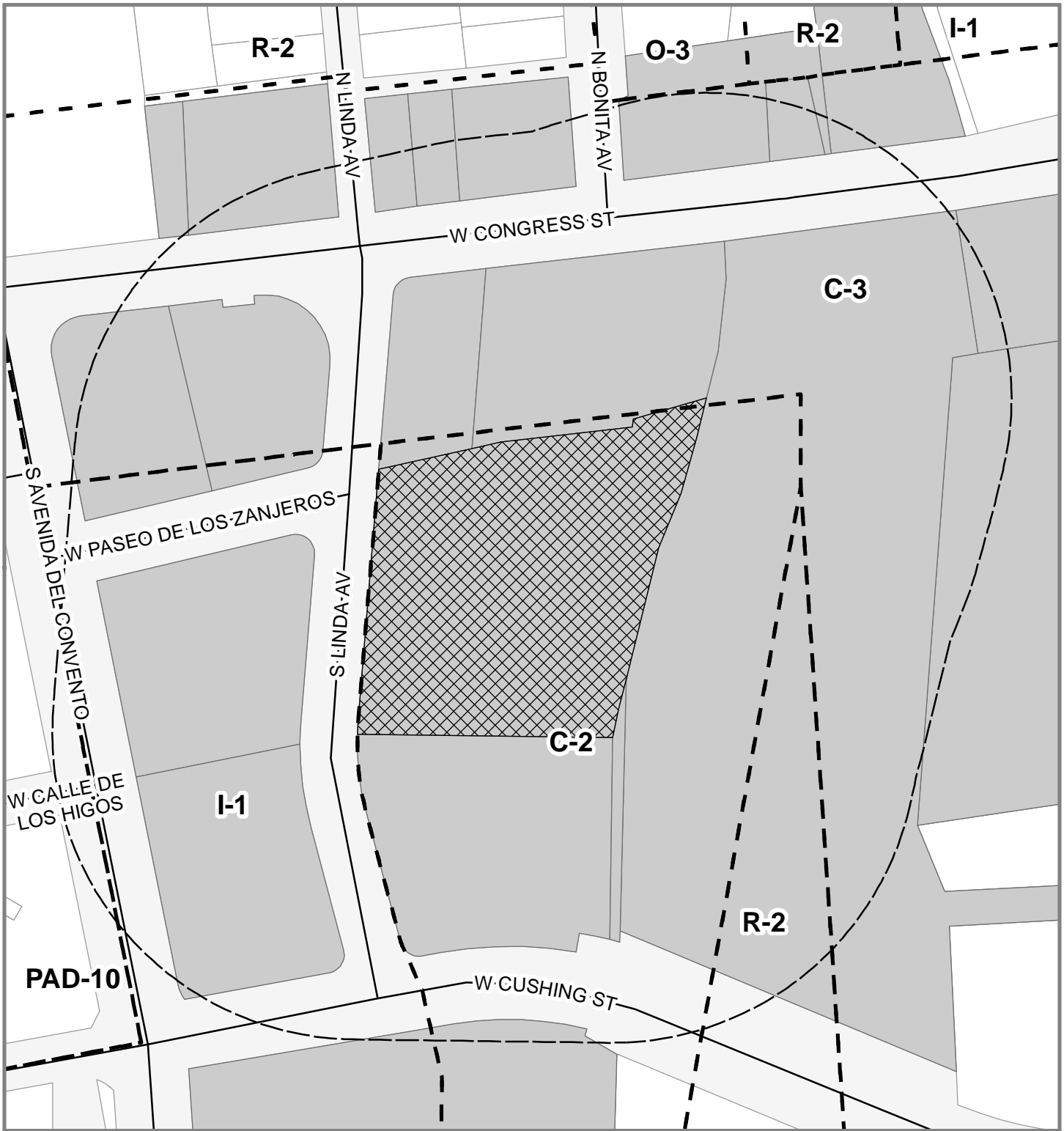
**Due to the impacts of the COVID-19 pandemic, which have prompted declarations of a public health emergency at the local, state and federal levels, neighborhood meetings required by the City of Tucson Unified Development Code Section 3.2.2 will be conducted using measures to protect public health. These meetings will be held remotely through technological means, as permitted under Arizona law.**

**IN-PERSON ATTENDANCE BY MEMBERS OF THE PUBLIC WILL BE PROHIBITED.**

The following process will be followed until further notice:

- 1) Applicant shall hold an online neighborhood meeting with the purpose of the meeting to provide basic information about the proposed project, answer questions, and listen to comments and suggestions from the public.
- 2) Applicants may use their preferred platform (such as GoToMeeting, Zoom, Webex, etc) to hold the online meeting, provided it meets the following requirements: presenter(s) can share visual presentation; meeting can be accessed by the public online or using a call-in number; a channel is available for viewers to submit comments and questions during the meeting; meeting video and audio can be recorded.
- 3) Applicants are required to mail a neighborhood meeting invitation at least ten days prior to the date of the meeting to parties required to be noticed based on the application type. However, it is suggested that applicants mail the invitation letter between 14 to 21 days prior to the neighborhood meeting to allow additional notice. In addition to the invitation letter, the mailing should include a narrative description of the project, location map, and conceptual plan. The letter must include a link and instructions on how to access the meeting from a computer, tablet, or smartphone. The letter shall also include applicant contact information (phone, email and mailing address) where comments and questions can be directed.
- 4) The neighborhood meeting mailing list will be provided by the City of Tucson upon request of the applicant.
- 5) Those interested parties unable to attend the virtual web-based meeting may submit written comments on any aspect of the proposed project by sending an email to the applicant. The email should reference the project name and include the individual's name, address, and contact information.
- 6) Applicants must submit meeting notes including a list of online participants and comments received during the meeting, as well as audio/video file of the meeting, and any correspondence or comments received by mail, email or phone, before, during or after the meeting as part of their application submittal.

T21PRE0272



Subject Property



Notification Area (400 ft. Radius)



Zone Boundaries



Properties Notified

Address: 165 S Linda Av

Base Maps: Twp. 14S Range 13E Sec. 14

Ward: 1

0 90 180 Feet



1 inch = 184 feet

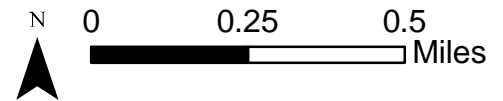


Created by: MB, 12/21/2021

# T21PRE0272



-  Subject Property
-  1 Mile Notification Area



TRAFFIC IMPACT ANALYSIS



M Esparza Engineering, LLC  
2934 W. Salvia Drive  
Tucson, AZ 85745

June 15, 2021



# Bautista Apartments

## Traffic Impact Analysis

Prepared for:  
**Lizard Rock Designs**

For Submittal To:  
**City of Tucson, AZ**

Prepared by:  
**M Esparza Engineering, LLC**  
2934 W. Salvia Drive  
Tucson, AZ 85745  
  
Phone: (520) 207-3358  
Project No. 2021.18  
Marcos Esparza, P.E., Principal



**June 15, 2021**

This study has been prepared using available traffic data and forecasts, as well as limited field data collected specifically for this study. It is intended for use in making a determination regarding the transportation infrastructure needs of the study area. It does not represent a standard or specification. The document is copyrighted by M Esparza Engineering, LLC, 2934 W. Salvia Drive, Tucson, AZ 85745, telephone 520-207-3358. All rights are reserved pursuant to United States copyright law. The document may not be reproduced digitally or mechanically, in whole or in part, without the prior written approval of M Esparza Engineering, LLC, except as noted in the following. (1) Limited quotations may be made, for technical purposes only, as long as proper citation to the authors is provided. (2) Governmental agencies to which this report is submitted for review may make limited copies for internal use and to fulfill public requests under the Freedom of Information Act.

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# 1. Executive Summary

## Purpose of Report and Objectives

This traffic impact analysis (TIA) supports a Development Plan submittal for a 256-unit multi-family residential project within the Mercado District. The project also has approximately 10,443 square feet of ground floor commercial and a 5,876 square foot restaurant. This report identifies the transportation-related impacts of the proposed project.

Because the project will generate fewer than 500 peak hour trips, the City of Tucson requires a Category I TIA.

This TIA is subject to review by the City of Tucson. This study has been prepared in accordance with the *Transportation Access Management Guidelines for the City of Tucson*, which provides guidance on conducting traffic studies within the City. The project is a moderate-scale development expected to generate over 100 but fewer than 500 new trips during the peak hours. Accordingly, this report is a Category I TIA. For the purposes of this study, we have assumed that the project will have a build out year of 2023, although full buildout will be subject to market forces.

The undeveloped Mercado District land uses will generate additional trips, and future development will require updated traffic studies to determine if other mitigation will be required to maintain acceptable operational conditions on the project area roadways.

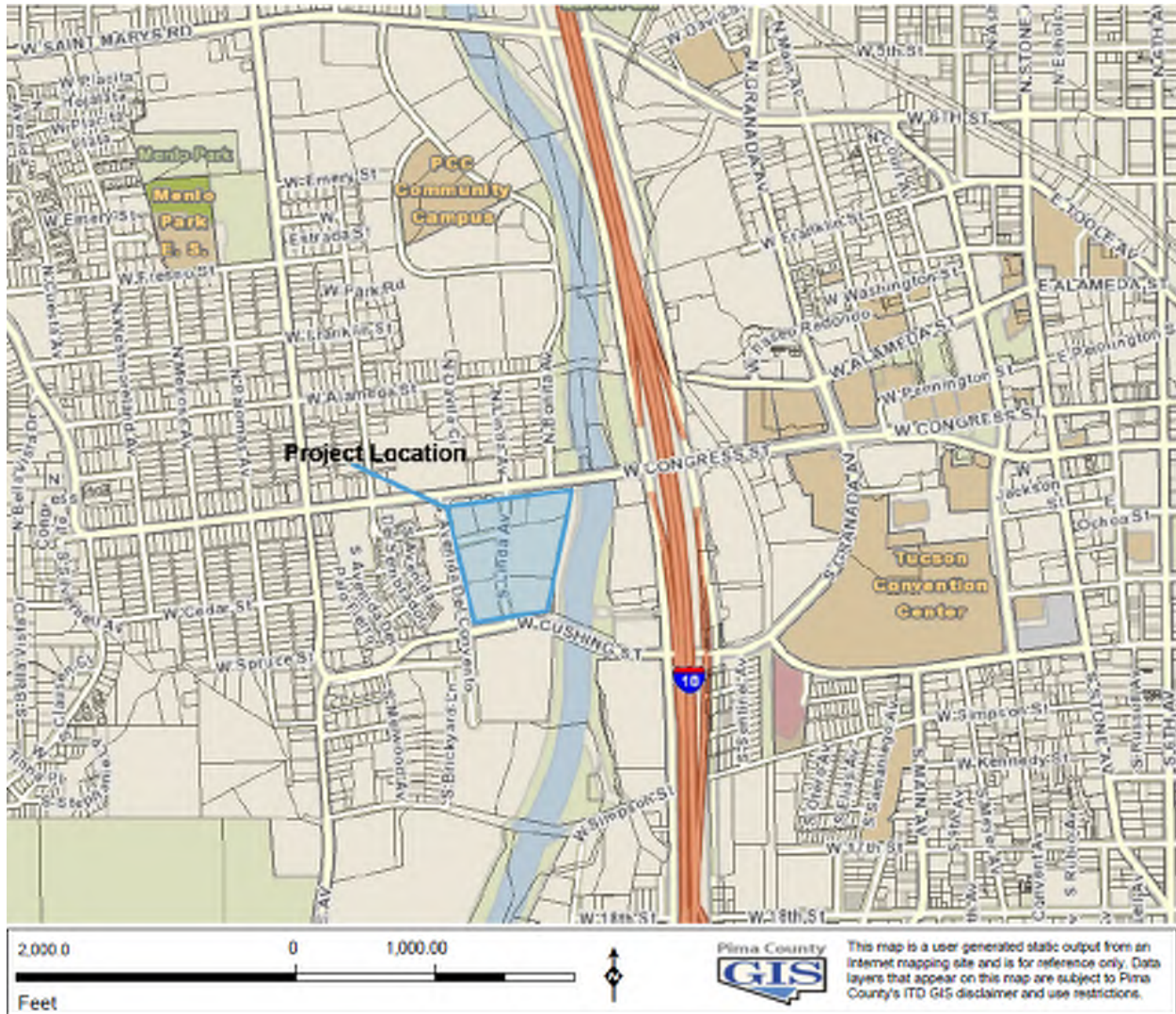
For the Bautista Apartments project, the specific study objectives are:

- Evaluate existing intersections adjacent to or near the project site including:
  - Congress/Avenida del Convento
  - Congress/Linda
  - Cushing/Avenida del Convento
  - Cushing/Linda
  
- Evaluate the impact of the project on the following streets:
  - Congress Street
  - Cushing Street
  - Avenida del Convento
  - Linda Avenue
  
- Evaluate the effects the proposed development will have on pedestrian, bicycle and transit activity in the area.
- Provide recommendations to mitigate (if necessary) undesirable traffic conditions that the project may create.

## Site Location and Study Area

The site location is south of Congress Street and bounded by Linda Avenue on the west, the Santa Cruz River on the east and Cushing Street on the south. The project location is shown in Exhibit 1.

### Exhibit 1 Regional Location Map



#### Development Description

The project is part of the larger Mercado District area which contains existing multi-family residential units, as well as commercial and retail uses. The developer of the Mercado District area also plans to add more multi-family residential, office, hotel and retail uses within the area.

For the purposes of this project, the intensities of the new land uses in the Bautista Apartments project are approximately:

- Retail – 10,443 square feet
- Multi-Family Residential – 256 units
- Restaurant – 5,876 square feet

Trip generation rates and the resulting trips estimates are provided herein. Applying average rates and trip rate equations from the Institute of Transportation Engineers' *Trip*

*Generation Manual (10<sup>th</sup> Edition)* for the other planned uses yield 160 am peak hour trips, 210 pm peak hour trips and 2,446 weekday trips. Applying pass-by trip rates for the Shopping Center and Restaurant reduces PM peak hour trips resulting in 172 new PM peak hour trips. There will likely also be some internal trips given that apartment renters will be patrons of the restaurant and commercial/retail uses.

## Principal Findings

The project will generate approximately:

- 160 morning peak hour trips,
- 210 evening peak hour trips,
- 2,446 weekday trips.

However, applying pass-by rates for the restaurant and commercial components, the new external trips are calculated to be:

- 160 morning peak hour trips,
- 172 evening peak hour trips,
- 2,446 weekday trips.

Two of the study area intersections (Cushing/Avenida del Convento, Congress/Linda) currently experience peak hour delays resulting in LOS E or F conditions.

The minor streets (Avenida del Convento and Linda Avenue) approaches to Congress Street and Cushing Street will experience high delays during the weekday (and possibly weekend) peak periods. These delays will increase in future years. However, the feasibility of widening the minor street approaches to provide new turn lanes, which would improve the projected levels of service on these approaches, may be constrained by the available rights-of-way and the fixed constraint of the Sun Link route infrastructure.

By the year 2023, two of the intersections will continue to have turning movements that will operate at LOS E or F with the project.

Left turn lane warrants are met under existing (2021) conditions for the following movements:

- Avenida del Convento at Congress – NB left turn
- Avenida del Convento at Cushing – SB left turn
- Cushing at Avenida del Convento – EB left turn
- Cushing at Linda – EB left turn

Right turn lane warrant is met under 2023 No Project conditions for the following location:

- Congress at Avenida del Convento – EB Right Turn

Daily traffic volumes on the project roadways will be below their LOS D thresholds through the year 2023 with the project traffic.

The mixed-uses within the proposed development will generate peak site traffic volumes during different times and days. For instance, the residential use will generate the highest traffic during the morning and evening commuter periods, where the retail and restaurant uses will generate their highest site traffic well after the morning commuter peak hours and may be highest on the weekends. The analysis provided herein analyzes conditions only during the peak commuter weekday periods.

On-site circulation must be carefully managed to promote pedestrian and bicycle use. The provision of safe pedestrian linkages within the project area will provide for safe and efficient movement associated with Mercado District patronage.

As the rest of the Mercado District develops, traffic impact studies should be conducted to supplement the recommendations contained herein. The studies will consider travel culture at the time of the development such as patron or employee travel modes.

It should be noted that the street network in the Mercado District, inclusive of Avenida del Convento, Linda Avenue and Cushing Street and the Sun Link infrastructure were all designed, built, and partially funded by the City of Tucson in anticipation of urban development such as the Bautista Apartments. The deliberate "Complete Streets" design promoted by the City of Tucson for this area supports pedestrian movement and alternative mode uses. Widening roadways or adding auxiliary lanes within the area may be contrary to the original design intent of the Mercado District circulation network.

## 2. Project Description

### Site Location

The site location is west of downtown Tucson. It is south of Congress Street and is generally bounded by Linda Avenue on the west, the Santa Cruz River on the east and Cushing Street on the south. Interstate 10 runs north-south near the project site providing good regional access to the project area. Exhibit 2 shows the location of the project and includes existing and planned land uses within the existing Mercado district project area.

### Land Use

#### Existing and Future Land Use

Exhibit 2 shows the project within the Mercado District with existing and planned land uses.

**Exhibit 2 Existing and Planned Land Uses**





### **Proposed Development Details**

The development Plan includes a 256-unit multi-family residential project with approximately 10,443 square feet of ground floor commercial and a 5,876 square foot restaurant.

### **Access Geometrics**

Access to the planned land uses will be provided via existing roadways within the Mercado District. The primary north-south road for direct access is Linda Avenue, although some north-south traffic may prefer Avenida del Convento because of the traffic signal operation at Congress Street/Avenida del Convento.

### **Development Phasing and Timing**

Development phasing and timing is unknown and will be subject to market forces. For the purpose of this study, we have assumed full buildout by the year 2023.

### 3. Existing Conditions

#### Study Area

#### Roadway System

Exhibit 4 is a tabulation of the major streets within the project area with number of lanes, speed limit and facilities (bike lanes, sidewalks).

**Exhibit 4 Roadway Inventory**

Street Name	From	To	Average Daily Trip (ADT)	Data Source	Data Year	Classification	Travel Lanes	Daily Capacity (vpd)*	Speed Limit	Bike Facilities	Pedestrian Facilities
Congress Street	Grande Avenue	I-10	13,641	PAG	2020	Minor Arterial	4	29,160	30	Yes	Sidewalk
Avenida Convento	Congress Street	Cushing Street	2,800	Estimated from Peak Hour Volumes	2019	Local	2	10,656	25	No	Sidewalk
Cushing Street	Grande Avenue	I-10	3,700	Estimated from Peak Hour Volumes	2019	Local	2	10,656	25	Yes	Sidewalk
Linda Avenue	Congress Street	Cushing Street	1,000 - 2,000 (est.)	Estimated from Peak Hour Volumes	2019	Local	2	10,656	25	No	Sidewalk

\*LOS D Capacities from Florida DOT 2012 Level of Service Handbook Tables.

#### Pedestrian/Bicycle Facilities

There are sidewalks along Congress Street, Cushing Street, Avenida del Convento and Linda Avenue. Congress Street, Cushing Street, Avenida del Convento and Grande Avenue are designated as bike routes in the Tucson Bike Map. The Santa Cruz River Park includes access to The Loop bikeway. There are two Tugo (Tucson’s Bike Share Program) stations within the Mercado District; one on the east side of Avenue del Convento, and one north of Cushing Street.

#### Transit

Sun Tran Routes 21 (W. Congress/Silverbell) and 22 (Grande) run on Congress Street in the vicinity of the project. The western terminus of the Sun Link streetcar route is within the Mercado District and loops on Congress, Avenida del Convento, Cushing and Linda. There are Sun Tran Bus stops on Congress Street within walking distance to the project area and two Sun Link stops within the Mercado District. Exhibit 5 shows the Sun Link routes.

Exhibit 5 Sun Link Routes



**Existing Land Use**

Exhibit 2 shows the existing and planned land uses within the Mercado District. The existing uses within the Mercado District are:

1. Mercado San Augustin – Includes restaurants, retail and a fitness studio.
2. Monier Apartments – 122-unit apartment with ground floor retail
3. West End Station – 70-unit apartment building.
4. MSA Annex – includes restaurants, retail and entertainment within modified shipping containers.
5. Sentinel Plaza – 143-unit senior and low-income apartment building.

South of Cushing Street, and with access from Avenida del Convento, the Caterpillar Tucson Mining Center headquarters building recently opened in 2019. The El Rio Community Health Center is north of the study area on the north side of Congress Street.

## 4. Existing Traffic Data

### Traffic Volumes

A recorded 2018 daily traffic volume of 14,796 vehicles per day were collected by PAG on Congress Street, between Grande Avenue to I-10. PAG estimates the daily volume for the year 2020 to be less at 13,641, presumably because of the impacts of the COVID-19 pandemic. We collected traffic data at project area intersections in 2019 and estimated daily traffic volumes on Avenue Convento (2,800 vpd) and Cushing Street (3,700 vpd) We estimate that there are between 1,000 and 2,000 vpd on Linda Avenue south of Congress Street.

We estimated roadway segment performance using the planning methods contained in the locally accepted Florida Department of Transportation (FDOT) Level of Service Handbook. A four-lane road can carry approximately 29,100 vpd at LOS D. The traffic volumes on Congress Street are well below this threshold. A two-lane roadway can carry about 10,600 vpd at LOS D. All other project area roadways operate below their LOS D daily volume threshold.

Peak hour intersection turning movement counts at the project intersections of Congress/Avenida del Convento, Congress/Linda, Cushing/Avenida del Convento and Cushing/Linda were collected by Field Data Services of Arizona in March 2019. Due to COVID-19, traffic volumes decreased in 2020 and are slowly returning to typical numbers this year. For this reason, we have applied the intersection counts collected in 2019 as “existing” turning movement volumes.

Because the intersection data were collected prior to the opening of the Caterpillar building (currently open) and the Monier Apartments (to be open later this year) we also estimated the site traffic from these projects. The trip generation for the Caterpillar (CAT) Headquarters project was taken from the traffic study conducted by Psomas for that project. The Monier Apartments trip generation was estimated from a previous (2019) traffic study by M Esparza Engineering for the entire Mercado District area.

The trip generation estimates for the Caterpillar project and the Monier Apartments are provided in Exhibit 6.

**Exhibit 6 Trip Generation - CAT Headquarters and Monier Apartments**

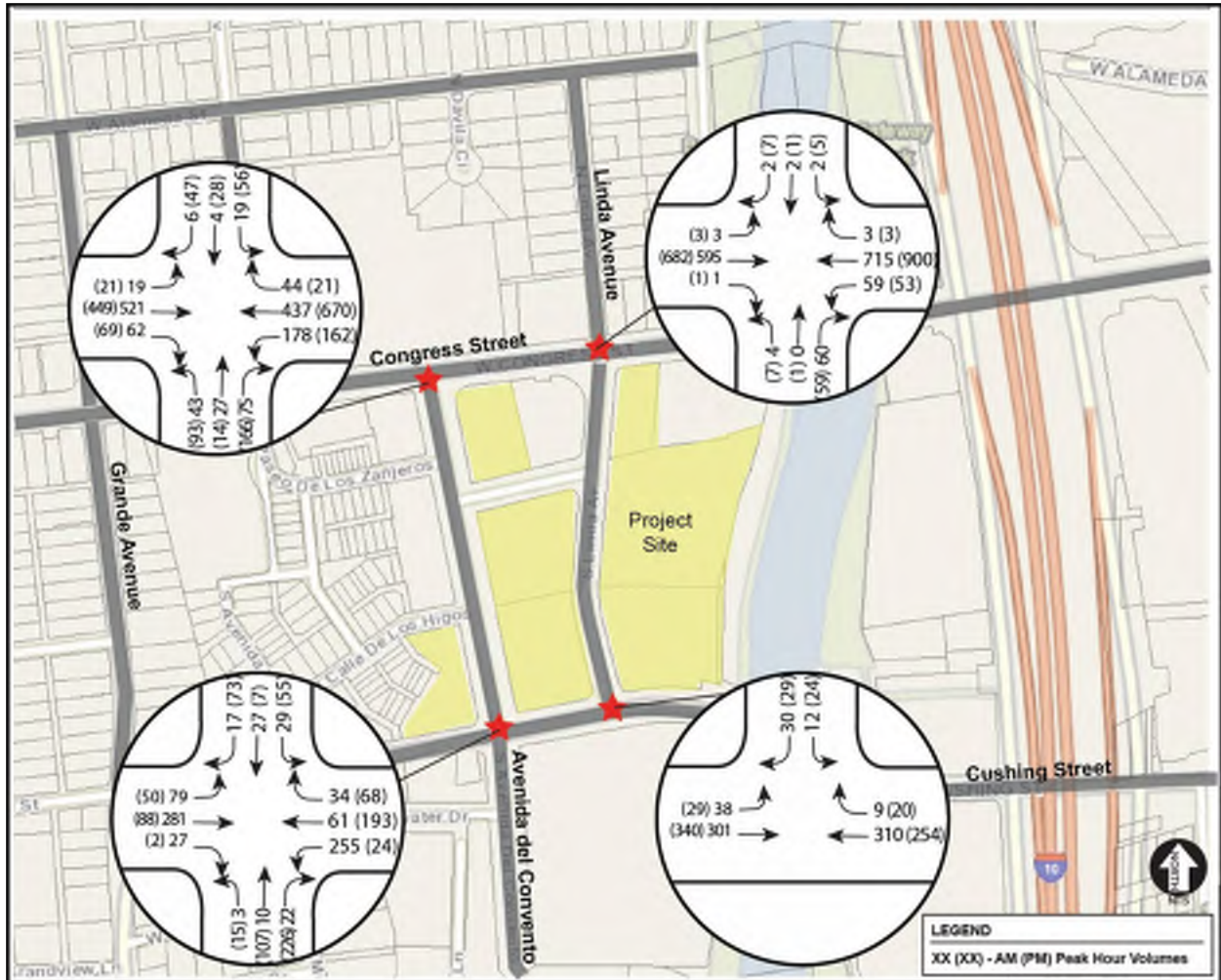
ITE Land Use Code 714 - Corporate Headquarters					
Employees		650			
Period	Trips	% In	% Out	Trips In	Trips Out
AM Peak	304	93%	7%	282	21
PM Peak	268	11%	89%	29	238
Daily	1,516	50%	50%	758	758

Source: Caterpillar Mining Headquarters/Avenida del Convento Roadway Improvements, Traffic Evaluation, October 17, 2017, Psomas,

Monier Apts									
Land Use	Unit	ITE Code	AM Peak		PM Peak		Weekday		No Units
			In	Out	In	Out	In	Out	
Multifamily Housing (Mid-Rise)	Dwelling Units	221	35		31		665		122.0
			9	26	18	13	332	332	
Single Tenant Office Building	1000 Sq. Ft	715	9		8		73		6.5
			8	1	1	7	36	36	
Shopping Center	1000 Sq. Ft.	820	10		21		382		6.5
			6	4	11	10	191	191	
Total			54		60		1,118		
			23	31	30	30	559	559	

The intersection counts at the four intersections bounding the project are provided in Exhibit 7. These counts include the recorded counts and the estimated trip generation from the CAT and Monier projects.

Exhibit 7 Existing Peak Hour Intersection Volumes



## 5. Trip Generation

### Trip Generation

Trips generated by the project have been estimated from rates published in the *ITE Trip Generation Manual, 10<sup>th</sup> Edition* for the following land uses categories:

- Multifamily Housing (Mid-Rise): ITE Land Use Code 221
- Shopping Center: ITE Land Use Code 820
- High Turnover Restaurant: ITE Land Use Code 932

Exhibit 8 shows the trip generation for the project. The table shows that the total daily traffic generated by this project is about 2,446 trips during the average weekday, and about 160 AM and 210 PM peak hour trips.

Because the project area is unique and because the commercial uses are expected to attract residents within the Mercado District, we applied the average rates for all uses rather than the fitted curve equations for each land use.

### Pass-By Trips

Pass-by trips associated with the shopping center and the restaurant land use were calculated based on pass-by trip rates for this land use in the *ITE Trip Generation Handbook, 3<sup>rd</sup> Edition*, and are shown in Exhibit 8. The total net new trips (total trips minus pass-by trips) are shown in Exhibit 9.

**Exhibit 8 Trip Generation – ITE Rates and Trip Generation**

Proposed Use	Unit	No. Units	ITE Categ.	Trip Generation Rates					
				Weekday AM		Weekday PM		Avg Weekday	
				In	Out	In	Out	In	Out
High Turnover Restaurant	1000 SF	5.876	932	9.94		9.77		112.18	
				55%	45%	62%	38%	50%	50%
Shopping Center	1000 SF	10.443	820	0.94		3.81		37.75	
				62%	38%	48%	52%	50%	50%
Multifamily Housing (Mid-Rise)	Dwelling Unit	256	221	0.36		0.44		5.44	
				26%	74%	61%	39%	50%	50%

Note: All Rates Based on Setting as General Urban/Suburban

Gross Trip Generation (Prior to Reductions)				Trip Generation					
Proposed Use	Unit	No. Units		Weekday AM		Weekday PM		Avg Weekday	
				In	Out	In	Out	In	Out
High Turnover Restaurant		1000 SF GFA	5.876	58		57		659	
				32	26	36	22	330	330
Shopping Center		1000 SF GFA	10.443	10		40		394	
				6	4	19	21	197	197
Multifamily Housing (Mid-Rise)		Dwelling Unit	256	92		113		1,393	
				24	68	69	44	696	696
Totals				160		210		2,446	
				62	98	123	86	1,223	1,223

**Exhibit 9 Pass-by and Net Trips**

			<b>Pass By Trips</b>					
<b>Pass-By Trips</b>		<b>PM Pass-By Trip Rate</b>	<b>Weekday AM</b>		<b>Weekday PM</b>		<b>Avg Weekday</b>	
			<b>In</b>	<b>Out</b>	<b>In</b>	<b>Out</b>	<b>In</b>	<b>Out</b>
High Turnover Restaurant		0.43	0	0	25	9	0	0
Shopping Center		0.34	0	0	14	7	0	0

				<b>Net Trip Generation</b>					
<b>Proposed Use</b>		<b>Unit</b>	<b>No. Units</b>	<b>Weekday AM</b>		<b>Weekday PM</b>		<b>Avg Weekday</b>	
				<b>In</b>	<b>Out</b>	<b>In</b>	<b>Out</b>	<b>In</b>	<b>Out</b>
High Turnover Restaurant		1000 SF GFA	6	32	58	20	33	330	659
Shopping Center		1000 SF GFA	10	6	10	13	26	197	394
Multifamily Housing (Mid-Rise)		Dwelling Unit	256	24	92	69	113	696	1,393
<b>Total</b>				62	160	102	172	1,223	2,446
				98		70		1,223	1,223

**Site Traffic Distribution and Assignment**

Project trips were distributed along the project area roadways based on a general distribution of about 45% to the east along Congress, 10% to 20% west along Congress, 5% to the west along Cushing and 30% along east Cushing. This distribution is based on existing peak hour turning movement patterns at the project intersections and engineering judgement.

Non pass-by peak hour site trips are shown in Exhibit 10. Pass-by site trips (and pass-by reductions) are shown in Exhibit 10a and 10b.



Exhibit 10a Peak Hour Non Pass-By Site Traffic Assignment

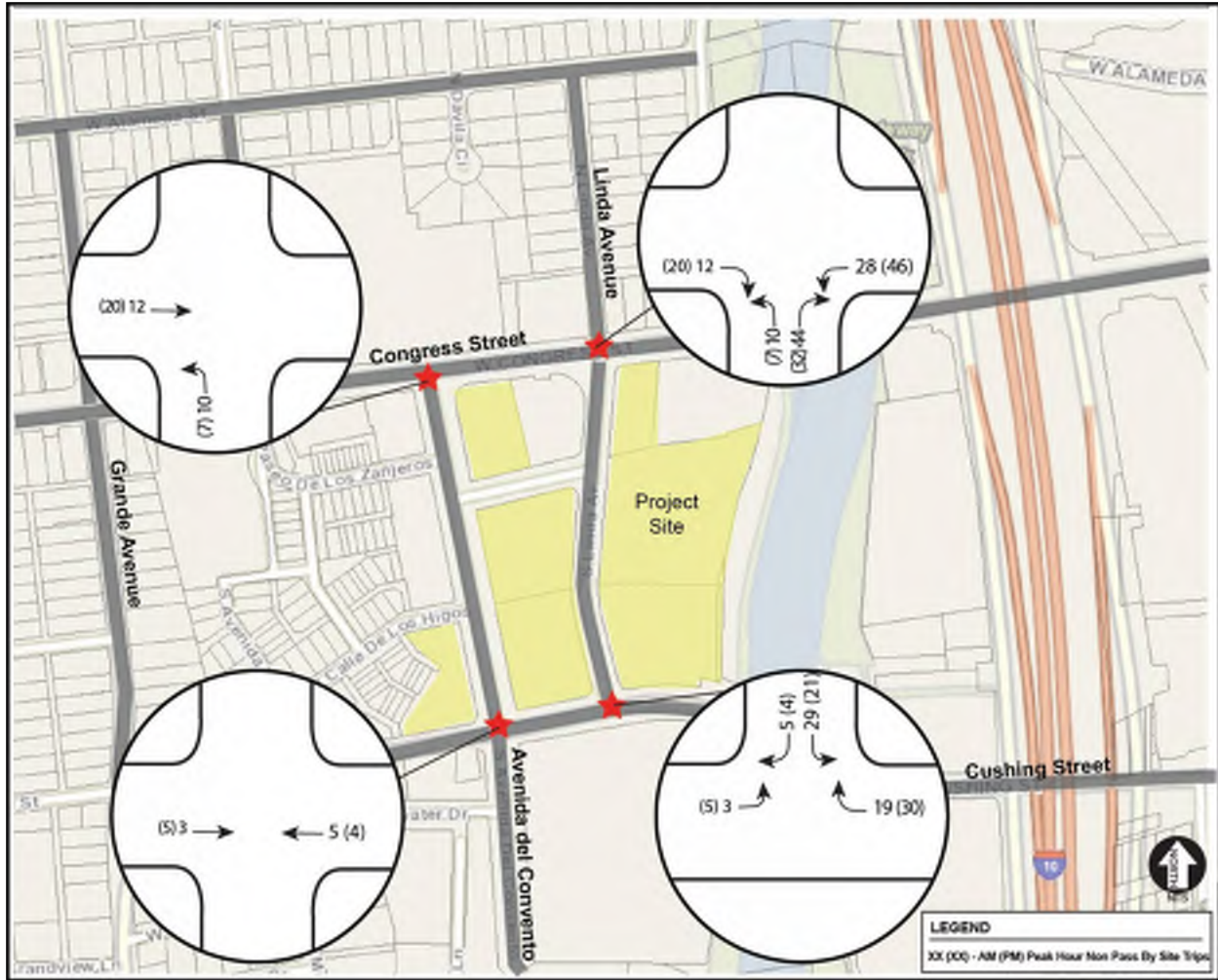
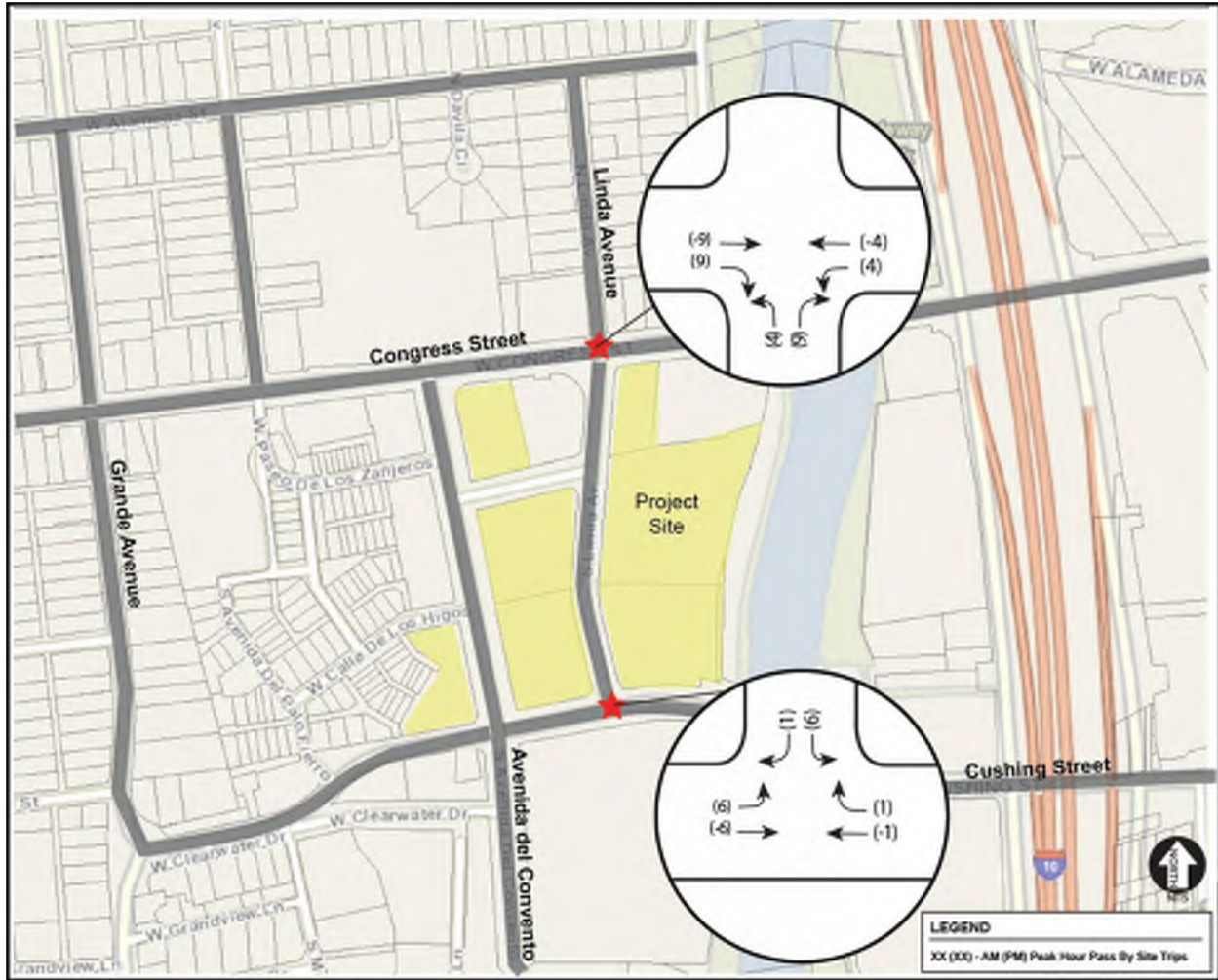


Exhibit 10b Peak Hour Pass-By Site Traffic Assignment



## 6. Crash Analysis

### Crash Data

ADOT provides crash data for all roadways within the state. We reviewed recorded crash data for intersections in the study area for the five-year period between 2015-2019.

The intersection with the highest number of recorded crashes was Congress/Avenida Convento with five crashes during the five-year period. There were three “left-turn” crashes and two “rear-end” crashes. All crashes were non-injury crashes.

There were three crashes at Cushing/Linda (1 Left Turn, 2 Single Vehicle). Two of the three crashes were non-injury crashes.

There were two crashes at Congress/Paseo de Los Zanjero (1 Rear End, 1 Angle). One was an injury crash, the other a non-injury crash.

There was one intersection-related crash at Congress/Linda in 2016 (Other, Injury), one at Avenida del Convento/Calle del los Higos (Single Vehicle, No Injury) in 2017, one at Avenida del Convento/Paseo de los Zanjeros (Left Turn, Injury) in 2017, and one at Cushing/Avenida del Palo Fierro (Single Vehicle, No Injury) in 2019.

There was one non-intersection crash on Congress, at Avenida del Convento in 2017 (Rear-End, Injury), one on Cushing at Avenida del Palo Fierro in 2017 (Single Vehicle, Non-Injury), and one on Avenida del Sombrado in 2018 (Rear End, Non-Injury)

Based on the few numbers of crashes at the intersections and on the roadways along the project site boundaries, there is not a prevailing crash problem that requires mitigation.

## 7. Existing Traffic Operations

### Capacity Analysis

Under existing conditions, most movements at the study area intersections operate at LOS D or better during the morning and afternoon/evening peak hours. The southbound approach on Linda Avenue at Congress Street operates at LOS E or F during the AM and PM peak hours. With the addition of the Caterpillar and Monier Apartments trips, the northbound and southbound movements at Cushing/Avenida del Convento intersection are calculated to operate at LOS F during the AM peak hour. The results are shown in Exhibit 11.

**Exhibit 11 Existing Peak Hour Intersection Levels of Service**

Congress/Avenida del Convento				
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	5.5	A	6.2	A
Through/Right Approach	7.0	A	5.7	A
Approach	7.0	A	5.8	A
Westbound				
Left	13.8	B	10.1	B
Through/Right	5.1	A	4.9	A
Approach	7.4	A	5.9	A
Northbound				
Left/Through/Right	20.5	C	13.7	B
Approach	20.5	C	13.7	B
Southbound				
Left/Through/Right	17.9	B	11.9	B
Approach	17.9	B	11.9	B
<b>Intersection</b>	<b>8.8</b>	<b>A</b>	<b>7.6</b>	<b>A</b>

Congress/Linda				
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	9.5	A	9.9	A
Westbound				
Left	9.1	A	9.5	A
Northbound				
Left/Through/Right	16.4	C	22.1	C
Southbound				
Left/Through/Right	44.9	E	64.2	F

Cushing/Avenida del Convento				
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	7.6	A	8.0	A
Westbound				
Left	9.1	A	7.5	A
Northbound				
Left/Through/Right	NRP	NRP	20.5	C
Southbound				
Left/Through/Right	530.0	F	28.4	D

Cushing/Linda				
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	8.3	A	8.1	A
Southbound				
Left/Right	13.0	B	13.7	B

NRP = No result provided. The Synchro program does not calculate LOS in some cases due to severe over-capacity conditions.

## 8. Future Traffic Operations

### Future Traffic Operations

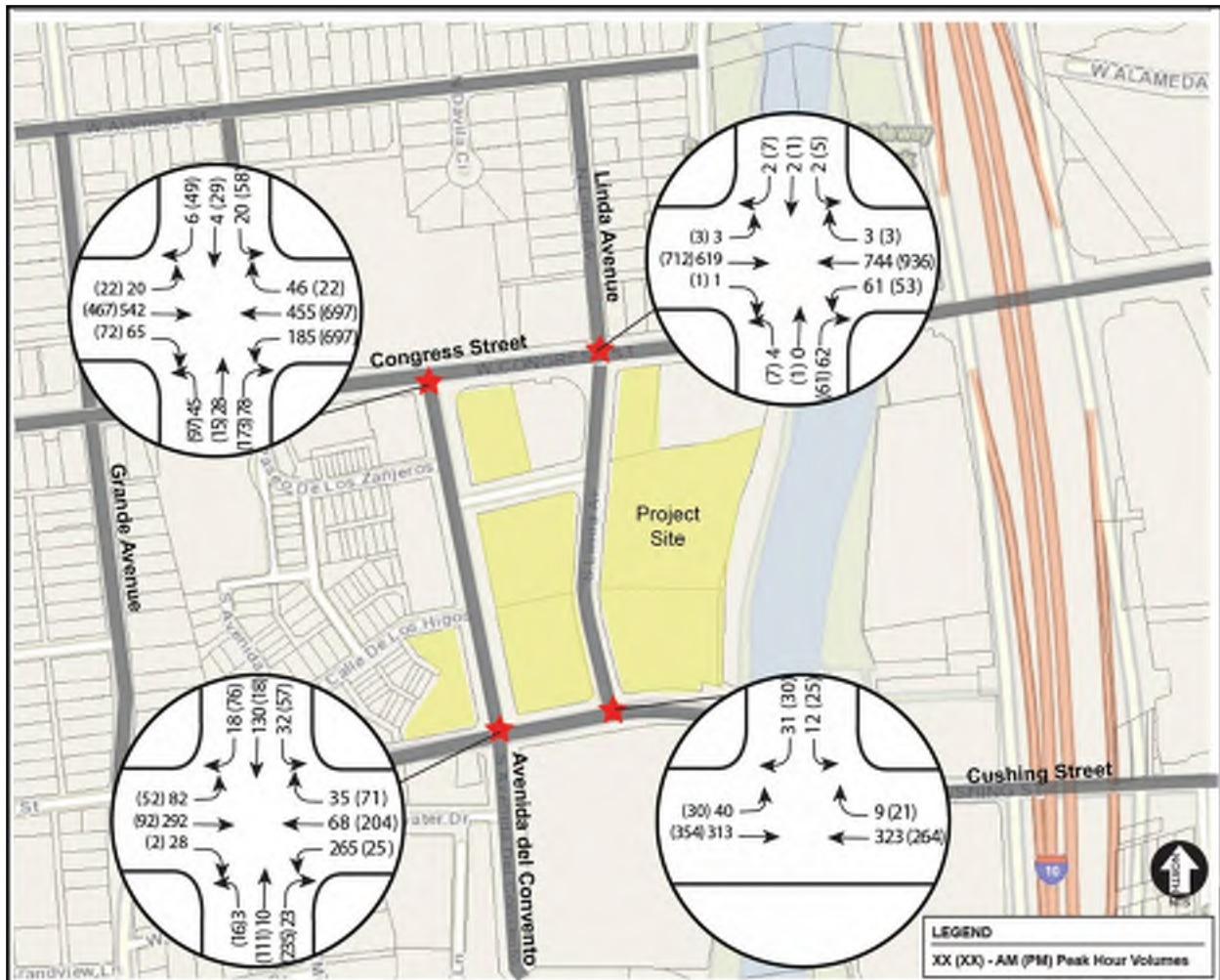
#### Projections of Non-Site Traffic

To estimate future volumes for the horizon year of 2023, we applied a traffic growth rate of 2% per year to the existing (2019) volumes.

The intersection counts at the four study area intersections for the 2023 no project condition are provided in Exhibit 12.

The roadway volumes for the 2023 no project condition are shown in Exhibit 13.

**Exhibit 12 2023 No Project Peak Hour Intersection Volumes**



**Exhibit 13 2023 Roadway Volumes**

Street Name	From	To	Daily Capacity (vpd)*	CAT Trips	Monier Trips	2023 No Project	Site Trips	2023 With Project
Congress Street	Grande Avenue	I-10	29,160	455	460	16,585	1,100	17,685
Avenida Convento	Congress Street	Cushing Street	10,656	531	770	4,521	240	4,761
Cushing Street	Grande Avenue	I-10	10,656	910	310	5,470	730	6,200
Linda Avenue	Congress Street	Cushing Street	10,656	0	0	2,000	1,590	3,590

\*LOS D Capacities from Florida DOT 2012 Level of Service Handbook Tables.

**2023 No Project Capacity Analysis**

We analyzed the project intersection under the 2023 No Project conditions for the AM and PM peak hours. The results are shown in Exhibit 14.

Based on the analysis results, the following movements at the intersections will operate at LOS E or F under this condition.

Congress/Linda –	SB Approach (LOS F, both peak hours)
Cushing/Avenida del Convento -	NB Approach (No Result Provided AM Peak Hour indicating poor LOS)
	SB Approach (LOS F AM Peak Hour)

All other movements at the project intersections will operate at LOS D or better under this condition in 2023.

**Projections of Traffic with Project**

We added the site traffic to the projected background traffic volumes to estimate the With Project volumes. The 2023 With Project intersection volumes are shown in Exhibit 15. The future roadway volumes are shown in Exhibit 13.

**2023 With Project Capacity Analysis**

We analyzed the project intersection under the 2023 With Project conditions for the AM and PM peak hours. The results are shown in Exhibit 16.

Based on the analysis results, the following movements at the intersections will operate at LOS E or F under this condition.

Congress/Linda –	NB Approach (LOS E, PM peak hour)
	SB Approach (LOS F, both peak hours)
Cushing/Avenida del Convento -	NB Approach (No Result Provided AM Peak Hour indicating poor LOS, LOS E PM Peak Hour)
	SB Approach (LOS F Both Peak Hours)

All other movements at the project intersections will operate at LOS D or better under this condition in 2023.

**Exhibit 14 2023 No Project Peak Hour Intersection Levels of Service**

Congress/Avenida del Convento				
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	5.4	A	6.6	A
Through/Right	7.0	A	6.0	A
Approach	6.9	A	6	A
Westbound				
Left	14.4	B	11.0	B
Through/Right	5.0	A	5.1	A
Approach	7.5	A	6.2	A
Northbound				
Left/Through/Right	22.0	C	14.8	B
Approach	22.0	C	14.8	B
Southbound				
Left/Through/Right	19.1	B	12.7	B
Approach	19.1	B	12.7	B
<b>Intersection</b>	<b>9.0</b>	<b>A</b>	<b>8.1</b>	<b>A</b>

Congress/Linda				
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	9.6	A	10.1	B
Westbound				
Left	9.3	A	9.7	A
Northbound				
Left/Through/Right	17.1	C	23.7	C
Southbound				
Left/Through/Right	50.5	F	75.5	F

Cushing/Avenida del Convento				
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	7.6	A	8.0	A
Westbound				
Left	9.2	A	7.5	A
Northbound				
Left/Through/Right	NRP	NRP	22.8	C
Southbound				
Left/Through/Right	665.5	F	33.7	D

NRP-No Result Provided

Cushing/Linda				
	AM		PM	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
Eastbound				
Left	8.3	A	8.1	A
Southbound				
Left/Right	13.3	B	14.1	B



Exhibit 15 2023 With Project Peak Hour Intersection Volumes

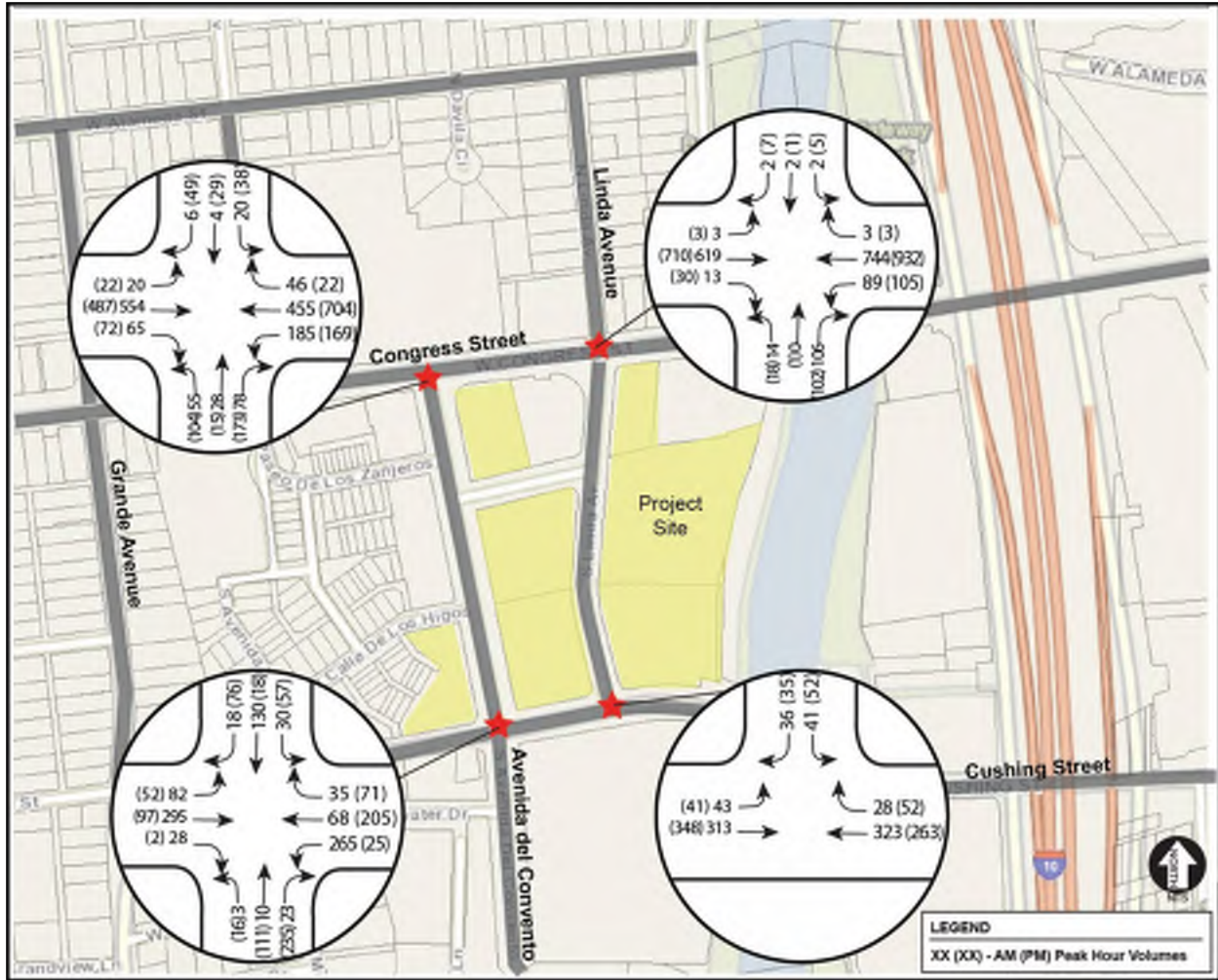


Exhibit 16 2023 With Project Peak Hour Intersection Levels of Service

Congress/Avenida del Convento				
AM		PM		
Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	
Eastbound				
Left	5.4	A	6.7	A
Through/Right Approach	7.0	A	6.2	A
	6.9	A	6.2	A
Westbound				
Left	14.6	B	11.6	B
Through/Right Approach	5.0	A	5.2	A
	7.5	A	6.4	A
Northbound				
Left/Through/Right Approach	22.8	C	15.4	B
	22.8	C	15.4	B
Southbound				
Left/Through/Right Approach	19.5	B	13.2	B
	19.5	B	13.2	B
<b>Intersection</b>	<b>9.1</b>	<b>A</b>	<b>8.4</b>	<b>A</b>

Congress/Linda				
AM		PM		
Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	
Eastbound				
Left	9.6	A	10.1	B
Westbound				
Left	9.5	A	10.2	B
Northbound				
Left/Through/Right	23.7	C	47.9	E
Southbound				
Left/Through/Right	65.7	F	149	F

Cushing/Avenida del Convento				
AM		PM		
Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	
Eastbound				
Left	7.6	A	8.0	A
Westbound				
Left	9.2	A	7.5	A
Northbound				
Left/Through/Right	NRP	NRP	23.4	C
Southbound				
Left/Through/Right	665.5	F	34.5	D

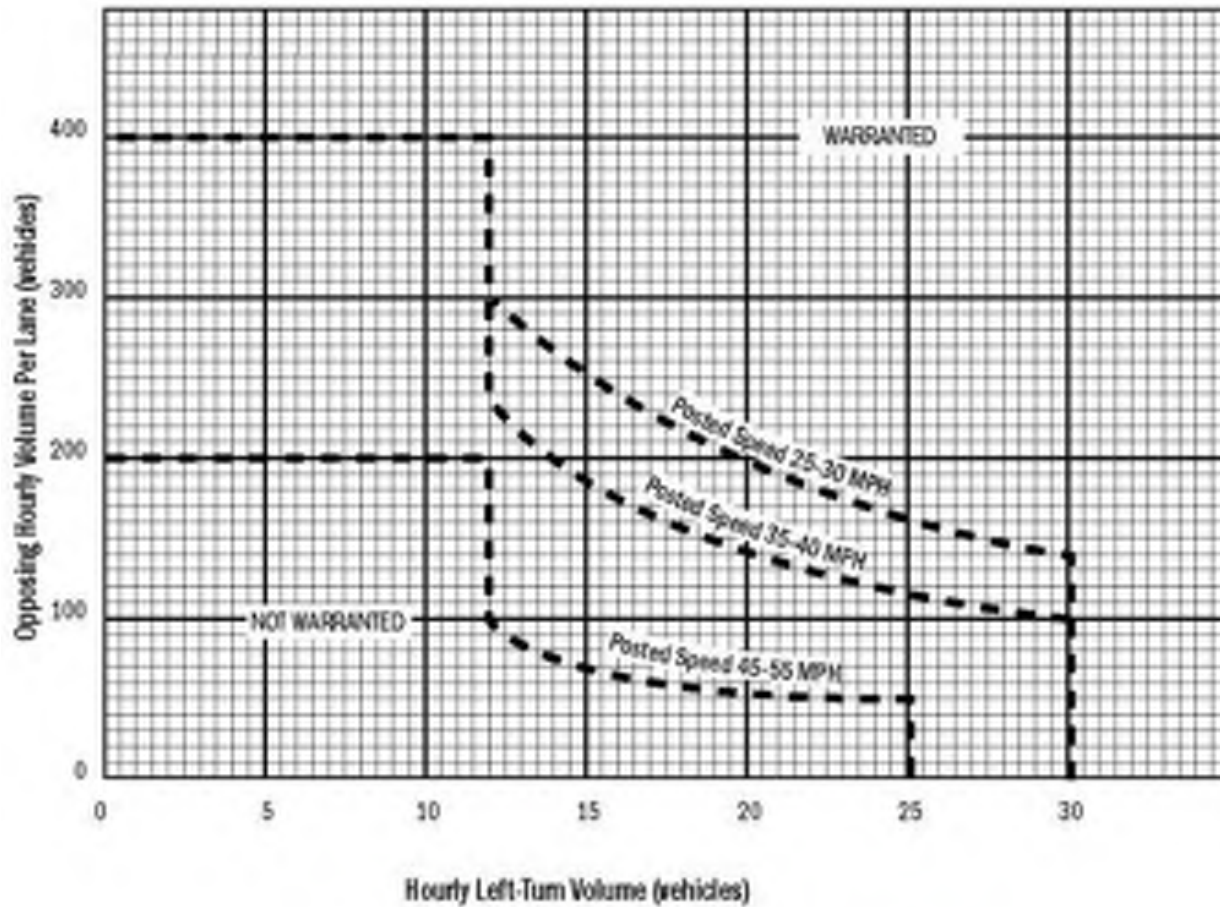
NRP-No Result Provided

Cushing/Linda				
AM		PM		
Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	
Eastbound				
Left	8.4	A	8.3	A
Southbound				
Left/Right	16.8	B	17.3	B

## 9. Turn Lane Analysis

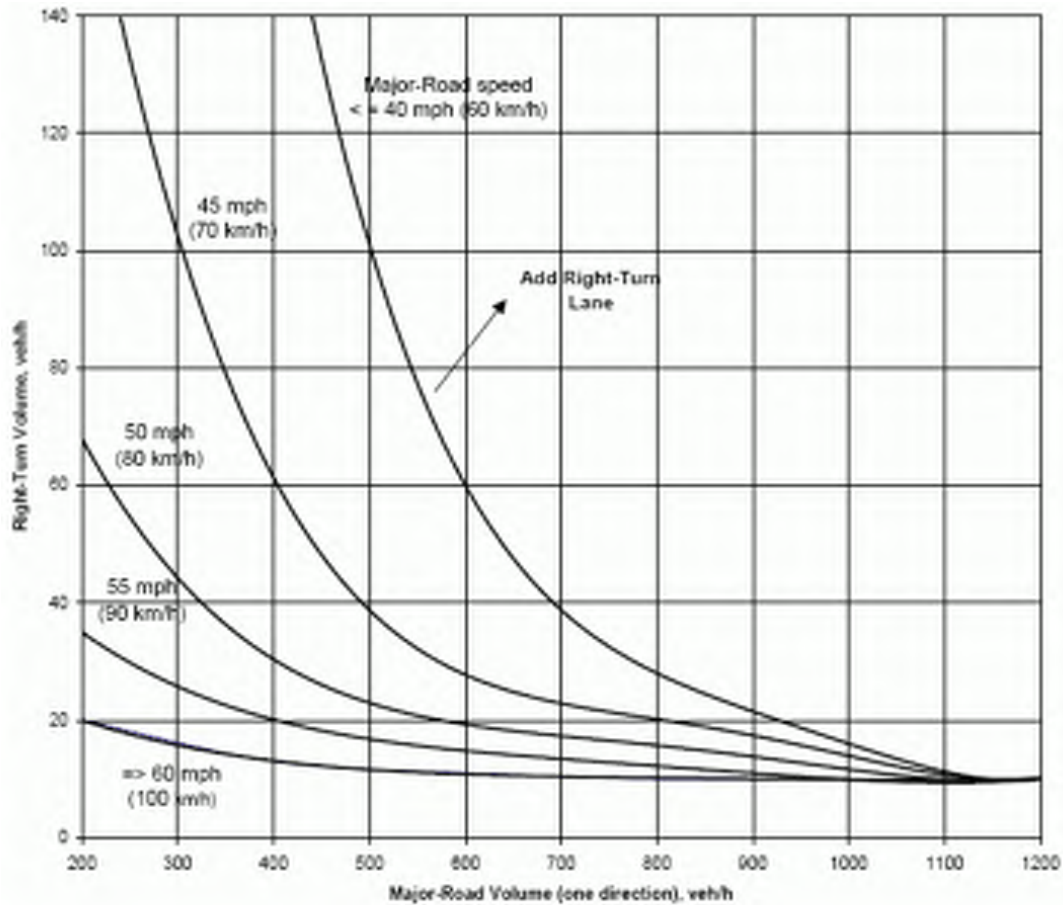
The *Transportation Access Management Guidelines for the City of Tucson* includes turn lane warrant guidelines based on the speed of the roadway, projected turn lane volumes and directional hourly volumes (see Exhibits 17 and 18).

**Exhibit 17 Left Turn Lane Warrant Criteria (City of Tucson)**



**Figure 5-1 – Left Turn Lane Warrant<sup>13</sup>**

**Exhibit 18 Right Turn Lane Warrant Criteria (City of Tucson)**



**Figure 5-2 – Right Turn Lane Guidelines for Two-Lane Roadway<sup>14</sup>**

We reviewed conditions at the four intersections. The following intersections have movements where and when turn lane warrants are met.

Congress/Avenida del Convento

Left Turn Warrants Met: NB Avenida del Convento (Existing Conditions)

Right Turn Warrant Met: EB Congress (2023 No Project)

Congress/Linda

Left Turn Warrants Met: WB Congress (Existing)

Cushing/Avenida del Convento

Left Turn Warrants Met: SB Avenida del Convento (Existing Conditions)

EB Cushing (Existing Conditions)

Cushing/Linda

Left Turn Warrants Met: EB Cushing (Existing Conditions)

There is a short left turn lane for westbound to southbound lefts on Congress for left turns onto Linda. There is a small island on Congress that restricts the extension of the left turn lane. This issue should be discussed with the City's Department of Transportation and Mobility staff.

### **Intersection and Driveway Spacing**

The *Transportation Access Management Guidelines for the City of Tucson* includes guidance for intersection and driveway spacing. The guidelines indicated that a minimum of 150 feet, measured at curb line, shall separate the nearest pavement edge of any ingress or egress driveway and the curb line to any signalized or major intersection with arterial and collector roadways. The Access Management Guidelines do not have recommendations for local roadways like Avenida del Convento and Linda Avenue.

## 10. Conclusions

The project will generate approximately:

- 160 morning peak hour trips,
- 210 evening peak hour trips,
- 2,446 weekday trips.

However, applying pass-by rates for the restaurant and commercial components, the new external trips are calculated to be:

- 160 morning peak hour trips,
- 172 evening peak hour trips,
- 2,446 weekday trips.

Two of the study area intersections (Cushing/Avenida del Convento, Congress/Linda) currently experience peak hour delays resulting in LOS E or F conditions.

The minor streets (Avenida del Convento and Linda Avenue) approaches to Congress Street and Cushing Street will experience high delays during the weekday (and possibly weekend) peak periods. These delays will increase in future years. However, the feasibility of widening the minor street approaches to provide new turn lanes, which would improve the projected levels of service on these approaches, may be constrained by the available rights-of-way and the fixed constraint of the Sun Link route infrastructure.

By the year 2023, two of the intersections will continue to have turning movements that will operate at LOS E or F with the project.

Left turn lane warrants are met under existing (2021) conditions for the following movements:

- Avenida del Convento at Congress – NB left turn
- Avenida del Convento at Cushing – SB left turn
- Cushing at Avenida del Convento – EB left turn
- Cushing at Linda – EB left turn

Right turn lane warrant is met under 2023 No Project conditions for the following location:

- Congress at Avenida del Convento – EB Right Turn

Daily traffic volumes on the project roadways will be below their LOS D thresholds through the year 2023 with the project traffic.

The mixed-uses within the proposed development will generate peak site traffic volumes during different times and days. For instance, the residential use will generate the highest traffic during the morning and evening commuter periods, where the retail and restaurant uses will generate their highest site traffic well after the morning commuter peak hours and may be highest on the weekends. The analysis provided herein analyzes conditions only during the peak commuter weekday periods.

On-site circulation must be carefully managed to promote pedestrian and bicycle use. The provision of safe pedestrian linkages within the project area will provide for safe and efficient movement associated with Mercado District patronage.

As the rest of the Mercado District develops, traffic impact studies should be conducted to supplement the recommendations contained herein. The studies will consider travel culture at the time of the development such as patron or employee travel modes.

It should be noted that the street network in the Mercado District, inclusive of Avenida del Convento, Linda Avenue and Cushing Street and the Sun Link infrastructure were all designed, built, and partially funded by the City of Tucson in anticipation of urban development such as the Bautista Apartments. The deliberate “Complete Streets” design promoted by the City of Tucson for this area supports pedestrian movement and alternative mode uses. Widening roadways or adding auxiliary lanes within the area may be contrary to the original design intent of the Mercado District circulation network.

- *Site Plan (Submitted Separately)*
- *Traffic Data*
- *Synchro Analysis*



**Intersection Turning Movement**  
Prepared by:



**FIELD DATA SERVICES OF ARIZONA, INC.**  
520.316.6745



veracitytrafficgroup

N-S STREET: **Avenida del Convento**      DATE: **03/28/19**      LOCATION: **Tucson**  
E-W STREET: **Congress St.**      DAY: **THURSDAY**      PROJECT# **19-1163-001**

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0.3	0.3	0.3	0	1	0	1	1	0	1	2	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	1	2	12	0	0	0	0	100	6	12	89	11	233
7:15 AM	9	9	11	3	2	3	1	140	8	14	93	8	301
7:30 AM	9	9	14	5	0	0	4	137	11	17	126	24	356
7:45 AM	10	4	17	7	0	2	4	119	12	22	120	6	323
8:00 AM	4	5	16	4	2	1	10	125	9	31	98	6	311
8:15 AM	8	5	13	11	0	7	7	106	9	18	102	4	290
8:30 AM	5	3	11	8	0	1	5	103	5	13	116	6	276
8:45 AM	10	4	21	8	3	4	8	95	8	25	99	11	296
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	56	41	115	46	7	18	39	925	68	152	843	76	2386
Approach %	26.42	19.34	54.25	64.79	9.86	25.35	3.78	89.63	6.59	14.19	78.71	7.10	
App/Depart	212	/	156	71	/	227	1032	/	1086	1071	/	917	

AM Peak Hr Begins at: 715 AM

PEAK	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	32	27	58	19	4	6	19	521	40	84	437	44	1291
Approach %	27.35	23.08	49.57	65.52	13.79	20.69	3.28	89.83	6.90	14.87	77.35	7.79	
Cat Trips	1		6						14	84			
Monier Trips	10		11						8	10			
2024 NP	46	30	81	21	4	7	21	575	66	187	482	49	
Site Trips	51		42					61	39	38	42		
2024 WP	97	30	123	21	4	7	21	636	105	225	524	49	

PEAK HR. FACTOR:	0.914	0.806	0.954	0.846	0.907
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CONTROL: **Signal**  
COMMENT 1:  
GPS: **32.220344, -110.985398**

# Intersection Turning Movement



**FIELD DATA SERVICES OF ARIZONA, INC.**  
520.316.6745



N-S STREET: Avenida del Convento      DATE: 03/28/19      LOCATION: Tucson  
0  
 E-W STREET: Congress St.      DAY: THURSDAY      PROJECT# 19-1163-001

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0.3	0.3	0.3	0	1	0	1	1	0	1	2	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	14	2	32	23	2	6	6	111	11	31	142	6	386
4:15 PM	18	4	30	15	7	6	3	104	12	36	160	6	401
4:30 PM	17	1	23	17	2	5	6	127	10	23	167	8	406
4:45 PM	14	6	21	29	11	4	6	110	10	37	153	6	407
5:00 PM	21	3	24	6	11	18	8	114	17	45	162	5	434
5:15 PM	19	4	17	4	4	20	1	98	21	36	188	2	414
5:30 PM	28	2	21	12	2	8	0	77	14	35	159	4	362
5:45 PM	24	2	10	11	1	5	2	104	12	21	123	3	318
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	155	24	178	117	40	72	32	845	107	264	1254	40	3128
Approach %	43.42	6.72	49.86	51.09	17.47	31.44	3.25	85.87	10.87	16.94	80.49	2.57	
App/Depart	357	/	96	229	/	411	984	/	1140	1558	/	1481	

PM Peak Hr Begins at: 430 PM

PEAK													
Volumes	71	14	85	56	28	47	21	449	58	141	670	21	1661
Approach %	41.76	8.24	50.00	42.75	21.37	35.88	3.98	85.04	10.98	16.95	80.53	2.52	
Cat Trips	12		71						1	9			
Monier Trips	10		10						10	12			
2024 NP	100	15	175	62	31	52	23	496	75	177	740	23	
Site Trips	58		51					58	59	59	66		
2024 WP	158	15	226	62	31	52	23	554	134	236	806	23	

PEAK HR. FACTOR:	0.885	0.744	0.923	0.920	0.957
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CONTROL: Signal  
 COMMENT 1: 0  
 GPS: 32.220344, -110.985398

**Intersection Turning Movement**  
Prepared by:



**FIELD DATA SERVICES OF ARIZONA, INC.**  
520.316.6745



N-S STREET: **Linda Ave.**      DATE: **03/28/19**      LOCATION: **Tucson**  
E-W STREET: **Congress St.**      DAY: **THURSDAY**      PROJECT# **19-1163-002**

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	1	0	0	1	0	0	1	1	0	2	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	0	0	4	0	0	0	0	115	0	8	115	1	243
7:15 AM	0	0	9	1	0	0	0	137	0	10	126	1	284
7:30 AM	1	0	16	0	0	0	0	159	0	22	151	2	351
7:45 AM	2	0	13	1	2	0	0	141	1	12	184	0	356
8:00 AM	0	0	15	1	0	1	1	149	0	12	154	1	334
8:15 AM	1	0	14	0	0	1	2	129	0	13	132	0	292
8:30 AM	1	0	14	0	0	0	0	128	0	8	151	0	302
8:45 AM	3	1	8	1	0	2	1	120	1	6	135	1	279
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	8	1	93	4	2	4	4	1078	2	91	1148	6	2441
Approach %	7.84	0.98	91.18	40.00	20.00	40.00	0.37	99.45	0.18	7.31	92.21	0.48	
App/Depart	102	/	11	10	/	95	1084	/	1175	1245	/	1160	

AM Peak Hr Begins at: 730 AM

PEAK	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	4	0	58	2	2	2	3	578	1	59	621	3	1333
Approach %	6.45	0.00	93.55	33.33	33.33	33.33	0.52	99.31	0.17	8.64	90.92	0.44	
Cat Trips								6			84		
Monier Trips			2					11			10		
2024 NP	4	0	66	2	2	2	3	655	1	65	780	3	
Site Trips	42		75					42	61	86	38		
2024 WP	46	0	141	2	2	2	3	697	62	151	818	3	

PEAK HR. FACTOR:	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
		0.912			0.500			0.915			0.871		0.936

CONTROL: **2-Way Stop (NB & SB)**  
COMMENT 1:  
GPS: **32.220472, -110.983887**

# Intersection Turning Movement



**FIELD DATA SERVICES OF ARIZONA, INC.**  
520.316.6745



N-S STREET: Linda Ave.      DATE: 03/28/19      LOCATION: Tucson  
 E-W STREET: Congress St.      DAY: THURSDAY      PROJECT# 19-1163-002

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	1	0	0	1	0	0	1	1	0	2	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	3	0	8	1	0	1	0	164	1	9	166	4	357
4:15 PM	1	0	11	1	0	1	0	166	0	13	208	0	401
4:30 PM	4	0	18	0	0	3	1	177	1	9	202	0	415
4:45 PM	0	1	14	1	0	1	2	137	0	10	202	2	370
5:00 PM	2	0	14	3	1	2	0	186	0	21	192	1	422
5:15 PM	1	0	13	1	1	4	0	135	0	9	233	1	398
5:30 PM	2	1	9	1	1	0	3	116	1	11	211	2	358
5:45 PM	3	1	14	2	0	1	4	136	3	9	147	0	320
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	16	3	101	10	3	13	10	1217	6	91	1561	10	3041
Approach %	13.33	2.50	84.17	38.46	11.54	50.00	0.81	98.70	0.49	5.48	93.92	0.60	
App/Depart	120	/	23	26	/	100	1233	/	1328	1662	/	1590	

PM Peak Hr Begins at: 415 PM

PEAK													
Volumes	7	1	57	5	1	7	3	666	1	53	804	3	1608
Approach %	10.77	1.54	87.69	38.46	7.69	53.85	0.45	99.40	0.15	6.16	93.49	0.35	
Cat Trips								6			84		
Monier Trips			2					10			12		
2024 NP	8	1	65	6	1	8	3	751	1	59	984	3	
Site Trips	66		102					51	58	86	59		
2024 WP	74	1	167	6	1	8	3	802	59	145	1043	3	

PEAK HR. FACTOR:													
		0.739			0.542			0.901			0.973		0.953

CONTROL: 2-Way Stop (NB & SB)  
 COMMENT 1: 0  
 GPS: 32.220472, -110.983887

## Intersection Turning Movement

Prepared by:



**FIELD DATA SERVICES OF ARIZONA, INC.**  
520.316.6745



N-S STREET: Avenida del Convento      DATE: 03/28/19      LOCATION: Tucson  
 E-W STREET: Cushing St.      DAY: THURSDAY      PROJECT# 19-1163-003

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	0	0	0	1	0	0	1	0	0	1	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	0	1	0	2	15	2	10	27	2	27	9	5	100
7:15 AM	0	0	6	5	3	1	17	44	3	22	11	7	119
7:30 AM	0	2	2	4	7	3	15	87	4	28	17	7	176
7:45 AM	0	0	0	9	8	3	23	85	5	24	18	11	186
8:00 AM	2	1	2	7	9	6	21	65	1	12	15	6	147
8:15 AM	1	1	2	7	5	3	15	51	1	11	13	5	115
8:30 AM	0	0	5	8	3	11	11	40	2	8	23	4	115
8:45 AM	0	0	1	9	2	6	12	23	1	8	17	12	91
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	3	5	18	51	52	35	124	422	19	140	123	57	1049
Approach %	11.54	19.23	69.23	36.96	37.68	25.36	21.95	74.69	3.36	43.75	38.44	17.81	
App/Depart	26	/	186	138	/	211	565	/	491	320	/	161	

AM Peak Hr Begins at: 715 AM

PEAK													
Volumes	2	3	10	25	27	13	76	281	13	86	61	31	628
Approach %	13.33	20.00	66.67	38.46	41.54	20.00	20.54	75.95	3.51	48.31	34.27	17.42	
Cat Trips	1	7	12		98				14		169		
Monier Trips				4		4	3					3	
2024 NP	3	10	23	32	128	18	87	310	28	264	67	37	
Site Trips				20		9	9	32			26	21	
2024 WP	3	10	23	52	128	27	96	342	28	264	93	58	

PEAK HR. FACTOR:      |      0.625      |      0.739      |      0.819      |      0.840      |      0.844      |

CONTROL: 1-Way Stop (SB)  
 COMMENT 1:  
 GPS: 32.217627, -110.984814

# Intersection Turning Movement



**FIELD DATA SERVICES OF ARIZONA, INC.**  
520.316.6745



N-S STREET: Avenida del Convento      DATE: 03/28/19      LOCATION: Tucson  
0  
 E-W STREET: Cushing St.      DAY: THURSDAY      PROJECT# 19-1163-003

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	0	0	0	1	0	0	1	0	0	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	3	13	24	7	3	13	7	20	1	2	57	16	166
4:15 PM	2	18	27	7	1	7	9	22	0	0	25	20	138
4:30 PM	2	6	24	7	2	18	8	21	0	1	53	13	155
4:45 PM	0	4	23	12	3	10	10	30	1	2	35	13	143
5:00 PM	0	7	20	20	0	17	16	18	0	4	53	15	170
5:15 PM	1	7	16	12	2	24	12	19	0	0	52	23	168
5:30 PM	1	8	17	12	1	12	6	19	0	1	46	18	141
5:45 PM	1	4	10	6	2	9	11	19	0	1	43	20	126
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	10	67	161	83	14	110	79	168	2	11	364	138	1207
Approach %	4.20	28.15	67.65	40.10	6.76	53.14	31.73	67.47	0.80	2.14	70.96	26.90	
App/Depart	238	/	284	207	/	27	249	/	412	513	/	484	

PM Peak Hr Begins at: 430 PM

PEAK													
Volumes	3	24	83	51	7	69	46	88	1	7	193	64	636
Approach %	2.73	21.82	75.45	40.16	5.51	54.33	34.07	65.19	0.74	2.65	73.11	24.24	
Cat Trips	12	83	143		10				1	17			
Monier Trips				4		4	4					4	
2024 NP	15	109	235	60	18	80	55	97	2	25	213	75	
Site Trips				24		13	16	30			36	26	
2024 WP	15	109	235	84	18	93	71	127	2	25	249	101	

PEAK HR. FACTOR:	0.859	0.836	0.823	0.880	0.935
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CONTROL: 1-Way Stop (SB)  
 COMMENT 1: 0  
 GPS: 32.217627, -110.984814

**Intersection Turning Movement**  
Prepared by:



**FIELD DATA SERVICES OF ARIZONA, INC.**  
520.316.6745



N-S STREET: **Linda Ave.** DATE: **03/28/19** LOCATION: **Tucson**  
E-W STREET: **Cushing St.** DAY: **THURSDAY** PROJECT# **19-1163-004**

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	0	0	0	1	0	0	1	0	0	1	0	
6:00 AM													
6:15 AM													
6:30 AM													
6:45 AM													
7:00 AM	0	0	0	0	0	9	9	18	0	0	33	0	69
7:15 AM	0	0	0	0	0	8	7	48	0	0	31	0	94
7:30 AM	0	0	0	0	0	11	8	85	0	0	41	1	146
7:45 AM	0	0	0	4	0	8	10	83	0	0	45	2	152
8:00 AM	0	0	0	5	0	3	8	67	0	0	30	2	115
8:15 AM	0	0	0	3	0	8	10	50	0	0	22	4	97
8:30 AM	0	0	0	6	0	7	11	42	0	0	28	3	97
8:45 AM	0	0	0	4	0	4	7	26	0	0	33	8	82
9:00 AM													
9:15 AM													
9:30 AM													
9:45 AM													
10:00 AM													
10:15 AM													
10:30 AM													
10:45 AM													
11:00 AM													
11:15 AM													
11:30 AM													
11:45 AM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	0	0	22	0	58	70	419	0	0	263	20	852
Approach %	####	####	####	27.50	0.00	72.50	14.31	85.69	0.00	0.00	92.93	7.07	
App/Depart	0	/	90	80	/	0	489	/	441	283	/	321	

AM Peak Hr Begins at: 730 AM

PEAK	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	0	0	12	0	30	36	285	0	0	138	9	510
Approach %	####	####	####	28.57	0.00	71.43	11.21	88.79	0.00	0.00	93.88	6.12	
Cat Trips								12			169		
Monier Trips							2	4			3		
2024 NP	0	0	0	13	0	33	42	331	0	0	324	10	
Site Trips				13		25	29	23			22	19	
2024 WP	0	0	0	26	0	58	71	354	0	0	346	29	

PEAK HR. FACTOR:	0.000	0.875	0.863	0.782	0.839
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CONTROL: **1-Way Stop (SB)**  
COMMENT 1:  
GPS: **32.217772, -110.983793**

# Intersection Turning Movement



**FIELD DATA SERVICES OF ARIZONA, INC.**  
520.316.6745



N-S STREET: Linda Ave.      DATE: 03/28/19      LOCATION: Tucson  
 E-W STREET: Cushing St.      DAY: THURSDAY      PROJECT# 19-1163-004

LANES:	NORTHBOUND			SOUTHBOUND			EASTBOUND			WESTBOUND			TOTAL
	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	
	0	0	0	0	1	0	0	1	0	0	1	0	
1:00 PM													
1:15 PM													
1:30 PM													
1:45 PM													
2:00 PM													
2:15 PM													
2:30 PM													
2:45 PM													
3:00 PM													
3:15 PM													
3:30 PM													
3:45 PM													
4:00 PM	0	0	0	6	0	9	6	45	0	0	67	9	142
4:15 PM	0	0	0	4	0	9	8	48	0	0	36	2	107
4:30 PM	0	0	0	7	0	9	6	46	0	0	59	2	129
4:45 PM	0	0	0	2	0	2	9	54	0	0	45	6	118
5:00 PM	0	0	0	8	0	14	4	54	0	0	58	7	145
5:15 PM	0	0	0	7	0	4	8	39	0	0	71	5	134
5:30 PM	0	0	0	1	0	5	6	43	0	0	61	3	119
5:45 PM	0	0	0	3	0	9	7	26	0	0	55	6	106
6:00 PM													
6:15 PM													
6:30 PM													
6:45 PM													

TOTAL	NL	NT	NR	SL	ST	SR	EL	ET	ER	WL	WT	WR	TOTAL
Volumes	0	0	0	38	0	61	54	355	0	0	452	40	1000
Approach %	####	####	####	38.38	0.00	61.62	13.20	86.80	0.00	0.00	91.87	8.13	
App/Depart	0	/	94	99	/	0	409	/	393	492	/	513	

PM Peak Hr Begins at: 430 PM

PEAK													
Volumes	0	0	0	24	0	29	27	193	0	0	233	20	526
Approach %	####	####	####	45.28	0.00	54.72	12.27	87.73	0.00	0.00	92.09	7.91	
Cat Trips								143			17		
Monier Trips							2	4			4		
2024 NP	0	0	0	26	0	32	32	360	0	0	278	22	
Site Trips				22		33	28	22			29	19	
2024 WP	0	0	0	48	0	65	60	382	0	0	307	41	

PEAK HR. FACTOR:													
		0.000		0.602		0.873		0.832		0.907			

CONTROL: 1-Way Stop (SB)  
 COMMENT 1: 0  
 GPS: 32.217772, -110.983793



HCM 6th Signalized Intersection Summary  
5561: Avenida Del Convento & Congress St

06/02/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	554	65	185	465	46	55	28	78	20	4	6
Future Volume (veh/h)	20	554	65	185	465	46	55	28	78	20	4	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	583	68	218	547	54	60	31	86	25	5	7
Peak Hour Factor	0.95	0.95	0.95	0.85	0.85	0.85	0.91	0.91	0.91	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	595	1037	121	460	2061	203	160	77	144	275	59	53
Arrive On Green	0.65	0.63	0.63	0.63	0.63	0.65	0.17	0.19	0.17	0.19	0.19	0.19
Sat Flow, veh/h	818	1644	192	781	3268	322	408	411	775	914	314	287
Grp Volume(v), veh/h	21	0	651	218	297	304	177	0	0	37	0	0
Grp Sat Flow(s),veh/h/ln	818	0	1836	781	1777	1812	1595	0	0	1515	0	0
Q Serve(g_s), s	0.6	0.0	11.6	12.7	4.2	4.2	3.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.9	0.0	11.6	24.3	4.2	4.2	5.8	0.0	0.0	1.0	0.0	0.0
Prop In Lane	1.00		0.10	1.00		0.18	0.34		0.49	0.68		0.19
Lane Grp Cap(c), veh/h	595	0	1158	460	1121	1143	353	0	0	387	0	0
V/C Ratio(X)	0.04	0.00	0.56	0.47	0.26	0.27	0.50	0.00	0.00	0.10	0.00	0.00
Avail Cap(c_a), veh/h	900	0	1842	751	1782	1818	661	0	0	661	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.3	0.0	6.1	13.0	4.7	4.7	21.7	0.0	0.0	19.4	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.9	1.6	0.3	0.3	1.1	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	3.3	2.1	1.1	1.2	2.2	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.4	0.0	7.0	14.6	5.0	4.9	22.8	0.0	0.0	19.5	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	C	A	A	B	A	A
Approach Vol, veh/h		672			819			177				37
Approach Delay, s/veh		6.9			7.5			22.8				19.5
Approach LOS		A			A			C				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		42.2		15.2		42.2		15.2				
Change Period (Y+Rc), s		6.0		5.5		6.0		5.5				
Max Green Setting (Gmax), s		57.5		21.0		57.5		21.0				
Max Q Clear Time (g_c+I1), s		13.6		3.0		26.3		7.8				
Green Ext Time (p_c), s		8.6		0.1		9.8		0.5				

Intersection Summary

HCM 6th Ctrl Delay	9.1
HCM 6th LOS	A

HCM 6th TWSC  
1: Linda & Congress St

06/02/2021

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗	↙	↑↑			↕			↕	
Traffic Vol, veh/h	3	619	1	61	744	3	4	1	62	2	2	2
Future Vol, veh/h	3	619	1	61	744	3	4	1	62	2	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	100	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	87	87	87	91	91	91	50	50	50
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	673	1	70	855	3	4	1	68	4	4	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	858	0	0	674	0	0	1249	1677	673	1711	1677	429
Stage 1	-	-	-	-	-	-	679	679	-	997	997	-
Stage 2	-	-	-	-	-	-	570	998	-	714	680	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	781	-	-	915	-	-	139	95	454	65	95	575
Stage 1	-	-	-	-	-	-	440	450	-	262	321	-
Stage 2	-	-	-	-	-	-	475	321	-	421	450	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	781	-	-	915	-	-	125	87	454	51	87	575
Mov Cap-2 Maneuver	-	-	-	-	-	-	125	87	-	51	87	-
Stage 1	-	-	-	-	-	-	438	448	-	261	296	-
Stage 2	-	-	-	-	-	-	430	296	-	356	448	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.7			17.1			50.5		
HCM LOS							C			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	372	781	-	-	915	-	-	91
HCM Lane V/C Ratio	0.198	0.004	-	-	0.077	-	-	0.132
HCM Control Delay (s)	17.1	9.6	-	-	9.3	-	-	50.5
HCM Lane LOS	C	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.7	0	-	-	0.2	-	-	0.4

HCM 6th TWSC  
9823: Cushing St & Avenida Del Convento

06/02/2021

Intersection												
Int Delay, s/veh	133.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	82	292	28	265	68	35	3	10	23	30	130	18
Future Vol, veh/h	82	292	28	265	68	35	3	10	23	30	130	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	84	84	84	63	63	63	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	100	356	34	315	81	42	5	16	37	41	176	24

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	123	0	0	390	0	0	1405	1326	373	1332	1322	102
Stage 1	-	-	-	-	-	-	573	573	-	732	732	-
Stage 2	-	-	-	-	-	-	832	753	-	600	590	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1464	-	-	1169	-	-	117	156	673	131	~ 156	953
Stage 1	-	-	-	-	-	-	505	504	-	413	427	-
Stage 2	-	-	-	-	-	-	363	417	-	488	495	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1464	-	-	1169	-	-	101	673	80	~ 101	953	
Mov Cap-2 Maneuver	-	-	-	-	-	-	101	-	80	~ 101	-	
Stage 1	-	-	-	-	-	-	461	460	-	377	303	-
Stage 2	-	-	-	-	-	-	105	296	-	406	451	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	6.6		\$ 665.5
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1464	-	-	1169	-	-	106
HCM Lane V/C Ratio	-	0.068	-	-	0.27	-	-	2.269
HCM Control Delay (s)	-	7.6	0	-	9.2	0	-	\$ 665.5
HCM Lane LOS	-	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	-	0.2	-	-	1.1	-	-	21.1

Notes  
 -: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 6th TWSC  
2: Cushing St & Linda

06/02/2021

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	40	313	323	9	12	31
Future Vol, veh/h	40	313	323	9	12	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	78	78	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	364	414	12	14	35

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	426	0	-	0	878 420
Stage 1	-	-	-	-	420 -
Stage 2	-	-	-	-	458 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1133	-	-	-	318 633
Stage 1	-	-	-	-	663 -
Stage 2	-	-	-	-	637 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1133	-	-	-	301 633
Mov Cap-2 Maneuver	-	-	-	-	301 -
Stage 1	-	-	-	-	629 -
Stage 2	-	-	-	-	637 -

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1133	-	-	-	484
HCM Lane V/C Ratio	0.041	-	-	-	0.101
HCM Control Delay (s)	8.3	0	-	-	13.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

HCM 6th Signalized Intersection Summary  
 1: Avenida del Convento & Congress St

06/02/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	449	69	162	670	21	93	14	166	56	28	47
Future Volume (veh/h)	21	449	69	162	670	21	93	14	166	56	28	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	488	75	176	728	23	106	16	189	76	38	64
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.88	0.88	0.88	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	502	905	139	503	1908	60	241	50	264	274	145	163
Arrive On Green	0.57	0.57	0.57	0.57	0.57	0.57	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	712	1583	243	847	3336	105	434	179	948	522	520	585
Grp Volume(v), veh/h	23	0	563	176	388	363	311	0	0	178	0	0
Grp Sat Flow(s),veh/h/ln	712	0	1827	847	1777	1664	1561	0	0	1627	0	0
Q Serve(g_s), s	0.7	0.0	7.6	6.5	4.8	4.8	3.7	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	5.5	0.0	7.6	14.1	4.8	4.8	6.9	0.0	0.0	3.3	0.0	0.0
Prop In Lane	1.00		0.13	1.00		0.06	0.34		0.61	0.43		0.36
Lane Grp Cap(c), veh/h	502	0	1045	503	1016	952	555	0	0	581	0	0
V/C Ratio(X)	0.05	0.00	0.54	0.35	0.38	0.38	0.56	0.00	0.00	0.31	0.00	0.00
Avail Cap(c_a), veh/h	735	0	1644	781	1599	1498	809	0	0	825	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.2	0.0	5.3	9.7	4.7	4.7	12.8	0.0	0.0	11.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.4	0.4	0.2	0.3	0.9	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.7	0.9	1.0	0.9	2.1	0.0	0.0	1.1	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.2	0.0	5.7	10.1	4.9	4.9	13.7	0.0	0.0	11.9	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		586			927			311				178
Approach Delay, s/veh		5.8			5.9			13.7				11.9
Approach LOS		A			A			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.1		25.9		14.1		25.9				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		17.0		35.0		17.0		35.0				
Max Q Clear Time (g_c+I1), s		5.3		16.1		8.9		9.6				
Green Ext Time (p_c), s		0.8		5.8		1.2		4.2				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				7.6								
HCM 6th LOS				A								

HCM 6th TWSC  
2: Linda Ave & Congress St

06/02/2021

Intersection												
Int Delay, s/veh	2.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗	↙	↑↑			↕			↕	
Traffic Vol, veh/h	3	682	1	53	900	3	7	1	59	5	1	7
Future Vol, veh/h	3	682	1	53	900	3	7	1	59	5	1	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	100	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	97	97	97	74	74	74	54	54	54
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	758	1	55	928	3	9	1	80	9	2	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	931	0	0	759	0	0	1339	1805	758	1845	1805	466
Stage 1	-	-	-	-	-	-	764	764	-	1040	1040	-
Stage 2	-	-	-	-	-	-	575	1041	-	805	765	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	733	-	-	850	-	-	120	79	406	52	79	544
Stage 1	-	-	-	-	-	-	395	412	-	247	306	-
Stage 2	-	-	-	-	-	-	471	306	-	375	411	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	733	-	-	850	-	-	109	74	406	39	74	544
Mov Cap-2 Maneuver	-	-	-	-	-	-	109	74	-	39	74	-
Stage 1	-	-	-	-	-	-	393	410	-	246	286	-
Stage 2	-	-	-	-	-	-	427	286	-	299	409	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.5			22.1			64.2		
HCM LOS							C			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	300	733	-	-	850	-	-	84
HCM Lane V/C Ratio	0.302	0.005	-	-	0.064	-	-	0.287
HCM Control Delay (s)	22.1	9.9	-	-	9.5	-	-	64.2
HCM Lane LOS	C	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	1.2	0	-	-	0.2	-	-	1.1

HCM 6th TWSC  
9960: Cushing St & Avenida del Convento

06/02/2021

Intersection												
Int Delay, s/veh	13											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	50	88	2	24	193	68	15	107	226	55	17	73
Future Vol, veh/h	50	88	2	24	193	68	15	107	226	55	17	73
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	88	88	88	86	86	86	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	107	2	27	219	77	17	124	263	65	20	87

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	296	0	0	109	0	0	595	580	108	736	543	258
Stage 1	-	-	-	-	-	-	230	230	-	312	312	-
Stage 2	-	-	-	-	-	-	365	350	-	424	231	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1265	-	-	1481	-	-	416	426	946	335	447	781
Stage 1	-	-	-	-	-	-	773	714	-	699	658	-
Stage 2	-	-	-	-	-	-	654	633	-	608	713	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1265	-	-	1481	-	-	337	395	946	174	415	781
Mov Cap-2 Maneuver	-	-	-	-	-	-	337	395	-	174	415	-
Stage 1	-	-	-	-	-	-	734	678	-	663	644	-
Stage 2	-	-	-	-	-	-	551	619	-	340	677	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.9			0.6			20.5			28.4		
HCM LOS							C			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	628	1265	-	-	1481	-	-	322
HCM Lane V/C Ratio	0.644	0.048	-	-	0.018	-	-	0.536
HCM Control Delay (s)	20.5	8	0	-	7.5	0	-	28.4
HCM Lane LOS	C	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	4.7	0.2	-	-	0.1	-	-	3

HCM 6th TWSC  
3: Cushing St & Linda Ave

06/02/2021

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	29	340	254	20	24	29
Future Vol, veh/h	29	340	254	20	24	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	78	78	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	34	395	326	26	27	33

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	352	0	-	0	802 339
Stage 1	-	-	-	-	339 -
Stage 2	-	-	-	-	463 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1207	-	-	-	353 703
Stage 1	-	-	-	-	722 -
Stage 2	-	-	-	-	634 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1207	-	-	-	340 703
Mov Cap-2 Maneuver	-	-	-	-	340 -
Stage 1	-	-	-	-	696 -
Stage 2	-	-	-	-	634 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	13.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1207	-	-	-	474
HCM Lane V/C Ratio	0.028	-	-	-	0.127
HCM Control Delay (s)	8.1	0	-	-	13.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4



HCM 6th Signalized Intersection Summary  
5561: Avenida Del Convento & Congress St

06/02/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	542	65	185	455	46	45	28	78	20	4	6
Future Volume (veh/h)	20	542	65	185	455	46	45	28	78	20	4	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	571	68	218	535	54	49	31	86	25	5	7
Peak Hour Factor	0.95	0.95	0.95	0.85	0.85	0.85	0.91	0.91	0.91	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	600	1027	122	464	2041	205	146	82	156	283	60	55
Arrive On Green	0.64	0.63	0.63	0.63	0.63	0.64	0.17	0.19	0.17	0.19	0.19	0.19
Sat Flow, veh/h	827	1640	195	790	3260	328	336	439	833	935	320	293
Grp Volume(v), veh/h	21	0	639	218	291	298	166	0	0	37	0	0
Grp Sat Flow(s),veh/h/ln	827	0	1835	790	1777	1811	1608	0	0	1548	0	0
Q Serve(g_s), s	0.6	0.0	11.3	12.3	4.1	4.1	2.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.8	0.0	11.3	23.6	4.1	4.1	5.3	0.0	0.0	1.0	0.0	0.0
Prop In Lane	1.00		0.11	1.00		0.18	0.30		0.52	0.68		0.19
Lane Grp Cap(c), veh/h	600	0	1149	464	1112	1134	356	0	0	398	0	0
V/C Ratio(X)	0.04	0.00	0.56	0.47	0.26	0.26	0.47	0.00	0.00	0.09	0.00	0.00
Avail Cap(c_a), veh/h	925	0	1871	775	1812	1847	674	0	0	678	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.3	0.0	6.0	12.8	4.7	4.7	21.1	0.0	0.0	19.0	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.9	1.6	0.3	0.3	1.0	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	3.2	2.0	1.1	1.1	2.0	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.4	0.0	7.0	14.4	5.0	4.9	22.0	0.0	0.0	19.1	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	C	A	A	B	A	A
Approach Vol, veh/h		660			807			166				37
Approach Delay, s/veh		6.9			7.5			22.0				19.1
Approach LOS		A			A			C				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		41.3		15.1		41.3		15.1				
Change Period (Y+Rc), s		6.0		5.5		6.0		5.5				
Max Green Setting (Gmax), s		57.5		21.0		57.5		21.0				
Max Q Clear Time (g_c+I1), s		13.3		3.0		25.6		7.3				
Green Ext Time (p_c), s		8.3		0.1		9.7		0.5				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				9.0								
HCM 6th LOS				A								

HCM 6th TWSC  
1: Linda & Congress St

06/02/2021

Intersection												
Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗	↙	↑↑			↕			↕	
Traffic Vol, veh/h	3	619	1	61	744	3	4	1	62	2	2	2
Future Vol, veh/h	3	619	1	61	744	3	4	1	62	2	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	100	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	87	87	87	91	91	91	50	50	50
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	673	1	70	855	3	4	1	68	4	4	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	858	0	0	674	0	0	1249	1677	673	1711	1677	429
Stage 1	-	-	-	-	-	-	679	679	-	997	997	-
Stage 2	-	-	-	-	-	-	570	998	-	714	680	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	781	-	-	915	-	-	139	95	454	65	95	575
Stage 1	-	-	-	-	-	-	440	450	-	262	321	-
Stage 2	-	-	-	-	-	-	475	321	-	421	450	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	781	-	-	915	-	-	125	87	454	51	87	575
Mov Cap-2 Maneuver	-	-	-	-	-	-	125	87	-	51	87	-
Stage 1	-	-	-	-	-	-	438	448	-	261	296	-
Stage 2	-	-	-	-	-	-	430	296	-	356	448	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.7			17.1			50.5		
HCM LOS							C			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	372	781	-	-	915	-	-	91
HCM Lane V/C Ratio	0.198	0.004	-	-	0.077	-	-	0.132
HCM Control Delay (s)	17.1	9.6	-	-	9.3	-	-	50.5
HCM Lane LOS	C	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	0.7	0	-	-	0.2	-	-	0.4

HCM 6th TWSC  
9823: Cushing St & Avenida Del Convento

06/02/2021

Intersection												
Int Delay, s/veh	133.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	82	292	28	265	68	35	3	10	23	30	130	18
Future Vol, veh/h	82	292	28	265	68	35	3	10	23	30	130	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	84	84	84	63	63	63	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	100	356	34	315	81	42	5	16	37	41	176	24

Major/Minor	Major1		Major2		Minor1			Minor2				
Conflicting Flow All	123	0	0	390	0	0	1405	1326	373	1332	1322	102
Stage 1	-	-	-	-	-	-	573	573	-	732	732	-
Stage 2	-	-	-	-	-	-	832	753	-	600	590	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1464	-	-	1169	-	-	117	156	673	131	~ 156	953
Stage 1	-	-	-	-	-	-	505	504	-	413	427	-
Stage 2	-	-	-	-	-	-	363	417	-	488	495	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1464	-	-	1169	-	-	-	101	673	80	~ 101	953
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	101	-	80	~ 101	-
Stage 1	-	-	-	-	-	-	461	460	-	377	303	-
Stage 2	-	-	-	-	-	-	105	296	-	406	451	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	6.6		\$ 665.5
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1464	-	-	1169	-	-	106
HCM Lane V/C Ratio	-	0.068	-	-	0.27	-	-	2.269
HCM Control Delay (s)	-	7.6	0	-	9.2	0	-	\$ 665.5
HCM Lane LOS	-	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	-	0.2	-	-	1.1	-	-	21.1

Notes  
 -: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 6th TWSC  
2: Cushing St & Linda

06/02/2021

Intersection						
Int Delay, s/veh	1.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	40	313	323	9	12	31
Future Vol, veh/h	40	313	323	9	12	31
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	78	78	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	364	414	12	14	35

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	426	0	-	0	878 420
Stage 1	-	-	-	-	420 -
Stage 2	-	-	-	-	458 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1133	-	-	-	318 633
Stage 1	-	-	-	-	663 -
Stage 2	-	-	-	-	637 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1133	-	-	-	301 633
Mov Cap-2 Maneuver	-	-	-	-	301 -
Stage 1	-	-	-	-	629 -
Stage 2	-	-	-	-	637 -

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1133	-	-	-	484
HCM Lane V/C Ratio	0.041	-	-	-	0.101
HCM Control Delay (s)	8.3	0	-	-	13.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

# HCM 6th Signalized Intersection Summary

## 1: Avenida del Convento & Congress St

06/02/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	467	72	169	697	22	97	15	173	58	29	49
Future Volume (veh/h)	22	467	72	169	697	22	97	15	173	58	29	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	508	78	184	758	24	110	17	197	78	39	66
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.88	0.88	0.88	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	484	919	141	486	1936	61	235	49	266	264	140	160
Arrive On Green	0.58	0.58	0.58	0.58	0.58	0.58	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	691	1583	243	829	3336	106	438	176	952	515	502	573
Grp Volume(v), veh/h	24	0	586	184	404	378	324	0	0	183	0	0
Grp Sat Flow(s),veh/h/ln	691	0	1827	829	1777	1664	1566	0	0	1589	0	0
Q Serve(g_s), s	0.8	0.0	8.5	7.5	5.3	5.3	4.1	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.1	0.0	8.5	16.0	5.3	5.3	7.7	0.0	0.0	3.7	0.0	0.0
Prop In Lane	1.00		0.13	1.00		0.06	0.34		0.61	0.43		0.36
Lane Grp Cap(c), veh/h	484	0	1060	486	1031	966	550	0	0	564	0	0
V/C Ratio(X)	0.05	0.00	0.55	0.38	0.39	0.39	0.59	0.00	0.00	0.32	0.00	0.00
Avail Cap(c_a), veh/h	666	0	1539	703	1497	1403	761	0	0	765	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.5	0.0	5.5	10.5	4.9	4.9	13.8	0.0	0.0	12.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.5	0.5	0.2	0.3	1.0	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	1.9	1.1	1.2	1.1	2.4	0.0	0.0	1.2	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.6	0.0	6.0	11.0	5.1	5.1	14.8	0.0	0.0	12.7	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		610			966			324				183
Approach Delay, s/veh		6.0			6.2			14.8				12.7
Approach LOS		A			A			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		14.9		27.8		14.9		27.8				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		17.0		35.0		17.0		35.0				
Max Q Clear Time (g_c+I1), s		5.7		18.0		9.7		10.5				
Green Ext Time (p_c), s		0.8		5.8		1.2		4.4				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				8.1								
HCM 6th LOS				A								

HCM 6th TWSC  
2: Linda Ave & Congress St

06/02/2021

Intersection												
Int Delay, s/veh	2.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗	↙	↑↑			↕			↕	
Traffic Vol, veh/h	3	710	1	55	936	3	7	1	61	5	1	7
Future Vol, veh/h	3	710	1	55	936	3	7	1	61	5	1	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	100	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	97	97	97	74	74	74	54	54	54
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	789	1	57	965	3	9	1	82	9	2	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	968	0	0	790	0	0	1393	1877	789	1918	1877	484
Stage 1	-	-	-	-	-	-	795	795	-	1081	1081	-
Stage 2	-	-	-	-	-	-	598	1082	-	837	796	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	710	-	-	828	-	-	110	71	390	46	71	530
Stage 1	-	-	-	-	-	-	380	398	-	233	293	-
Stage 2	-	-	-	-	-	-	457	293	-	360	398	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	710	-	-	828	-	-	99	66	390	34	66	530
Mov Cap-2 Maneuver	-	-	-	-	-	-	99	66	-	34	66	-
Stage 1	-	-	-	-	-	-	378	396	-	232	273	-
Stage 2	-	-	-	-	-	-	412	273	-	282	396	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			0.5			23.7			75.5		
HCM LOS							C			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	285	710	-	-	828	-	-	74
HCM Lane V/C Ratio	0.327	0.005	-	-	0.068	-	-	0.325
HCM Control Delay (s)	23.7	10.1	-	-	9.7	-	-	75.5
HCM Lane LOS	C	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	1.4	0	-	-	0.2	-	-	1.2

HCM 6th TWSC  
9960: Cushing St & Avenida del Convento

06/02/2021

Intersection												
Int Delay, s/veh	14.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	52	92	2	25	201	71	16	111	235	57	18	76
Future Vol, veh/h	52	92	2	25	201	71	16	111	235	57	18	76
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	88	88	88	86	86	86	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	112	2	28	228	81	19	129	273	68	21	90

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	309	0	0	114	0	0	619	604	113	765	565	269
Stage 1	-	-	-	-	-	-	239	239	-	325	325	-
Stage 2	-	-	-	-	-	-	380	365	-	440	240	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1252	-	-	1475	-	-	401	412	940	320	434	770
Stage 1	-	-	-	-	-	-	764	708	-	687	649	-
Stage 2	-	-	-	-	-	-	642	623	-	596	707	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1252	-	-	1475	-	-	320	381	940	158	401	770
Mov Cap-2 Maneuver	-	-	-	-	-	-	320	381	-	158	401	-
Stage 1	-	-	-	-	-	-	723	670	-	650	634	-
Stage 2	-	-	-	-	-	-	535	609	-	323	669	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.9			0.6			22.8			33.7		
HCM LOS							C			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	612	1252	-	-	1475	-	-	299
HCM Lane V/C Ratio	0.688	0.051	-	-	0.019	-	-	0.601
HCM Control Delay (s)	22.8	8	0	-	7.5	0	-	33.7
HCM Lane LOS	C	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	5.4	0.2	-	-	0.1	-	-	3.6

HCM 6th TWSC  
3: Cushing St & Linda Ave

06/02/2021

Intersection						
Int Delay, s/veh	1.3					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	30	354	264	21	25	30
Future Vol, veh/h	30	354	264	21	25	30
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	78	78	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	412	338	27	28	34

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	365	0	-	0	834 352
Stage 1	-	-	-	-	352 -
Stage 2	-	-	-	-	482 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1194	-	-	-	338 692
Stage 1	-	-	-	-	712 -
Stage 2	-	-	-	-	621 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1194	-	-	-	325 692
Mov Cap-2 Maneuver	-	-	-	-	325 -
Stage 1	-	-	-	-	685 -
Stage 2	-	-	-	-	621 -

Approach	EB	WB	SB
HCM Control Delay, s	0.6	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1194	-	-	-	457
HCM Lane V/C Ratio	0.029	-	-	-	0.137
HCM Control Delay (s)	8.1	0	-	-	14.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5



HCM 6th Signalized Intersection Summary  
5561: Avenida Del Convento & Congress St

06/02/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	20	554	65	185	465	46	55	28	78	20	4	6
Future Volume (veh/h)	20	554	65	185	465	46	55	28	78	20	4	6
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	21	583	68	218	547	54	60	31	86	25	5	7
Peak Hour Factor	0.95	0.95	0.95	0.85	0.85	0.85	0.91	0.91	0.91	0.81	0.81	0.81
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	595	1037	121	460	2061	203	160	77	144	275	59	53
Arrive On Green	0.65	0.63	0.63	0.63	0.63	0.65	0.17	0.19	0.17	0.19	0.19	0.19
Sat Flow, veh/h	818	1644	192	781	3268	322	408	411	775	914	314	287
Grp Volume(v), veh/h	21	0	651	218	297	304	177	0	0	37	0	0
Grp Sat Flow(s),veh/h/ln	818	0	1836	781	1777	1812	1595	0	0	1515	0	0
Q Serve(g_s), s	0.6	0.0	11.6	12.7	4.2	4.2	3.6	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	4.9	0.0	11.6	24.3	4.2	4.2	5.8	0.0	0.0	1.0	0.0	0.0
Prop In Lane	1.00		0.10	1.00		0.18	0.34		0.49	0.68		0.19
Lane Grp Cap(c), veh/h	595	0	1158	460	1121	1143	353	0	0	387	0	0
V/C Ratio(X)	0.04	0.00	0.56	0.47	0.26	0.27	0.50	0.00	0.00	0.10	0.00	0.00
Avail Cap(c_a), veh/h	900	0	1842	751	1782	1818	661	0	0	661	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	5.3	0.0	6.1	13.0	4.7	4.7	21.7	0.0	0.0	19.4	0.0	0.0
Incr Delay (d2), s/veh	0.1	0.0	0.9	1.6	0.3	0.3	1.1	0.0	0.0	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	3.3	2.1	1.1	1.2	2.2	0.0	0.0	0.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	5.4	0.0	7.0	14.6	5.0	4.9	22.8	0.0	0.0	19.5	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	C	A	A	B	A	A
Approach Vol, veh/h		672			819			177				37
Approach Delay, s/veh		6.9			7.5			22.8				19.5
Approach LOS		A			A			C				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		42.2		15.2		42.2		15.2				
Change Period (Y+Rc), s		6.0		5.5		6.0		5.5				
Max Green Setting (Gmax), s		57.5		21.0		57.5		21.0				
Max Q Clear Time (g_c+I1), s		13.6		3.0		26.3		7.8				
Green Ext Time (p_c), s		8.6		0.1		9.8		0.5				

Intersection Summary

HCM 6th Ctrl Delay	9.1
HCM 6th LOS	A

HCM 6th TWSC  
1: Linda & Congress St

06/02/2021

Intersection												
Int Delay, s/veh	2.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗	↙	↑↑			↕			↕	
Traffic Vol, veh/h	3	619	13	89	744	3	14	1	106	2	2	2
Future Vol, veh/h	3	619	13	89	744	3	14	1	106	2	2	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	100	0	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	87	87	87	91	91	91	50	50	50
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	673	14	102	855	3	15	1	116	4	4	4

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	858	0	0	687	0	0	1313	1741	673	1806	1754	429
Stage 1	-	-	-	-	-	-	679	679	-	1061	1061	-
Stage 2	-	-	-	-	-	-	634	1062	-	745	693	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	781	-	-	905	-	-	125	86	454	55	85	575
Stage 1	-	-	-	-	-	-	440	450	-	240	300	-
Stage 2	-	-	-	-	-	-	435	299	-	405	444	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	781	-	-	905	-	-	109	76	454	37	75	575
Mov Cap-2 Maneuver	-	-	-	-	-	-	109	76	-	37	75	-
Stage 1	-	-	-	-	-	-	438	448	-	239	266	-
Stage 2	-	-	-	-	-	-	378	265	-	299	442	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1			23.7			65.7		
HCM LOS							C			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	323	781	-	-	905	-	-	71
HCM Lane V/C Ratio	0.412	0.004	-	-	0.113	-	-	0.169
HCM Control Delay (s)	23.7	9.6	-	-	9.5	-	-	65.7
HCM Lane LOS	C	A	-	-	A	-	-	F
HCM 95th %tile Q(veh)	1.9	0	-	-	0.4	-	-	0.6

HCM 6th TWSC  
9823: Cushing St & Avenida Del Convento

06/02/2021

Intersection

Int Delay, s/veh 133.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	82	295	28	265	68	35	3	10	23	30	130	18
Future Vol, veh/h	82	295	28	265	68	35	3	10	23	30	130	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	84	84	84	63	63	63	74	74	74
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	100	360	34	315	81	42	5	16	37	41	176	24

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	123	0	0	394	0	0	1409	1330	377	1336	1326	102
Stage 1	-	-	-	-	-	-	577	577	-	732	732	-
Stage 2	-	-	-	-	-	-	832	753	-	604	594	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1464	-	-	1165	-	-	116	155	670	130	~ 156	953
Stage 1	-	-	-	-	-	-	502	502	-	413	427	-
Stage 2	-	-	-	-	-	-	363	417	-	485	493	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1464	-	-	1165	-	-	100	670	79	~ 101	953	
Mov Cap-2 Maneuver	-	-	-	-	-	-	100	-	79	~ 101	-	
Stage 1	-	-	-	-	-	-	458	458	-	377	302	-
Stage 2	-	-	-	-	-	-	105	295	-	404	450	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	6.6		\$ 665.5
HCM LOS			-	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1464	-	-	1165	-	-	106
HCM Lane V/C Ratio	-	0.068	-	-	0.271	-	-	2.269
HCM Control Delay (s)	-	7.6	0	-	9.2	0	-	\$ 665.5
HCM Lane LOS	-	A	A	-	A	A	-	F
HCM 95th %tile Q(veh)	-	0.2	-	-	1.1	-	-	21.1

Notes  
 -: Volume exceeds capacity    \$: Delay exceeds 300s    +: Computation Not Defined    \*: All major volume in platoon

HCM 6th TWSC  
2: Cushing St & Linda

06/02/2021

Intersection						
Int Delay, s/veh	2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	43	313	323	28	41	36
Future Vol, veh/h	43	313	323	28	41	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	78	78	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	364	414	36	47	41

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	450	0	-	0	896 432
Stage 1	-	-	-	-	432 -
Stage 2	-	-	-	-	464 -
Critical Hdwy	4.12	-	-	-	6.42 6.22
Critical Hdwy Stg 1	-	-	-	-	5.42 -
Critical Hdwy Stg 2	-	-	-	-	5.42 -
Follow-up Hdwy	2.218	-	-	-	3.518 3.318
Pot Cap-1 Maneuver	1110	-	-	-	311 624
Stage 1	-	-	-	-	655 -
Stage 2	-	-	-	-	633 -
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1110	-	-	-	294 624
Mov Cap-2 Maneuver	-	-	-	-	294 -
Stage 1	-	-	-	-	618 -
Stage 2	-	-	-	-	633 -

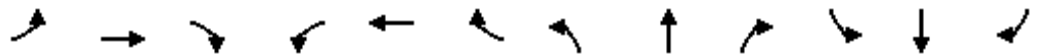
Approach	EB	WB	SB
HCM Control Delay, s	1	0	16.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1110	-	-	-	391
HCM Lane V/C Ratio	0.045	-	-	-	0.224
HCM Control Delay (s)	8.4	0	-	-	16.8
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8

# HCM 6th Signalized Intersection Summary

## 1: Avenida del Convento & Congress St

06/02/2021



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	487	72	169	704	22	104	15	173	58	29	49
Future Volume (veh/h)	22	487	72	169	704	22	104	15	173	58	29	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	529	78	184	765	24	118	17	197	78	39	66
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.88	0.88	0.88	0.74	0.74	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	479	931	137	470	1950	61	241	48	260	259	138	159
Arrive On Green	0.58	0.58	0.58	0.58	0.58	0.58	0.28	0.28	0.28	0.28	0.28	0.28
Sat Flow, veh/h	687	1593	235	813	3337	105	467	170	929	512	491	566
Grp Volume(v), veh/h	24	0	607	184	407	382	332	0	0	183	0	0
Grp Sat Flow(s),veh/h/ln	687	0	1828	813	1777	1664	1566	0	0	1569	0	0
Q Serve(g_s), s	0.9	0.0	9.2	8.1	5.5	5.5	4.4	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	6.3	0.0	9.2	17.2	5.5	5.5	8.3	0.0	0.0	3.8	0.0	0.0
Prop In Lane	1.00		0.13	1.00		0.06	0.36		0.59	0.43		0.36
Lane Grp Cap(c), veh/h	479	0	1068	470	1038	973	549	0	0	556	0	0
V/C Ratio(X)	0.05	0.00	0.57	0.39	0.39	0.39	0.60	0.00	0.00	0.33	0.00	0.00
Avail Cap(c_a), veh/h	635	0	1485	655	1443	1352	735	0	0	733	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	0.00
Uniform Delay (d), s/veh	6.7	0.0	5.7	11.1	5.0	5.0	14.3	0.0	0.0	12.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.5	0.5	0.2	0.3	1.1	0.0	0.0	0.3	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.0	2.2	1.2	1.3	1.2	2.6	0.0	0.0	1.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.7	0.0	6.2	11.6	5.2	5.2	15.4	0.0	0.0	13.2	0.0	0.0
LnGrp LOS	A	A	A	B	A	A	B	A	A	B	A	A
Approach Vol, veh/h		631			973			332				183
Approach Delay, s/veh		6.2			6.4			15.4				13.2
Approach LOS		A			A			B				B
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		15.4		28.9		15.4		28.9				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		17.0		35.0		17.0		35.0				
Max Q Clear Time (g_c+I1), s		5.8		19.2		10.3		11.2				
Green Ext Time (p_c), s		0.8		5.7		1.1		4.6				
<b>Intersection Summary</b>												
HCM 6th Ctrl Delay				8.4								
HCM 6th LOS				A								

HCM 6th TWSC  
2: Linda Ave & Congress St

06/02/2021

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↙	↑	↗	↙	↑↑			↕			↕	
Traffic Vol, veh/h	3	710	30	105	932	3	18	1	102	5	1	7
Future Vol, veh/h	3	710	30	105	932	3	18	1	102	5	1	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	100	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	97	97	97	74	74	74	54	54	54
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	789	33	108	961	3	24	1	138	9	2	13

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	964	0	0	822	0	0	1493	1975	789	2060	2007	482
Stage 1	-	-	-	-	-	-	795	795	-	1179	1179	-
Stage 2	-	-	-	-	-	-	698	1180	-	881	828	-
Critical Hdwy	4.13	-	-	4.13	-	-	7.33	6.53	6.23	7.33	6.53	6.93
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.53	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.53	5.53	-	6.13	5.53	-
Follow-up Hdwy	2.219	-	-	2.219	-	-	3.519	4.019	3.319	3.519	4.019	3.319
Pot Cap-1 Maneuver	712	-	-	805	-	-	93	62	390	36	59	531
Stage 1	-	-	-	-	-	-	380	398	-	203	263	-
Stage 2	-	-	-	-	-	-	398	263	-	340	385	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	712	-	-	805	-	-	79	54	390	20	51	531
Mov Cap-2 Maneuver	-	-	-	-	-	-	79	54	-	20	51	-
Stage 1	-	-	-	-	-	-	378	396	-	202	228	-
Stage 2	-	-	-	-	-	-	333	228	-	218	383	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0			1			47.9			149		
HCM LOS							E			F		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	238	712	-	-	805	-	-	46
HCM Lane V/C Ratio	0.687	0.005	-	-	0.134	-	-	0.523
HCM Control Delay (s)	47.9	10.1	-	-	10.2	-	-	149
HCM Lane LOS	E	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	4.5	0	-	-	0.5	-	-	1.9

HCM 6th TWSC  
9960: Cushing St & Avenida del Convento

06/02/2021

Intersection												
Int Delay, s/veh	14.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	52	97	2	25	205	71	16	111	235	57	18	76
Future Vol, veh/h	52	97	2	25	205	71	16	111	235	57	18	76
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	82	82	82	88	88	88	86	86	86	84	84	84
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	63	118	2	28	233	81	19	129	273	68	21	90

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	314	0	0	120	0	0	630	615	119	776	576	274
Stage 1	-	-	-	-	-	-	245	245	-	330	330	-
Stage 2	-	-	-	-	-	-	385	370	-	446	246	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1246	-	-	1468	-	-	394	407	933	315	428	765
Stage 1	-	-	-	-	-	-	759	703	-	683	646	-
Stage 2	-	-	-	-	-	-	638	620	-	591	703	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1246	-	-	1468	-	-	314	376	933	155	395	765
Mov Cap-2 Maneuver	-	-	-	-	-	-	314	376	-	155	395	-
Stage 1	-	-	-	-	-	-	718	665	-	646	631	-
Stage 2	-	-	-	-	-	-	531	606	-	319	665	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.8			0.6			23.4			34.5		
HCM LOS							C			D		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	605	1246	-	-	1468	-	-	295
HCM Lane V/C Ratio	0.696	0.051	-	-	0.019	-	-	0.609
HCM Control Delay (s)	23.4	8	0	-	7.5	0	-	34.5
HCM Lane LOS	C	A	A	-	A	A	-	D
HCM 95th %tile Q(veh)	5.5	0.2	-	-	0.1	-	-	3.7

HCM 6th TWSC  
3: Cushing St & Linda Ave

06/02/2021

Intersection						
Int Delay, s/veh	2.2					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Traffic Vol, veh/h	41	348	263	52	52	35
Future Vol, veh/h	41	348	263	52	52	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	86	86	78	78	88	88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	405	337	67	59	40

Major/Minor	Major1	Major2	Minor2		
Conflicting Flow All	404	0	-	0	872
Stage 1	-	-	-	-	371
Stage 2	-	-	-	-	501
Critical Hdwy	4.12	-	-	-	6.42
Critical Hdwy Stg 1	-	-	-	-	5.42
Critical Hdwy Stg 2	-	-	-	-	5.42
Follow-up Hdwy	2.218	-	-	-	3.518
Pot Cap-1 Maneuver	1155	-	-	-	321
Stage 1	-	-	-	-	698
Stage 2	-	-	-	-	609
Platoon blocked, %		-	-	-	
Mov Cap-1 Maneuver	1155	-	-	-	304
Mov Cap-2 Maneuver	-	-	-	-	304
Stage 1	-	-	-	-	660
Stage 2	-	-	-	-	609

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	17.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1155	-	-	-	390
HCM Lane V/C Ratio	0.041	-	-	-	0.253
HCM Control Delay (s)	8.3	0	-	-	17.3
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1